Postgraduate Course Descriptions

ACCT5908
Auditing and Assurance Services
School of Accounting
UOC6 HPW3
Prerequisite: ACCT5930

This course examines the practice of auditing and the underlying concepts. Although the focus of attention is on audits carried out under the provisions of the Australian Corporations & Securities Legislation, reference is also made to other forms of audit. The course is intended to provide an overview of the audit process as it exists in Australia. Topics include: risk analysis approach; assessment of risk; development of audit strategy; internal control evaluation and compliance testing; substantive testing; analytical review; auditing in an EDP environment; audit sampling; audit reporting; contractual and common law duties; the role of ethics; and an introduction to internal and public sector auditing.

ACCT5909
Current Developments in Auditing Research
School of Accounting
UOC6 HPW3

An examination of current areas of research in auditing and substantive studies in each area. The following topics will be considered: theory about auditing; overview of audit research; nature of audit work; agency theory and the existence of the audit function; human information processing in auditing; audit teams and the review process; experience and expertise; independence; audit fees and other service fees; effect of the audit report; and future development in audit theory and research.

ACCT5910
Business Analysis and Valuation
School of Accounting
UOC6 HPW3
Prerequisite: ACCT5901 or ACCT5930; Corequisite: FINS5513 or FINS5511

This course examines the: sources of information available to analysts; traditional ratio analysis; application of techniques of financial analysis to equity valuation; credit assessment; and price regulation. Also looked at are: calculations of key indicators of financial performance; issues arising from international differences in accounting standards and practices; off-balance sheet financing and financial instruments; problems arising from complex organisational structures; and strategies for managing the financial analysis function.

ACCT5917
Strategic Management: Systems and Processes
School of Accounting
UOC6 HPW3

This course explores the process and practice of strategic management - the constitution of an organisation's competitive positioning in its environment. Topics to be covered include: strategic thinking and analysis; the formulation and choice of strategic alternatives; managing extended strategic change; and the embedding of organisation al strategy in everyday activities. These topics are explored through a critical examination of relevant literatures, documented case studies and contemporary business practices.

ACCT5919
Business Risk Management
School of Accounting
UOC6 HPW3

In a rapidly changing global world, with decreasing product life cycles and increasing customer and societal expectations, there are significant and increased risks associated with ongoing value creation by organisations. In this world, value is put at risk - by competition, or failures of corporate leadership, strategies, processes, and capabilities. Developing effective ways of managing such Business Risks is proving to be a central agenda item for organisations seeking continuing success. This course addresses this emergent field conceptually, technically and speculatively. Case studies and research reports are used throughout.

ACCT5920
Managing Intangible Resources
School of Accounting
UOC6 HPW3

The gap between the market value of firms and the capitalisation of their assets in the balance sheet highlights the value that investors are prepared to attribute to the "intangible resources" of many organisations (such as financial service, software development and e-commerce companies). The value generating potential of such organisations is attributed to resources, and competencies in managing those resources, that the traditional accounting system is both unable and unwilling to represent in explicit financial terms. This course aims to identify these "intangible resources" and to examine their role in achieving superior financial performance. Topics include: customer relationships; supplier relationships; knowledge management; diversity; and community and government relationships. In addition, this subject will also explore advances in financial reporting that attempt to capture and represent these "intangible resources," for example, triple line reporting, the Scandia Navigator system and other recent attempts at social accounting. This subject is based on the premise that long term sustainable value creation is achieved only from collaborative organisational practices in which the contributions of all stakeholders are recognised and rewarded.

ACCT5921
Business Performance Management
School of Accounting
UOC6 HPW3
Corequisite: ACCT5996 or Equivalent Introductory Management Accounting course

This course examines the management of business performance in organisations through the use of performance measurement and reward systems. Topics include: theoretical frameworks for analysing performance measurement and reward system design; performance measurement in decentralized organizations; systems for measuring continuous improvement; the concept of a "balanced scorecard"; technical issues in developing performance measures such as EVA, SVA and reports such as the balanced scorecard and intangible asset monitor ; designing and implementing/performance-based reward systems; ethical issues in measuring and rewarding performance. Concepts and issues are examined with an extensive use of cases.

ACCT5922
E-Business: Strategy and Processes
School of Accounting
UOC6 HPW3

Organisations engaging in electronic forms of business are seeking to create and sustain value by radically altering conventional business models whilst focusing and reconfiguring their internal processes. Emergent electronic business models such as information brokerage, electronic auction, virtual community, third party market place (or portal) and value chain integrator, are challenging the conventional ways by which business is conducted and work is performed. It is argued that, for usch organisations, the strategic management of time, cost, flexibility, quality, and integration is critical to sustain value generation. This subject has two aims. First, it seeks to highlight and evaluate the new business strategies and models adopted by E-businesses. Second, it explores how organisational resources may be mobilised to achieve these new value propositions and to facilitate value generation within a dynamic electronic business environment.

ACCT5930
Financial Accounting
School of Accounting
UOC6 HPW3

This course examines the fundamentals of financial accounting for entities of simple organisational design; financial recording processes, systems design and internal control; preparation of general purpose statements of financial position, operating performance and cash flow statements; responsibilities in financial reporting; financial reporting constraints; recognition and measurement of specific financial statement elements; and analysis and interpretation of financial reports.

ACCT5931
Strategic Financial and Resource Management
School of Accounting
UOC6 HPW3
Prerequisite:ACCT5996

This course will introduce emergent thinking about the interfaces between financial and business performance, with a focus on adding value to the business rather than emphasising financial control. The link between strategy, resourcing and change is highlighted, in focusing on the effective use of an organisation's financial and other resources in creating value

for customers and shareholders. The course aims to introduce strategic financial management as an integrated way of thinking about the key drivers of value in organisations.

Note: Not available to students who have completed ACCT3583 or ACCT3593 in the last three years.

ACCT5942
Corporate Accounting and Regulation
School of Accounting
UOC6 HPW3
Prerequisite: ACCT5930

Overview of the external financial reporting environment - Australian and international aspects; arrangements for the regulation of external reporting; the preparation of general purpose financial reports including the treatment of income taxes and the acquisition of other entities. The preparation of consolidated financial statements for reporting entities with more complex structures including subsidiaries, associates and joint ventures.

ACCT5943
Advanced Financial Reporting
School of Accounting
UOC6 HPW3
Prerequisite: ACCT5930; Corequisite: ACCT5942

The analysis of contemporary accounting issues within theoretical frameworks such as agency theory and the context of the conceptual frameworks used in setting accounting standards. Reporting problems in particular industries and with particular types of assets and liabilities (such as complex financial instruments); cutting edge accounting issues and the deliberations of local and overseas accounting rule-making bodies; and proposals for the strengthening of external financial reporting.

ACCT5949
Managing Agile Organisations
School of Accounting
UOC6 HPW3

There has been much change and innovation in the structure and form of organisations in the new millennium. There is now a large array of organisational forms - from simple hierarchies to complex organisational sets and alliances. Given this diversity, managers need an innovative repertoire of managerial skills and competencies.

This course has three aims: (a) to briefly identify the new and innovative ways that productive relationships have been structured at the intra-organisational and inter-organisational levels; (b) to investigate the challenges these pose for the concept of 'managerial work', and (c) to develop the managerial competencies required to manage dynamic 'agile' organisations. Topics covered include: the postindustrial age, managerial work, managing discourse, power, normative rule structures, teams, ambiguity and change. Group discussion is emphasised in this course. There is also a focus on the use of case studies.

ACCT5951
Current Developments in Accounting Research - Financial
School of Accounting
UOC6 HPW3

Enrolment requires School Approval.

Review of alternative approaches to the development of theories in external reporting. Explication and evaluation of substantive theories and associated research studies. Examination of research findings related to the accounting and reporting environment, agency cost and financial contracting, the properties of reported accounting numbers, predictive value of accounting information, the use of information in capital markets, and the use of accounting reports by individual decision makers.

ACCT5952
Current Developments in Accounting Research - Managerial
School of Accounting
UOC6 HPW3

Enrolment requires School Approval.

The aim of this course is to equip students with a comprehensive understanding of contemporary management accounting research, which emanates from different philosophical perspectives and employs different theories and research methods. Research is divided into two broad streams: work that seeks (a) to explain and design , and (b) to understand and interpret the practice of management accounting in organisational societies. Topics covered include design approaches using behavioural decision theory, contingency theory, institutional theory, and others and interpretive approaches using symbolic interactionism and theories of culture. There is also brief coverage of national differences in management accounting practice and of critical analyses of the development and operation of management accounting systems.

ACCT5955
Value-Based Management in a Global Economy
School of Accounting
UOC6 HPW3
Corequisite: ACCT5996 or Equivalent Introductory Management Accounting course

This course examines the design and use of contemporary management technologies that have been developed to support value creation in organisations. Topics include: design and implementation of strategic cost management systems, advanced cost analysis; advanced cost estimation techniques; assessing and evaluating customer and segment profitability; revenue analysis; capacity management; target costing and life-cycle costing. Cases are used extensively in the course and particular focus is placed on the role of the technologies in multi-national organisations.

ACCT5967
Special Topic in Accounting
School of Accounting
UOC6 HPW3
Prerequisite: ACCT5997 or equivalent

To assist MCom Hons students in completion of research project requirement. May consist of an examinable readings program defined to meet the needs of a particular student or a formal program undertaken by a group of students whose research projects are in a common area.

ACCT5970
Accounting Concepts and Financial Reporting
School of Accounting
UOC6 HPW3
Prerequisite: ACCT5930

This course covers: the preparation of financial statements for entities of complex organisational design; cross border entities and transactions; consideration of issues in asset, liability, expense and revenue recognition and measurement; accounting for primary and derivative financial instruments and analysis and interpretation of financial statements of complex entities.

Note: Not available to students with a Bachelor's degree from an Australian university with a major in Accounting.

ACCT5981
Strategic Resource Management
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Strategic Resource Management focuses on ways in which organisations utilise available resources to generate value over time. Attention is given to the drivers of both shareholder and customer value as guides to organisational performance in capital and product and service markets respectively. The transformation of resources in and out of financial forms is at issue, as is the elimination of waste in the process. The key question is: 'How does resource deployment effectively support strategy in the midst of continuous change?'

ACCT5996
Business Processes: Analysis and Improvement
School of Accounting
UOC6 HPW3
Corequisite: ACCT5930

This course examines the design and operation of business support systems whose role is to provide financial and non-financial information about resource consumption and value generation, and facilitate the improvement of business processes and organisational performance. The focus is on how organisational processes are evaluated, managed and changed to sustain future profitable operations. The course provides a number of tools that develop an understanding of how processes, as presently configured, consume resources and may be improved in order to generate valued attributes of products and services, including time, quality, invariability, flexibility and cost.

Note: Not available to students who have completed ACCT2522 or ACCT2532 in the last three years.

ACCT5997
Seminar in Research Methodology
School of Accounting
UOC6 HPW3

Enrolment requires School Approval.

This course considers the relationship between science and scientific method; provides an introduction to the interpretation of the key statistical techniques used in accounting research; and considers and reviews some of the principle research methods that have been used to address issues in accounting.

ACCT5998
Project Seminar
School of Accounting
UOC6

Please contact the school for further information.

ACCT5999
Project Report
School of Accounting
UOC12

Please contact the school for further information.

ACTL5000
Thesis - Actuarial Studies
Actuarial Studies Unit
UOC24

Students complete a thesis under the direction of a supervisor. The thesis requires the reporting of research in an approved topic area in actuarial studies including literature review, analysis of a research problem along with presentation of research methods and data analysis.

ACTL5001
Thesis (part time) - Actuarial Studies
Actuarial Studies Unit
UOC12

Students complete a thesis under the direction of a supervisor. The thesis requires the reporting of research in an approved topic area in actuarial studies including literature review, analysis of a research problem along with presentation of research methods and data analysis.

ACTL5002
Superannuation & Retirement Benefits
Actuarial Studies Unit
UOC6 HPW3
Prerequisite: ACTL5107, ACTL5101 or ECON5103, ECON5203 Excluded: ECON5114

This course provides a comprehensive analysis of superannuation and retirement benefits, primarily in Australia. Topics include: alternative superannuation arrangements, taxation and regulation of superannuation, risk management and investment strategies for superannuation, design of retirement benefits, the retirement decision, policy developments and controversies and international comparisons.

Enrolment requires school approval.

ACTL5003
Research Topics in Actuarial Studies
Actuarial Studies Unit
UOC6 HPW3

This course is an advanced course in actuarial science covering selected topics in the areas of actuarial modelling in insurance risk, life insurance, superannuation and financial economics. The course will involve the study and discussion of current research papers and advanced texts of interest to research students. As part of the course, students will learn to develop a research topic, apply the methodology of scientific research and gain exposure to the presentation of research in actuarial journals.

Enrolment requires school approval.

ACTL5004
Project Report - Actuarial Studies
Actuarial Studies Unit
UOC12

Students complete a project under the direction of a supervisor.

ACTL5100
Actuarial Theory and Practice A
Actuarial Studies Unit
UOC6 HPW3

This course develops the theory and practice underlying the actuarial management of risk-based and other products offered by financial institutions. The course draws examples from actuarial practice and discusses implications for life insurance, general insurance, superannuation, asset-liability management and other areas where actuaries are involved in product design, pricing, reserving, investment and surplus management. The course emphasises recent developments in actuarial theory. This course, along with ACTL5200, corresponds to the Part II courses of the professional examinations of The Institute of Actuaries of Australia.

Enrolment requires school approval.

ACTL5101
Probability and Statistics for Actuaries
Actuarial Studies Unit
UOC6 HPW3

This course covers probability and statistics topics relevant to actuarial studies with applications in insurance and related areas. Topics covered include probability generating functions, moment generating functions, marginal and conditional distributions, independence and convolution, conditional expectation and compound distributions, sampling distributions, estimation methods, hypothesis tests, regression and analysis of variance.

Enrolment requires school approval.

ACTL5102
Financial Mathematics
Actuarial Studies Unit
UOC6 HPW3

This course develops the financial and actuarial mathematics required for the analysis of financial and insurance transactions. Topics covered include: mathematics of compound interest, valuation of cash flows of insurance contracts; analysis and valuation of annuities, bonds, loans and other securities; yield curves and immunisation; introduction to stochastic interest rate models and actuarial applications.

Enrolment requires school approval.

ACTL5103
Stochastic Modelling for Actuaries
Actuarial Studies Unit
UOC6 HPW3

This course provides an introduction to the stochastic models used by actuaries to model both liabilities and assets and illustrates their applications in actuarial work. Topics covered include the terminology of stochastic processes; main features of Markov chain and application to experience rating; Markov process models and application to survival, sickness and marriage models; simple time series models including random walk and auto-regressive models and their application to investment variables; properties of Brownian motion and applications to investment variables; methods for simulation of a stochastic process. Students will be required to implement models using spreadsheets and programs in a numerical computer package such as Matlab.

Enrolment requires school approval.

ACTL5104
Actuarial Statistics
Actuarial Studies Unit
UOC6 HPW3

This course covers the estimation and application of survival models in actuarial modelling. Topics include: actuarial notation and applications of survival models; state Markov models; binomial and Poison models for mortality; maximum likelihood estimation; construction of multiple decrement tables; models with transition intensities depending on age and duration; the census approximation and formulae; statistical comparison of crude rates with standard actuarial tables; graduation of estimates and tests of fidelity and smoothness, analysis of mortality/morbidity and the main forms of selection; models for projection of populations. The analysis of data using a numerical computer package such as Matlab will form part of the course assessment.

Enrolment requires school approval.

ACTL5105
Life Insurance & Superannuation
Actuarial Studies Unit
UOC6 HPW3

This course covers the actuarial mathematics and models for use in the analysis and actuarial management of life insurance and superannuation

contract. Topics covered include: the main forms of life insurance and annuity contracts, disability and long term care contracts and superannuation fund benefits; actuarial notation and the life table; moments of the value of the benefit payments; Thiele's differential equation for policy values; stochastic modelling of claims and benefit payments; gross premiums, net premiums, policy values and reserves; allowing for expenses and inflation; use of discounted emerging costs and profit tests; asset shares in life insurance; termination and alteration values; cost of guarantees; joint life functions; actuarial valuation of disability insurance contracts.

Enrolment requires school approval.

ACTL5106
Insurance Risk Models
Actuarial Studies Unit
UOC6 HPW3

This course covers the actuarial mathematics, statistics and models used in non-life insurance actuarial practice. Topics covered include: basic concepts of decision theory and Bayesian statistics; loss distributions and reinsurance, risk models including compound Poisson; estimation of aggregate claims distribution; probability of ruin; premium rating and credibility; experience rating systems; and claims reserving for loss run-off data.

Enrolment requires school approval.

ACTL5107
Economics for Actuaries
Actuarial Studies Unit
UOC6 HPW3

Students should enrol in ECON5103 Business Economics in place of ACTL5107 in 2006.

ACTL5108
Finance & Financial Reporting for Actuaries
Actuarial Studies Unit
UOC6 HPW3

The aim of the course is to provide the future actuary with a basic understanding of corporate finance and financial reporting. The course will cover the instruments used by companies to raise finance and manage financial risk and will develop an understanding of how to interpret the accounts and financial statements of companies and financial institutions.

Enrolment requires school approval.

ACTL5109
Financial Economics for Insurance and Superannuation
Actuarial Studies Unit
UOC6 HPW3

The aim of this course is to introduce the mathematical and economic models of financial economics used by actuaries and to overview their application to asset-liability management. The topics are illustrated with applications to the valuation, actuarial and risk management of insurance and superannuation contracts especially those with embedded options and financial guarantees.

Enrolment requires school approval.

ACTL5200
Actuarial Theory & Practice B
Actuarial Studies Unit
UOC6 HPW3

This course, along with ACTL5100 Actuarial Theory and Practice A, develops the theory and practice underlying the actuarial management of risk-based and other products offered by financial institutions. The course draws examples from actuarial practice and discusses implications for life insurance, general insurance, superannuation, asset-liability management and other areas where actuaries are involved in product design, pricing, reserving, investment and surplus management. The course emphasises recent developments in actuarial theory. This course, along with ACTL 5100, corresponds to the Part II courses of the professional examinations of The Institute of Actuaries of Australia.

Enrolment requires school approval.

ACTL5301
Models for Risk Management
Actuarial Studies Unit
UOC6 HPW3

This course covers the models used in insurance and reinsurance for frequency and severity of losses for both individual risks and portfolios of risks. Included is the modeling of dependencies amongst risks and links to credit and operational risk models. Topics include: individual and collective risk models; loss distributions; estimation techniques for loss models; GLM's; extreme values and tails of losses; copulas and modeling dependency.

Enrolment requires school approval.

ACTL5302
Risk and Capital Management
Actuarial Studies Unit
UOC6 HPW3

This course covers the integrated risk management approach to balance sheet and capital management for market, credit and operational risk. Pricing theory, risk based capital and capital management are considered in a common framework based on theories of capital structure and integrated risk management. Risk measures for setting capital requirements for market, credit and operations risk such as VaR, TailVar are reviewed and critiqued. Approaches to economic capital and optimal risk and capital management strategies are developed. Topics include: Risk based capital and capital structure theory; risk and capital management products; insurance pricing theory; role of capital in pricing and the frictional cost approach to risk and capital management.

Enrolment requires school approval.

ACTL5303
Asset-Liability Management
Actuarial Studies Unit
UOC6 HPW3

This course covers the models and techniques used for the projection, valuation and risk management of asset and liability cash flows inlcudng interest sensitive liabilities and equity linked liabiltiies. Models reviewed include those for fixed and interest sensitive cash flows, equity return models and more comprehensice models including inflation and exchange rates and the application of the models in Dynamic Financial Analysis (DFA). Topics include; single and multi-period model framework; optimal asset-liability strategies; risk-neutral computation; dynamic programming; incomplete markets; ALM in insurance; DFA modeling in insurance and reinsurance.

Enrolment requires school approval.

ACTL5304
Risk Management Strategies
Actuarial Studies Unit
UOC6 HPW3

This course covers innovative risk management strategies using capital and insurance market techniques including those used in the alternative risk transfer (ART) market. Topics include: product types; securitization; pricing risk-linked securities; credit risk; weather and energy risk; modeling individual risks; industry specific case studies; portfolio considerations; accounting, regulatory and legal issues.

Enrolment requires school approval.

AERO9010
Project
School of Mechanical and Manufacturing Engineering
UOC12

Note: The project must be completed in no more than two sessions.

AERO9105
Aerospace Vehicle Design and Manufacture
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

Design objectives and constraints: function, cost durability. Design process: configuration design, structural design, systems. Integration design. Production methods. Quality control: design manufacture, operation. Design development: prototyping, component and system testing (ground and flight), manufacture. The above topics will be dealt with in the context of workshops associated with an intensive design project.

AERO9415
Finite Element Analysis and Applications for Aerospace Structures
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: AERO4401, MECH9410, NAVL4401

Theoretical foundations. Linear static and dynamic analysis. Non-linear material behaviour and geometrically non-linear behaviour. Validation of models. Project: Each student will undertake a project involving the finite element modelling of a structure and the analysis of its static and dynamic characteristics. A major finite element package will be used for the conduct of this project.

AERO9543
Cad/Cam for Aerospace Structures
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MANF9543

Current aviation standards in Australia for CAD/CAM use in aerospace industries. Concepts of CAD/CAM and introductions to CATIA, NC and Fourth Shift. Concurrent engineering. Group technology. Process planning. Integrated manufacturing planning and control. Manufacturing control: computer and numerical, robotics, measurement, analysis and actuation.

AERO9606
Aerodynamics
School of Mechanical and Manufacturing Engineering
UOC6 HPW4

Potential flow and wing theory. Low speed, inviscid and incompressible flow; high-speed viscous and compressible flow. Visualisation in the laboratory and the use of computer modelling techniques.

AERO9607
Flight Dynamics
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

Introduction to atmospheric and space environment. Aerospace vehicle performance. Mission Profiles. Longitudinal and static stability. Neutral and manoeuvre points and margins. Flight test measurements and handling qualities. Dynamic stability and control of atmospheric vehicles and their testing in flight and evaluation.

AERO9705
Aerospace Propulsion
School of Mechanical and Manufacturing Engineering
UOC6 HPW4

Propulsion systems: history, types, basic thrust, efficiency equations. Propellers, rotors and fans: engine cycle thermodynamics, performance, testing. Engine intakes: subsonic, supersonic, ramjets, rockets. Noise and pollution.

ANAT6151
Introductory Functional Anatomy
School of Medical Sciences
UOC3 HPW3

Overview of basic human anatomy and physiology with an emphasis on structures and systems which are most vulnerable to chemical and physical trauma under industrial conditions, such as the eye, ear and skin. Other systems studied include the musculoskeletal system, central and peripheral nervous systems, circulatory, respiratory, gastrointestinal, endocrine and urogenital systems. Offered as a distance-education course, or on campus if enrolments are sufficient.

ARCH7003
Graduate Research Project
Architecture Program
UOC12 HPW8
Excluded: ARCH7001, ARCH7002.

The project comprises research into the theory or practice of architecture in relation to the Program within which the student is enrolled and is nominated by the student and approved by the Program Director. The research should represent both a synthesis of and an extension to the knowledge and skills acquired during the Program and will be supervised by a member of the academic staff. Appropriate research methodologies and techniques are to be used in all aspects of the work leading to the preparation of a written research project. Assessment by written report and seminar.

ARCH7004
Architectural Research Project
Architecture Program
UOC12 HPW8

A studio-based design study related to the project being offered in Architectural Design Project 1 or 2, or Architectural Design Charette, or another study or project agreed with the Program Director allied with architectural design, history, or theory. The study will comprise the investigation and documentation of selected design and theoretical and historical aspects of architectural design, or of the studio project, or of the studio teaching philosophy and process, or of the design methods or techniques being used in the studio. This course will usually require attendance at and participation in the Architectural Design Project studio. A report of 20,000 words including a comprehensive literature review, or an equivalent mode of documentation agreed with the Program Director, is to be submitted for examination.

ARCH7103
Architecture Design Project 1
Architecture Program
UOC12 HPW8

Currently enrolled in program 8142 Architecture.

Theory, research and studio practice, in the form of graduate research projects in design, applied to general architectural themes of high priority in the contemporary context. After thorough theoretical foundation and research analysis, the theme is adapted to a specific and concrete situation to achieve an architectural synthesis of all relevant influences arising from the physical and human context. Assessment by major design studio project.

ARCH7104
Architecture Design Project 2
Architecture Program
UOC12 HPW8

Currently enrolled in program 8142 Architecture.

Theory, research and studio practice, in the form of graduate research projects in design, applied to general architectural themes of high priority in the contemporary context. After thorough theoretical foundation and research analysis, the theme is adapted to a specific and concrete situation to achieve an architectural synthesis of all relevant influences arising from the physical and human context. Assessment by major design studio project.

ARCH7105
Architectural Design Charette
Architecture Program
UOC12 HPW16

A studio-based design study under the direction of a visiting national or international architect, designer, or theorist of repute based around a theme and site selected by the visitor. The charette is offered once per year at the discretion of the Program Director. The name of the visiting architect and will be advertised during the six months preceding the Summer Session. Assessment is by design critique of the studio project.

ARCH7204
Design Computing Theory
Architecture Program
UOC6 HPW2
Excluded: ARCH7201

This course is based on extensive reading and group discussion, exploring a range of theoretical approaches to the use of computation techniques in support of the act and processes of architectural design. Topics include: traditional approaches to architectural computing including space planning, facilities management, building performance analysis; information systems and operations research; knowledge-based systems and knowledge representation techniques; shape grammars; expert systems and design information systems. Assessment is based on participation in discussion, the preparation of regular reports on reading and one major essay task.

ARCH7205
Computer Graphics Programming
Architecture Program
UOC6 HPW4
Excluded: ARCH7203

A study of the principles and techniques of interactive computer graphics programming using a high-level procedural language. Topics include: procedural language concepts, computer graphics techniques, event driven programming, and world coordinate systems. Assessment is through a staged series of programming exercises.

ARCH7206
CAD Management and Information Technology
Architecture Program
UOC6 HPW3
Excluded: ARCH7202, ARCH7222

This course is divided into two discrete components: the first relates to the implementation and management of CAD systems; while the second reviews the current state of information technology. The CAD Management component will discuss the implications and impact of change within architectural practice as well as practical issues such as CAD system selection and installation; maintenance and upgrades; software customisation; resource management; office standards; and training. The Information Technology component includes topics such as: database systems; interaction with CAD system graphics databases; transmission of data; networking and communication technologies; shared technical databases; establishment of product information standards; conceptual modelling techniques; and design information systems. Assessment is by projects and student seminars.

ARCH7304
Architecture and the City
Architecture Program
UOC6 HPW2

This course investigates the historical formation of selected international cities, with attention focussed on past and present theories. Australian developments are studied. Classes also explore contemporary debates through the projects or writings of Le Corbusier, Kahn, Rossi et al. Assessment is by two essays.

ARCH7305
Theories in History
Architecture Program
UOC6 HPW2
Excluded: ARCH7302

This course investigates the writings of architectural theorists from Vitruvius to the present. Authors to be studied include Alberti, Semper, Loos and Le Corbusier. Interpretations of the texts will be focussed around specific issues critical to modern practice. These will range from broad social concerns, such as the ethical role of the architect, to the qualities of architectural form, such as the relationship of structure to ornament. The aim of the subject is to provide a theoretical foundation capable of responding to the problems we now face. Assessment is by two essays.

ARCH7306
Theory and Architectural Practice
Architecture Program
UOC6 HPW2
Excluded: ARCH7303

Presents theoretical issues which have arisen in 20th-century practice and criticism, raises a number of ethical issues in relation to architectural practice and their impact on theory, examines the validity of certain architectural positions currently adopted within the architectural profession, and finally discusses prospects for a viable architectural future by reviewing ideas informing both visions for and the projected context of the profession. Assessment is project based and requires textual as well as visual modes of production.

ARCH7307
Architectural Design Strategies
Architecture Program
UOC6 HPW2

The course focuses on the recent history and application of design conceptualisation and problem-solving strategies. It reviews architectural design research, design formulation, design thinking and attitudes, strengths and weaknesses of design methods, the use of precedents, problem-solving techniques, conceptual blockages and breakouts, strategies for small-scale and large-scale design tasks, strategies for simple and complex design tasks, design feedback, design reporting, and offers case studies of design strategies by significant architects and designers. Also raised are issues and strategies associated with the new field of 'non-design'. Assessment by essay and design study. Course may be offered in compact mode, including weekends.

ARCH7308
Architectural Design Aesthetics
Architecture Program
UOC6 HPW2

The course considers the aesthetics of contemporary selected local and overseas design approaches such as the aesthetics of the New Urbanism. Also considered are major urban interventions such as designing for the Olympics and the revitalisation of devastated cities. Topics studied may include historic and theoretical issues about style, cultural difference, context and townscape, tradition, authenticity, proportion, scale, materiality and technology. Selected case studies are presented on significant and controversial buildings, projects, and architects/designers, from Australia and overseas. Assessment by essay and design study. Course may be offered in compact mode, including weekends.

ARCH7309
Architectural Writing and Criticism
Architecture Program
UOC6 HPW2

The course examines recent historical and contemporary examples of written and journalistic criticism of architecture, including selected writings by Australian and overseas critics. Key discursive techniques are discussed as well as major critical themes, along with thematic categories in architectural writing over the past three centuries. A selection of the work of Australian and international writers and critics will be presented and discussed. Some seminars will be offered by active Australian architectural writers, journalists and critics. Assessment by two essays. Course may be offered in compact mode, including weekends.

ARTS5020
Oral History and the Interview
School of History
UOC8 HPW2
Excluded: HIST2095, ARTS5007

Focuses on the theory and practice of writing oral history and the use of interviews as a primary source including the philosophical and practical difficulties involved, memory and forgetting, issues of interpretation and analysis, and 'performing' oral history. Workshop topics include: interview ethics, transcribing data, and the problems of interpreting data from interviews. The most important aspect of the course is the oral history project where students will conduct an interview and analyse it. They will also write a research paper where the interview data is analysed and interpreted in a historical context.

Note: For students enrolled in a PhD or Masters by Research program only.

ARTS5021
Medicine, the Body and Society
School of Sociology and Anthropology
UOC8 HPW2
Excluded: SOCA3806, SOCA5126

Presents an overview of sociological and cultural studies of the relationship between medical knowledge and practice, the experience of health and illness and contemporary society. Focuses particularly on medicine's status as simultaneously a social and a scientific practice; the ways medicine affects the experience, understanding and performance of the body; the effect of medical intervention on the organization of sexuality, illness and aging; the decentralisation of medical knowledge, the changing status of the doctor-patient relationship.

Note: For students enrolled in a PhD or Masters by Research program only.

ARTS5022
Qualitative Research Methods
School of Social Science and Policy
UOC8 HPW2
Excluded: SLSP4000, ARTS5004

Aims to provide an understanding of the role of qualitative research in the social sciences; knowledge and experience in the use of qualitative methods; an appreciation of their limitations and the social, theoretical and political context of their use. Includes qualitative data analysis, and writing and presenting qualitative research.

Note: For students enrolled in a PhD or Masters by Research program only.

ARTS5023
Quantitative Social Analysis
School of Social Science and Policy
UOC8 HPW2
Excluded: ARTS5008, SLSP2001

Aims to equip postgraduate students with basic quantitative skills required for analysing social data. Assumes no prior knowledge of statistics. Covers theoretical issues surrounding data analysis, along with the practical issues involved in using SPSS (the Statistical Package for the Social Sciences) to undertake descriptive and inferential analysis. Univariate, bivariate, and multivariate techniques for data analysis will be explored. Will be supported with WebCT.

Note: For students enrolled in a PhD or Masters by Research program only.

ARTS5024
Research Writing and Presentation
Faculty of Arts and Social Sciences
UOC8 HPW2
Excluded: ARTS5012

Assists postgraduate research students in Arts and Social Sciences to develop their thesis writing abilities and skills. Weekly sessions cover the overall structuring of the thesis; writing the introduction; the literature review; the methodology chapter; discussion chapters; the conclusion and the abstract and understanding examiners' expectations. Emphasis on managing the writing process over an extended time period and on managing large amounts of texts. Informed by current applied linguistic and educational research into advanced academic and professional writing. Includes writing a conference paper and journal article and preparing for seminar/conference presentations.

Note: For students enrolled in a PhD or Masters by Research program only.

ARTS5026
Theories of Community and Difference
School of Philosophy
UOC8 HPW2
Excluded: ARTS5001, PHIL5008

Examines models of community that challenge the idea of community as a social formation based on common identity and shared beliefs, values, ways of being etc. The theories examined in this course ask either how communities can accommodate differences without violence, or how ethical community itself is founded in response to difference such that it always opens to the 'foreign' and always in the process of transformation. Theories to be explored include communitarianism, postmodern critics of community, and new ideas of community in the work of, for example, Levinas, Nancy, and Blanchot.

Note: For students enrolled in a PhD or Masters by Research program only.

ARTS5027
Utopianism
School of Sociology and Anthropology
UOC8 HPW2

Utopianism is an ideal interdisciplinary theme for exploring how normative 'value-laden' principles are related to methodological concerns across the social sciences and humanities. Provides a useful introduction to - and discussion point for investigations of - the relationships between critique, contemporary research and interdisciplinarity. Readings should include sources such as: Thomas More's 'Utopia'; Mannheim's 'Ideology and Utopia' ; the role of utopianism in Habermas's and Foucault's differing interpretations of the legacy of the Enlightenment 'project of modernity'. Contemporary issues may include social and economic policy, organisational ethics, new media and public spheres and biotechnology debates.

Note: For students enrolled in a PhD or Masters by Research program only.

ARTS5028
The Mechanisms and Traumas of Social Change
School of Sociology and Anthropology
UOC8 HPW2

Provides a conceptual basis for postgraduate students from various disciplines and engaged in different projects by recognising that the study of social change is at the core of all social investigations. Compares different social discourses of change, like progress, crisis and traumas, focussing on traumatogenic social transformations and establishing a connection between various disciplines in their treatment of social change. Considers various forms of cultural traumas in present day societies and the construction of social time and memory as basic components of the experience of social change.

Note: For students enrolled in a PhD or Masters by Research program only.

ARTS5029
Natural Resources Policy and Management
School of History and Philosophy of Science
UOC8 HPW2

An introduction to policy development and management of complex natural resources and environmental systems. Reviews the public and private sector strategies that can be employed in the management process, as well as the interdisciplinary skills needed for solving problems that involve scientific, political, economic and social factors. Case studies include international issues such as climate change, and ozone depletion, as well as local problems such as bushfires, water and catchment management, agricultural sustainability, and the protection of ecosystems and biodiversity in national parks and world heritage areas.

ARTS5035
Structured Reading Program A
School of History and Philosophy of Science
UOC4

This structured reading program focuses on aspects of Natural Resources Policy and Management that are most relevant to a student's specific research program.

ARTS5036
Structured Reading Program B
School of History and Philosophy of Science
UOC2

This structured reading program focuses on aspects of Natural Resources Policy and Management that are most relevant to a student's specific research program.

ARTS5040
Bodies, Habits and Pleasures
HIV Social Research
UOC8 HPW2

Investigates the cultural, social and political aspects of sex and drug practice using theories of embodiment. We approach the body as a locus of power, pleasure, learning, subjectivity and change. What happens when we conceive the body as a cultural medium rather than a mere object of health and medicine? How do social approaches enliven the doing of health? How are sexuality and drugs grasped by modern regimes of power? How have endangered groups sought to transform embodied practice? Students will gain familiarity with approaches that are redefining the sociology of health, including queer theory, corporeal feminism, and governmentality studies.

ARTS5041
Researching Sex and Drugs A
HIV Social Research
UOC8 HPW2

Introduces students to practical and conceptual aspects of conducting quantitative research on sex and drug practices. Provides students with the theoretical knowledge and practical skills to conduct quantitative research projects and make sense of published research. Introduces concepts and debates underpinning quantitative research methods; considerations for researching sensitive and stigmatised practices; a background to research design and method; how to formulate research questions; sampling theory; questionnaire design; collecting data; reliability and validity theory; quantitative data analysis; intrepreting, presenting and writing about quantitative data. Includes the hands-on use of SPSS statistical software, of which no prior knowledge assumed.

ARTS5042
Researching Sex and Drugs B
HIV Social Research
UOC8 HPW2

Aims to equip students with qualitative research skills relevant to the study of sex and drug practices. These practices are frequently constituted as personal, private, illicit, or even shameful. This raises various challenges for the researcher, including questions of ethics, design, and interpretation of findings. Students will consider a range of qualitative methods suitable for researching sex and drugs including interviewing, ethnography, focus groups, and research with cultural materials. We will carry out a number of practical exercises, providing experience in different research methods. Also covers conceptual/methodological issues relating to the use of social research in public health.

ARTS5050
International Studies and Theories of Global Transformations
Faculty of Arts and Social Sciences
UOC8 HPW2

Addresses the question: What is International Studies and what could International Studies be? Assesses the historical and contemporary parameters of International Studies and the major theoretical approaches that currently dominate the field. The focus will be on a critical engagement with the most influential efforts in International Studies to promote, critique and explain global transformation.

ARTS5051
Global Political Economy, International Development and Human Security
Faculty of Arts and Social Sciences
UOC8 HPW2

In the post-9/11 and post October 12 era, there is a renewed awareness of, or concern about, the connection between security and development. Considers the complex connections between security and development against the backdrop of the changing global political economy. In the context of a broad and critical analysis of the transition from decolonisation to globalisation, and the transformation of the global political economy since the 1950s, this course puts economic development and an array of security questions in critical global perspective.

ARTS5060
Developing a Research Proposal
School of Politics and International Relations
UOC8 HPW2

Provides a grounding for postgraduate students in a wide range of approaches to research in the humanities, with a focus on the discipline of political science. Supports students in the preparation of their first substantive piece of written work for the degree - a comprehensive thesis proposal - but relevant for any humanities student in the early stages of thesis writing. Topics include the selection and framing of a research question; making an original contribution; writing a research proposal; and discussion of a range of epistemological, methodological and theoretical approaches to research in the discipline.

Note: For students enrolled in a PhD or Masters by Research program only.

ASIA5100
Research Project
Department of Chinese & Indonesian Studies
UOC8 HPW2

A research project of 10,000 words on a topic approved by the Coordinator of the Master of Arts in Asian Studies.

Note: This project is available only to students enrolled in a full MA program who have achieved distinction level over three completed courses and demonstrated research capacity. Application forms to undertake this course are available from the Coordinator and must be lodged for consideration by the end of the teaching period of the session preceding the start of the research project.

ASIA5200
Reading Program (Asian Studies)
Department of Chinese & Indonesian Studies
UOC8 HPW2

Reading programs are individually determined. Approval must be obtained from the Coordinator of the program.

Note: Students must have completed at least three courses to be considered for acceptance into a reading program. Students may enrol in a Reading Program as a substitute for one of the optional courses.

ATAX0100
Principles of Australian Taxation Law
Board of Studies in Taxation
UOC6

Principles of Australian Taxation Law is intended to provide graduates from a degree outside Law or Commerce with a sophisticated but broad understanding of the Australian taxation system from a legal perspective. In this course the fundamental elements of the Australian direct and indirect taxation regimes are analysed. The course investigates the income and deductions rules, timing issues in taxation, capital gains tax, the basic fringe benefits tax rules and the taxation of superannuation. The course also gives students an understanding of the Goods and Services Tax and of the administration of the tax system. Important state taxes such as stamp duty and payroll tax are also discussed.

ATAX0103
Microeconomics and the Australian Tax System
Board of Studies in Taxation
UOC6

This course provides an introduction to basic microeconomic concepts and skills, and demonstrates their use in order to gain a clear understanding of economic problems and policy issues relevant to the Australian economy. It introduces students to the economic behaviour of small decision-making units such as households, firms and government agencies, with particular reference to the effects of taxation on markets. Emphasis is placed on analytical skills and key concepts which are relevant to tax professionals including, for example, opportunity cost, market equilibrium, elasticity, substitution and income effects, tax incidence and efficiency costs of taxation.

ATAX0104
Framework of Commercial Law
Board of Studies in Taxation
UOC6

This course deals with the basic principles of contract law, agency, misleading and deceptive conduct, cheques and bills of exchange. The course is a building block in the understanding of basic concepts of the enforceability of promises; it deals with the basic principles of misrepresentation, illegality and termination of contracts, and provides an introduction to statutory and equitable remedies applicable where contractual obligations have been broken.

ATAX0105
Accounting 1
Board of Studies in Taxation
UOC6

This is the first course in a sequence of courses dealing with the profession and the practice of accounting and the literature associated with it. Students will be introduced to: the design of accounting information systems (classifications and chart of accounts, cash or accrual systems, concept and measurement selection, continuous or periodic recording); systems of accounting record (the accounting equation, document flows, accounts and ledgers, the double-entry systems, journals and subsidiary ledgers internal and accounting control); recording merchandising operations (sales, purchases, returns, allowances, receipts, payments, inventory effects); accounting for receivables and payables; inventories; and accounting for non-current assets.

ATAX0106
Tax Administration
Board of Studies in Taxation
UOC6

This course examines the operation of tax institutions in Australia's mass decision making process. It includes self-assessment and decision making in the bureaucracy, statutory review in the AAT and courts, the basics of administrative law and the Ombudsman's role. It deals with rulings, information collection powers, powers to collect tax owing and impose penalities. It includes taxpayer protections like the Charter of Taxpayer Rights and Freedom of Information. The course emphasises a coherent, critical understanding of the decision making system and its practical administration.

ATAX0108
Principles of Capital Gains Taxation
Board of Studies in Taxation
UOC6

This course deals with Australia's capital gains tax regime. The course begins with a study of the theory behind taxing capital gains and its place in the income tax base. This is followed by an examination of the background leading to the introduction of Australia's first system for taxing capital gains and why that system was altered to our present system. The main features of the current legislation are then examined in detail, including its structure, main concepts and principal operative provisions. The course concludes with a look at the main concessions and exemptions available to individuals and small business.

ATAX0113
Taxation of Companies, Trusts and Partnerships
Board of Studies in Taxation
UOC6

This course deals with the taxation of companies, partnerships and trusts, the key structures for business and investment in Australia. This comparative treatment emphasises a coherent understanding of the tax structures and a critical appreciation of the reasons for them. The course deals with practical problems arising from concepts of legal personality (or the lack of it), dual tax at the entity and member level, including the various distribution rules and operation of company franking mechanisms. The course also considers the divergences between the taxation of different structures, and the practical consequences of these divergences. Students should have completed or be enrolled in ATAX0009 The Law of Companies, Trusts and Partnerships.

ATAX0116
Critical Perspectives and Ethics
Board of Studies in Taxation
UOC6

This course requires students to evaluate critically key aspects of Australia's tax system especially relating to tax evasion and avoidance. It asks students to evaluate the ethical behaviour of participants in the tax system. It ensures that students understand the ethical rules of Australia's leading professional accounting and legal bodies. It explores legal controls on professional actions and civil liability. It reviews why rules are obeyed and explores whether formal sanctions at the legal or professional level lead to ethical conduct. It concludes with an in-depth analysis of Australia's specific and general anti-avoidance provisions.

ATAX0117
Tax Accounting Systems
Board of Studies in Taxation
UOC6

The primary focus of the course is upon issues of timing. Earlier courses have concerned themselves with the question of what constitutes taxable income. Tax Accounting Systems moves the analysis to issues that are concerned with when. When should income be brought to account? When are deductions to be taken? In other words, the emphasis shifts to the basic question of how we achieve a fair reflex of the gain for a particular period. This course is intended to provide a practical analysis of the area of tax accounting in its broadest sense, and therefore also covers trading stock, depreciation and the Simplified Tax System.

ATAX0123
Principles of Goods and Services Tax Law
Board of Studies in Taxation
UOC6

The course works through all aspects of the GST law and looks briefly at the underlying policy implications of each area of the law. The object of this course is to provide conceptual and analytical knowledge of GST appropriate for the practical requirements of business, legal and accounting advisers working with GST on a regular basis. The course explores complex legislative and policy structures so that we acquire expert knowledge of what the law is meant to do, what it actually does and where problems arise. Recommended prior knowledge: Completion of ATAX0022 Goods and Services Tax: Design and Structure.

ATAX0301
Tax Policy
Board of Studies in Taxation
UOC6

No tax decision, from the highest tax policy design issue to the most mundane and technical problem of tax accounting, is made in a tax policy vacuum. This course is designed to develop the skills and knowledge necessary to enable the evaluation of government tax policies. An intensive 'hands on' approach is adopted to the development of techniques for practical, policy driven, tax problem solving. Economic issues are given prominence complemented with attention to political, institutional and administrative constraints on the development of tax policy. The skills learnt will enable you to move comfortably from consideration of broad strategic tax policy problems to evaluating tax policy decisions at the practical level. Recommended Prior Knowledge: Completion of a minimum of 18 Units of Credit

ATAX0303
Taxation of Corporations
Board of Studies in Taxation
UOC6

Companies are significant entities for collective investment. This course provides a comprehensive analysis of financial and taxation issues relating to investment in, and distributions by, Australian domestic companies. Examination of companies involves the theoretical framework of corporate tax integration theory, and detailed practical analysis of the Australian imputation system and rules relating to corporate distributions. Corporate structuring issues and anti-avoidance provisions are also detailed.

ATAX0304
Asia Pacific Tax Regimes
Board of Studies in Taxation
UOC6

This course is designed to equip students with an understanding of the operative tax systems in three jurisdictions, namely the United States, Singapore and Hong Kong. A comparison will be made between the operation of these tax systems and the operation of Australia's international tax system. There will also be a detailed examination of the operation of Australia's Double Tax Agreements (DTAs) generally. Recommended Prior Knowledge: Completion of ATAX0320

ATAX0305
Taxation of Trusts
Board of Studies in Taxation
UOC6

This course thoroughly explores issues relating to private trusts and describes those applicable to public trusts. It explains the nature of a trust and the differences between types of trust. It critically examines the taxation of income of a trust. Thereafter it considers taxation of capital gains derived in the context of trusts, and the potential application of the special and general anti-avoidance provisions to trusts where they are used for purposes of income-splitting or income-diversion. Finally, there is discussion of the reforms to the taxation of trusts and their implications.

ATAX0306
Tax Administration Process
Board of Studies in Taxation
UOC6

This course provides students with insights into current issues affecting tax administration. The course considers compliance research from the perspectives of both taxpayers and the economy in general. Administrative and constitutional law aspects are examined to provide a context for tax administrative law, and the review and appeal processes generally. Additionally the leading works on decision making theory are discussed to provide a perspective on their application in administrative decision making.

ATAX0307
Taxation of Corporate Finance
Board of Studies in Taxation
UOC6

The course deals with the fundamental building blocks, both theoretical and technical legal, of taxation of corporate finance. It focuses on debt finance but also covers aspects of equity financing. It provides thorough grounding in basic concepts like the time value of money, the deductibility of interest, and the debt/equity distinction. The course deals in depth with temporal apportionment, with taxation of discounted and deferred interest securities and with leasing finance. It introduces hybrid instruments and derivatives, which are explored in more depth in ATAX0321/0421 Taxation of Structured Finance. This course complements ATAX0303/0403 Taxation of Corporations.

ATAX0308
International Tax: Anti-Avoidance
Board of Studies in Taxation
UOC6

This course exposes students to the main aspects of the law which are specifically relevant to anti-avoidance of international taxation. It aims to instill a clear understanding of these aspects so that students, when dealing with cross border income flows in their roles as tax professionals, may avoid inadvertently falling into an unexpected trap created by these provisions. Specifically, students studying this course will be required to come to grips with Australia's: (i) controlled foreign company ('CFC') rules; (ii) foreign investment fund ('FIF') rules; (iii) transferor trust rules and (iv) the thin capitalisation and transfer pricing rules. Recommended Prior Knowledge: Completion of ATAX0305, ATAX0311 and ATAX0320

ATAX0310
Taxation of Superannuation
Board of Studies in Taxation
UOC6

The aim of this course is to provide students with a thorough understanding of the current taxation principles applicable to superannuation. There are taxation consequences involved in every aspect of superannuation. Thus, the course examines the taxation consequences for persons making contributions to superannuation funds. It then examines the taxation of superannuation funds themselves (both complying and non-complying funds) and, finally, it examines the taxation of benefits (both lump sums and pensions) paid by superannuation funds to their members. The course also examines the operation of the Superannuation Guarantee (Administration) Act 1992, which imposes a superannuation guarantee charge (a form of tax) on those employers who do not make the minimum superannuation contributions specified in that Act. Finally, the course provides an introduction to the provisions of the Superannuation Industry (Supervision) Act 1993.

ATAX0311
Taxation of Capital Gains
Board of Studies in Taxation
UOC6

This course centres upon the basic structure and central concepts of the Australian Capital Gains Tax. It considers the policy rationale for taxing capital gains, and provides in-depth technical analysis of the legislation. It covers the general scheme, detailed calculation provisions, the impact of CGT on entities (such as companies, trusts and partnerships) and on specific assets, and the CGT concessions that exist in the roll-over and exemption provisions for individuals and large and small businesses. The course explores some of the key anti-avoidance provisions that exist, and aims to provide a thorough understanding of the key aspects of the Australian CGT.

ATAX0314
Selected Problems in Stamp Duty
Board of Studies in Taxation
UOC6

This course provides a general knowledge of Australian duty law, identifying the common themes and important areas of divergence across the various states. The course critically analyses the concepts behind duties in Australia, covering the main rules and problem areas. The course examines duty on transfers of dutiable property, leases, transfers, dutiable transactions and trusts. Although the course has broad focus, duty rules in New South Wales, Victoria, Western Australia and Queensland are specifically covered.

ATAX0315
Taxation of Industry and Technology
Board of Studies in Taxation
UOC6

The tax system is used to support industry through special incentives. Some target specific industries (primary production, mining and energy, films), some target sectors of the economy (small business), while others apply to industry generally (research and development, intellectual property). Modern modes of doing business, most notably the advent of ecommerce, also present problems in the traditional application of tax laws.

This course covers special tax rules and incentives that apply to persons or entities operating in specific industries or sectors of the economy, including small business, as well as more general incentives to encourage inventiveness and increase competitiveness. Concentration is on productive sectors of the economy (as opposed to financial services) and extends to taxation of ecommerce. Coverage includes a critical analysis of why special rules exist and the desirability and effectiveness of using the tax system to achieve government industry policy.

ATAX0318
Consolidations and Group Structures
Board of Studies in Taxation
UOC6

This is a third level course dealing with complex structures at the "big end". It is designed to take you beyond the relatively static consideration of companies, trusts and partnerships considered in foundation courses on taxation of entities, capital gains and corporate finance. It deals with multiple vehicles in groups, the synergies and problems from their interaction. It covers the group consolidation legislation, intra-group transactions and those with outsiders. There is a full treatment of anti-avoidance provisions (particularly Part IVA) and issues of legal formalism. Research emphasises active exploration by you of current structures. Recommended Prior Knowledge: Completion of ATAX0303 and ATAX0311

ATAX0320
Principles of Australian International Tax
Board of Studies in Taxation
UOC6

This course is designed to provide a broad overview and understanding of the most important elements of Australian tax law as it affects international transactions. It includes analysis of: Australian residency for tax purposes; Australian source rules; the taxation of residents in respect of their foreign sourced income (including an overview of controlled foreign companies legislation); the taxation of non-residents in respect of their Australian sourced income; the operation of Australia's double tax agreements; and the competing policy factors inherent in the design of an international tax regime. The course provides the foundations for the other postgraduate courses dealing with international tax.

ATAX0321
Taxation of Structured Finance
Board of Studies in Taxation
UOC6

This course deals with the policy and tax issues which underpin new financial techniques and the products which have been based on these techniques. Basic to the course are the principles underpinning the deductibility and timing of interest payments. Derivative products are considered, particularly the instruments on which they are based, such as options, futures and forwards. More detailed consideration is given to specific products which are current in the market place such as instalment warrants, convertible securities, synthetic equity, LEPOS, swaps and the like. Recommended Prior Knowledge: Completion of ATAX0303 and ATAX0307

ATAX0322
Goods and Services Tax: Design and Structure
Board of Studies in Taxation
UOC6

This course explores the conceptual and theoretical issues which have influenced how a GST/VAT finds implementation in practice around the world. Attention is given to how different goods and services are treated under the tax and how the tax is administered in practice. Issues such as the importance of planning by government and business for the successful operation of a GST and its compliance and administration costs are considered. Importantly, it explores conceptual issues arising during the transition from a tax like a Wholesale Sales Tax to a GST along with the management of the economic impact of introducing a GST.

ATAX0323
Principles of Goods and Services Tax Law
Board of Studies in Taxation
UOC6

The course works through all aspects of the GST law and looks briefly at the underlying policy implications of each area of the law. The object of this course is to provide conceptual and analytical knowledge of GST appropriate for the practical requirements of business, legal and accounting advisers working with GST on a regular basis. The course explores complex legislative and policy structures so that we acquire expert knowledge of what the law is meant to do, what it actually does and where problems arise. Recommended prior knowledge: Completion of ATAX0322 Goods and Services Tax: Design and Structure.

ATAX0324
Goods and Services Tax: Complex Issues and Planning
Board of Studies in Taxation
UOC6

This course provides a detailed analysis of the more difficult GST issues and areas. It focuses on the identification and classification of supplies against the background of complex commercial arrangements; the treatment of cross-border transactions; rules governing the financial and insurance sectors (and the design flaws inherent in these rules); supplies made in the course of the sale of businesses, and the application of anti-avoidance provisions. The overall aim of the course is to enhance your capacity to embark upon independent analyses of the hard GST questions, particularly those questions likely to arise at advanced practice levels. Recommended Prior Knowledge: Completion of ATAX0322 Goods and Services Tax: Design and Structure and ATAX0323 Principles of Goods and Services Tax Law.

ATAX0325
Taxation of Employee Remuneration
Board of Studies in Taxation
UOC6

This course provides a comprehensive coverage of the taxation issues relating to the taxation of employee remuneration. The course commences by examining the employer/employee relationship, contrasting it with the principal/independent contractor relationship. Fringe benefits tax and tax collection obligations imposed on employers, including under PAYG and the payroll tax system, are considered in detail. Employers' obligations and employees' rights under the superannuation guarantee system are examined, as are the rules on the deductibility of superannuation contributions and the taxation of payments made on termination of employment. The course concludes with an examination of the rationale and tax consequences of salary packaging, and the ATO's response to arrangements aimed at avoiding tax on payments for services performed.

ATAX0326
Taxation and Investment Regulation in China
Board of Studies in Taxation
UOC6

This course provides comprehensive coverage of the tax system and investment regulation in China. Students completing the course will obtain a thorough working knowledge of the practical operation of China's tax and investment regulatory system in the context of common business, investment and employment activities.

Topics covered include: The enterprise and individual income tax, private enterprise regulation, foreign investment regulation, the value added tax, the business tax, Chinese business vehicles including companies, double taxation agreements, incentives and special zones.

ATAX0327
Tax Strategies in Financial Planning
Board of Studies in Taxation
UOC6

This course provides a comprehensive and in depth study of the investment sectors and funding vehicles used in personal financial planning. It looks in detail at taxation of the investments most commonly used in financial planning and, in addition, looks at taxation of funding vehicles such as managed funds. Also, it looks in detail at taxation strategies used in financial planning for constructing portfolios of these investments.

It crtically examines the taxation of property, equity, structured and alternate investments in a financial planning environment and, also, taxation strategies for including these in a personal financial planning portfolio. That analysis includes such existing tax strategies as negative gearing.

ATAX0328
Foundations in International Taxation
Board of Studies in Taxation
UOC6

This course addresses the fundamental building blocks of those parts of domestic tax income tax systems that deal with cross border investment and income flows. A comparative approach will be adopted in order to highlight the different approaches that can be, and are, adopted by different jurisdictions in dealing with these issues. This comparative approach will extend to consideration of the different outcomes that different approaches produce and the influences (such as tax policy, historical and/or cultural factors) which have contributed to the adoption of these differing approaches. Issues dealt with in the course include: jurisdictional nexus rules (residence and source); taxation of cross border active income flows; taxation of cross border passive income flows; unilateral measures adopted for relief from double taxation; host country and home country considerations in taxing cross border business activities; international anti-avoidance provisions; double tax treaties; and harmful tax competition.

ATAX0334
Specific Tax Jurisdictions: Europe
Board of Studies in Taxation
UOC6

This course involves a detailed study of the domestic taxation laws of a selected country in Europe (or of the EU itself) and is taught with the assistance of a person expert in the taxation laws of that jurisdiction. Particular attention will be paid to the domestic taxation laws of the selected jurisdiction from the perspective of an international investor and comparisons of those rules with international norms or the rules of other commercially important jurisdictions will be made. Students in this course will develop an understanding of where the chosen jurisdiction fits into the scheme of world tax systems and the expectations of the OECD and its member states. The specific jurisdiction to be covered in a particular year of offering should be ascertained by consulting the program convener.

ATAX0336
Specific Tax Jurisdictions: Asia
Board of Studies in Taxation
UOC6

This course involves a detailed study of the domestic tax laws of one or more selected countries in Asia and is taught with the assistance of a person expert in the taxation laws of those jurisdictions. Particular attention will be paid to the domestic taxation laws of the selected countries from the perspective of international investors. Comparisons of those rules with international norms or the rules of other commercially important jurisdictions will be made. The specific jurisdictions to be covered in a particular year will be determined by the program convener.

ATAX0337
Double Tax Agreements
Board of Studies in Taxation
UOC6

This course provides a comprehensive and in depth study of Double Taxation Agreements (DTAs). Critical issues examined will include DTA coverage, dual residency issues, taxation of passive income flows and capital gains and mechanisms to alleviate double tax. Important comparisons are made between the OECD UN and other DTAs so as to highlight the practical operation of the DTAs and where problem areas arise.

ATAX0338
Tax Risk Management
Board of Studies in Taxation
UOC6

The course begins by examining various models and theories relating to decision making given conditions of uncertainty. From this more holistic view of managing risk, the course then specialises in addressing the management of tax as an identified risk in the current environment of self assessment. In doing so, a range of perspectives are adopted including that of taxpayer and of tax administrator. A tax risk assessment is then undertaken according to the perspective of the decision maker and based on an understanding of what drives their behaviour. Finally, appropriate strategies are developed and their effectiveness evaluated as part of the process of tax risk management.

ATAX0355
Taxation of Property Transactions
Board of Studies in Taxation
UOC6

Property transactions are one of the most common and significant dealings within most tax bases. This course examines all income tax, CGT, GST, land tax and stamp duty consequences of acquiring, holding, developing, building on, leasing, disposing of or otherwise dealing with land and buildings, including investment options such as property trusts and their structuring. Income tax considerations dealt with include property sale or development, financing, income recognition, rent, home offices, lease incentives and deductions. CGT, GST, land tax and stamp duty as applied to freehold, leasehold, residential and commercial property are considered, including their many special rules and concessions.

ATAX0400
Research Methods in Taxation
Board of Studies in Taxation
UOC6

This course is designed as an introduction to academic research in taxation at postgraduate level. The aim of the course is to assist students in developing a broad understanding of research processes in general, and taxation research skills in particular. These research skills, which include legal, qualitative and quantitative approaches, will enable students to successfully complete their research papers or theses.

ATAX0401
Tax Policy
Board of Studies in Taxation
UOC6

No tax decision, from the highest tax policy design issue to the most mundane and technical problem of tax accounting, is made in a tax policy vacuum. This course is designed to develop the skills and knowledge necessary to enable the evaluation of government tax policies. An

intensive 'hands on' approach is adopted to the development of techniques for practical, policy driven, tax problem solving. Economic issues are given prominence complemented with attention to political, institutional and administrative constraints on the development of tax policy. The skills learnt will enable you to move comfortably from consideration of broad strategic tax policy problems to evaluating tax policy decisions at the practical level. Recommended Prior Knowledge: Completion of a minimum of 24 Units of Credit

ATAX0403
Taxation of Corporations
Board of Studies in Taxation
UOC6

Companies are significant entities for collective investment. This course provides a comprehensive analysis of financial and taxation issues relating to investment in, and distributions by, Australian domestic companies. Examination of companies involves the theoretical framework of corporate tax integration theory, and detailed practical analysis of the Australian imputation system and rules relating to corporate distributions. Corporate structuring issues and anti-avoidance provisions are also detailed.

ATAX0404
Asia Pacific Tax Regimes
Board of Studies in Taxation
UOC6

This course is designed to equip students with an understanding of the operative tax systems in three jurisdictions, namely the United States, Singapore and Hong Kong. A comparison will be made between the operation of these tax systems and the operation of Australia's international tax system. There will also be a detailed examination of the operation of Australia's Double Tax Agreements (DTAs) generally. Recommended Prior Knowledge: Completion of ATAX0420

ATAX0405
Taxation of Trusts
Board of Studies in Taxation
UOC6

This course thoroughly explores issues relating to private trusts and describes those applicable to public trusts. It explains the nature of a trust and the differences between types of trust. It critically examines the taxation of income of a trust. Thereafter it considers taxation of capital gains derived in the context of trusts, and the potential application of the special and general anti-avoidance provisions to trusts where they are used for purposes of income-splitting or income-diversion. Finally, there is discussion of the reforms to the taxation of trusts and their implications.

ATAX0406
Tax Administration Process
Board of Studies in Taxation
UOC6

This course provides students with insights into current issues affecting tax administration. The course considers compliance research from the perspectives of both taxpayers and the economy in general. Administrative and constitutional law aspects are examined to provide a context for tax administrative law, and the review and appeal processes generally. Additionally the leading works on decision making theory are discussed to provide a perspective on their application in administrative decision making.

ATAX0407
Taxation of Corporate Finance
Board of Studies in Taxation
UOC6

The course deals with the fundamental building blocks, both theoretical and technical legal, of taxation of corporate finance. It focuses on debt finance but also covers aspects of equity financing. It provides thorough grounding in basic concepts like the time value of money, the deductibility of interest, and the debt/equity distinction. The course deals in depth with temporal apportionment, with taxation of discounted and deferred interest securities and with leasing finance. It introduces hybrid instruments and derivatives, which are explored in more depth in ATAX0321/0421 Taxation of Structured Finance. This course complements ATAX0303/0403 Taxation of Corporations.

ATAX0408
International Tax: Anti-Avoidance
Board of Studies in Taxation
UOC6

This course exposes students to the main aspects of the law which are specifically relevant to anti-avoidance of international taxation. It aims to instil a clear understanding of these aspects so that students, when dealing with cross border income flows in their roles as tax professionals, may avoid inadvertently falling into an unexpected trap created by these provisions. Specifically, students studying this course will be required to come to grips with Australia's: (i) controlled foreign company ('CFC') rules; (ii) foreign investment fund ('FIF') rules; (iii) transferor trust rules and (iv) the thin capitalisation and transfer pricing rules. Recommended Prior Knowledge: Completion of ATAX0405, ATAX0411 and ATAX0420

ATAX0410
Taxation of Superannuation
Board of Studies in Taxation
UOC6

The aim of this course is to provide students with a thorough understanding of the current taxation principles applicable to superannuation. There are taxation consequences involved in every aspect of superannuation. Thus, the course examines the taxation consequences for persons making contributions to superannuation funds. It then examines the taxation of superannuation funds themselves (both complying and non-complying funds) and, finally, it examines the taxation of benefits (both lump sums and pensions) paid by superannuation funds to their members. The course also examines the operation of the Superannuation Guarantee (Administration) Act 1992, which imposes a superannuation guarantee charge (a form of tax) on those employers who do not make the minimum superannuation contributions specified in that Act. Finally, the course provides an introduction to the provisions of the Superannuation Industry (Supervision) Act 1993.

ATAX0411
Taxation of Capital Gains
Board of Studies in Taxation
UOC6

This course centres upon the basic structure and central concepts of the Australian Capital Gains Tax. It considers the policy rationale for taxing capital gains, and provides in-depth technical analysis of the legislation. It covers the general scheme, detailed calculation provisions, the impact of CGT on entities (such as companies, trusts and partnerships) and on specific assets, and the CGT concessions that exist in the roll-over and exemption provisions for individuals and large and small businesses. The course explores some of the key anti-avoidance provisions that exist, and aims to provide a thorough understanding of the key aspects of the Australian CGT.

ATAX0414
Selected Problems in Stamp Duty
Board of Studies in Taxation
UOC6

This course provides a general knowledge of Australian duty law, identifying the common themes and important areas of divergence across the various states. The course critically analyses the concepts behind duties in Australia, covering the main rules and problem areas. The course examines duty on transfers of dutiable property, leases, transfers, dutiable transactions and trusts. Although the course has broad focus, duty rules in New South Wales, Victoria, Western Australia and Queensland are specifically covered.

ATAX0415
Taxation of Industry and Technology
Board of Studies in Taxation
UOC6

The tax system is used to support industry through special incentives. Some target specific industries (primary production, mining and energy, films), some target sectors of the economy (small business), while others apply to industry generally (research and development, intellectual property). Modern modes of doing business, most notably the advent of ecommerce, also present problems in the traditional application of tax laws.

This course covers special tax rules and incentives that apply to persons or entities operating in specific industries or sectors of the economy, including small business, as well as more general incentives to encourage inventiveness and increase competitiveness. Concentration is on productive sectors of the economy (as opposed to financial services) and extends to taxation of ecommerce. Coverage includes a critical analysis of why special rules exist and the desirability and effectiveness of using the tax system to achieve government industry policy.

ATAX0416
Current Research Problems in Taxation
Board of Studies in Taxation
UOC6

This course is designed primarily to give students the opportunity to explore the full depth of the research literature in a significant and challenging area of tax research. The content will vary from year to year to reflect emerging problems and the availability of Atax academic staff and visiting experts. Assessment is by way of one major research paper (of approximately 20,000 words). This is intended as a research oriented Masters course only - accordingly it is not offered to Graduate Diploma in Advanced Taxation students. Moreover, it should only be undertaken by Masters' students who have already completed other Masters courses. Enrolment in this course is restricted to students who have completed at least 4 courses at the Masters (04xx) level and have achieved an acceptable academic standard as determined by the Board of Studies; this will normally be a mark of at least 65% (credit) on average in the courses completed but this may vary to suit individual circumstances.

ATAX0418
Consolidations and Group Structures
Board of Studies in Taxation
UOC6

This is a third level course dealing with complex structures at the "big end". It is designed to take you beyond the relatively static consideration of companies, trusts and partnerships considered in foundation courses on taxation of entities, capital gains and corporate finance. It deals with multiple vehicles in groups, the synergies and problems from their interaction. It covers the group consolidation legislation, intra-group transactions and those with outsiders. There is a full treatment of anti-avoidance provisions (particularly Part IVA) and issues of legal formalism. Research emphasises active exploration by you of current structures. Recommended Prior Knowledge: Completion of ATAX0403 and ATAX0411

ATAX0420
Principles of Australian International Tax
Board of Studies in Taxation
UOC6

This course is designed to provide a broad overview and understanding of the most important elements of Australian tax law as it affects international transactions. It includes analysis of: Australian residency for tax purposes; Australian source rules; the taxation of residents in respect of their foreign sourced income (including an overview of controlled foreign companies legislation); the taxation of non-residents in respect of their Australian sourced income; the operation of Australia's double tax agreements; and the competing policy factors inherent in the design of an international tax regime. The course provides the foundations for the other postgraduate courses dealing with international tax.

ATAX0421
Taxation of Structured Finance
Board of Studies in Taxation
UOC6

This course deals with the policy and tax issues which underpin new financial techniques and the products which have been based on these techniques. Basic to the course are the principles underpinning the deductibility and timing of interest payments. Derivative products are considered, particularly the instruments on which they are based, such as options, futures and forwards. More detailed consideration is given to specific products which are current in the market place such as installment warrants, convertible securities, synthetic equity, LEPOS, swaps and the like. Recommended Prior Knowledge: Completion of ATAX0403 and ATAX0407

ATAX0422
Goods and Services Tax: Design and Structure
Board of Studies in Taxation
UOC6

This course explores the conceptual and theoretical issues which have influenced how a GST/VAT finds implementation in practice around the world. Attention is given to how different goods and services are treated under the tax and how the tax is administered in practice. Issues such as the importance of planning by government and business for the successful operation of a GST and its compliance and administration costs are considered. Importantly, it explores conceptual issues arising during the transition from a tax like a Wholesale Sales Tax to a GST along with the management of the economic impact of introducing a GST.

ATAX0423
Principles of Goods and Services Tax Law
Board of Studies in Taxation
UOC6

The course works through all aspects of the GST law and looks briefly at the underlying policy implications of each area of the law. The object of this course is to provide conceptual and analytical knowledge of GST appropriate for the practical requirements of business, legal and accounting advisers working with GST on a regular basis. The course explores complex legislative and policy structures so that we acquire expert knowledge of what the law is meant to do, what it actually does and where problems arise. Recommended prior knowledge: Completion of ATAX0422 Goods and Services Tax: Design and Structure.

ATAX0424
Goods and Services Tax: Complex Issues and Planning
Board of Studies in Taxation
UOC6

This course provides a detailed analysis of the more difficult GST issues and areas. It focuses on the identification and classification of supplies against the background of complex commercial arrangements; the treatment of cross-border transactions; rules governing the financial and insurance sectors (and the design flaws inherent in these rules); supplies made in the course of the sale of businesses, and the application of anti-avoidance provisions. The overall aim of the course is to enhance your capacity to embark upon independent analyses of the hard GST questions, particularly those questions likely to arise at advanced practice levels. Recommended Prior Knowledge: Completion of ATAX0422 Goods and Services Tax: Design and Structure and ATAX0423 Principles of Goods and Services Tax Law.

ATAX0425
Taxation of Employee Remuneration
Board of Studies in Taxation
UOC6

This course provides a comprehensive coverage of the taxation issues relating to the taxation of employee remuneration. The course commences by examining the employer/employee relationship, contrasting it with the principal/independent contractor relationship. Fringe benefits tax and tax collection obligations imposed on employers, including under PAYG and the payroll tax system, are considered in detail. Employers' obligations and employees' rights under the superannuation guarantee system are examined, as are the rules on the deductibility of superannuation contributions and the taxation of payments made on termination of employment. The course concludes with an examination of the rationale and tax consequences of salary packaging, and the ATO's response to arrangements aimed at avoiding tax on payments for services performed.

ATAX0426
Taxation and Investment Regulation in China
Board of Studies in Taxation
UOC6

This course provides comprehensive coverage of the tax system and investment regulation in China. Students completing the course will obtain a thorough working knowledge of the practical operation of China's tax and investment regulatory system in the context of common business, investment and employment activities.

Topics covered include: The enterprise and individual income tax, private enterprise regulation, foreign investment regulation, the value added tax, the business tax, Chinese business vehicles including companies, double taxation agreements, incentives and special zones.

ATAX0427
Tax Strategies in Financial Planning
Board of Studies in Taxation
UOC6

This course provides a comprehensive and in depth study of the investment sectors and funding vehicles used in personal financial planning. It looks in detail at taxation of the investments most commonly used in financial planning and, in addition, looks at taxation of funding vehicles such as managed funds. Also, it looks in detail at taxation strategies used in financial planning for constructing portfolios of these investments.

It crtically examines the taxation of property, equity, structured and alternate investments in a financial planning environment and, also, taxation strategies for including these in a personal financial planning portfolio. That analysis includes such existing tax strategies as negative gearing.

ATAX0428
Foundations in International Taxation
Board of Studies in Taxation
UOC6

This course addresses the fundamental building blocks of those parts of domestic tax income tax systems that deal with cross border investment and income flows. A comparative approach will be adopted in order to highlight the different approaches that can be, and are, adopted by different jurisdictions in dealing with these issues. This comparative approach will extend to consideration of the different outcomes that different approaches produce and the influences (such as tax policy, historical and/or cultural factors) which have contributed to the adoption of these differing approaches. Issues dealt with in the course include: jurisdictional nexus rules (residence and source); taxation of cross border active income flows; taxation of cross border passive income flows; unilateral measures adopted for relief from double taxation; host country and home country considerations in taxing cross border business activities; international anti-avoidance provisions; double tax treaties; and harmful tax competition.

ATAX0429
International Tax Research
Board of Studies in Taxation
UOC6

Students complete a research paper on an approved topic of their choice which addresses some aspects or aspects of international taxation. The completion of this task will be supervised by a member of academic staff. Assessment will be 'progressive' with marks assigned to successful completion of interim tasks such as preparation of a synopsis and a literature; survey. The required length of the paper will be commensurate with the work required for completion of course carrying 6 units of credit. Enrolment in this course is restricted to students who have completed at least 4 courses at the Masters (04xx) level and have achieved an acceptable academic standard as determined by the Board of Studies; this will normally be a mark of at least 65% (credit) on average in the courses completed but this may vary to suit individual circumstances.

ATAX0434
Specific Tax Jurisdiction: Europe
Board of Studies in Taxation
UOC6

This course involves a detailed study of the domestic taxation laws of a selected country in Europe (or of the EU itself) and is taught with the assistance of a person expert in the taxation laws of that jurisdiction. Particular attention will be paid to the domestic taxation laws of the selected jurisdiction from the perspective of an international investor and comparisons of those rules with international norms or the rules of other commercially important jurisdictions will be made. Students in this course will develop an understanding of where the chosen jurisdiction fits into the scheme of world tax systems and the expectations of the OECD and its member states. The specific jurisdiction to be covered in a particular year of offering should be ascertained by consulting the program convener.

ATAX0437
Double Tax Agreements
Board of Studies in Taxation
UOC6

This course provides a comprehensive and in depth study of Double Taxation Agreements (DTAs). Critical issues examined will include DTA coverage, dual residency issues, taxation of passive income flows and capital gains and mechanisms to alleviate double tax. Important comparisons are made between the OECD UN and other DTAs so as to highlight the practical operation of the DTAs and where problem areas arise.

ATAX0438
Tax Risk Management
Board of Studies in Taxation
UOC6

The course begins by examining various models and theories relating to decision making given conditions of uncertainty. From this more holistic view of managing risk, the course then specialises in addressing the management of tax as an identified risk in the current environment of self assessment. In doing so, a range of perspectives are adopted including that of taxpayer and of tax administrator. A tax risk assessment is then undertaken according to the perspective of the decision maker and based on an understanding of what drives their behaviour. Finally, appropriate strategies are developed and their effectiveness evaluated as part of the process of tax risk management.

ATAX0455
Taxation of Property Transactions
Board of Studies in Taxation
UOC6

Property transactions are one of the most common and significant dealings within most tax bases. This course examines all income tax, CGT, GST, land tax and stamp duty consequences of acquiring, holding, developing, building on, leasing, disposing of or otherwise dealing with land and buildings, including investment options such as property trusts and their structuring. Income tax considerations dealt with include property sale or development, financing, income recognition, rent, home offices, lease incentives and deductions. CGT, GST, land tax and stamp duty as applied to freehold, leasehold, residential and commercial property are considered, including their many special rules and concessions.

AVIA5001
Law and Regulation in Aviation
Department of Aviation
UOC6

This course provides an overview of the regulatory structure of civil aviation in Australia. It focuses on the legal system within which this regulatory system operates and the powers, responsibilities and scope of various aviation regulatory authorities. In particular, the course will concentrate on providing a practical insight into the legal implications associated with the various aviation positions such as the pilot in command.

Note: Distance Education mode only

AVIA5003
Aviation and Security
Department of Aviation
UOC6

Aviation security needs to be understood by all those involved in the operational requirements of civil aviation. Past disasters have provided appalling lessons that any departure from strict, internationally accepted procedures creates an "opportunity" for those intent on acts of unlawful interference. The course Aviation and Security deals with the broad issue of security appreciation for professionals and managers, a perspective on the human and organisational dimensions of aviation security, an explicit understanding of responsibilities, the mechanism for implementation, and the ability to determine and report on security events. This course is designed for a wide cross-section of professionals in the aviation, transport and affiliated industries.

Note: Distance Education mode only

AVIA5004
Aviation Safety and Accident Prevention
Department of Aviation
UOC6

Safety and Accident prevention are issues in almost every walk of life, none more so than within the aviation industry. The objective of this course is to provide those working in aviation and associated industries with a broad and detailed understanding of the commercial aviation safety system and strategies developed to make that system safer. While the course specifically relates to commercial air service operations in Australia, it also recognises the vital importance of global co-operation and the role of specific international organisations. It also focuses on the investigation and prevention of accidents, and the roles of the Bureau of Air Safety Investigation and the Aviation Regulatory authorities.

Note: Distance Education mode only

AVIA5005
Airline Operational Management
Department of Aviation
UOC6

Airline Operational Management includes the operational and day to day aspects of airline management such as operational control, aircraft maintenance outsourcing, crew planning and scheduling, airport management, catering, reservations management, delay and punctuality control, marketing and emergency planning. The course covers these aspects of the day to day management and the relationship between these functions and those of the corporate areas in AVIA5009. These matters drive the major airline cost areas.

Note: Distance Education mode only

AVIA5006
Airport Planning
Department of Aviation
UOC6

Airport Planning includes the following: town planning aspects, access, obstacles, growth, longer term issues of noise and other environmental issues, longer term political issues and ownership issues as airports become privatised. Also included are topics covering the process of privatisation and investment evaluation, community benefits, airport master plans, forecasting aircraft movements and passenger and freight flows, terminal planning issues, runway and taxiway planning.

Note: Distance Education mode only

AVIA5007
Airport Management
Department of Aviation
UOC6

This course covers day to day operational issues such as managing annual budgets, fees (landing, passenger, shops, car parking, etc.) determination methods, emergency planning in all aspects, relationships with airlines, short term political issues management, slot management-peak time issues, managing concessions and other airport business opportunities, aircraft parking control, relationship with other industry bodies and general administrative tasks at airports such as roads, signs, flight information, electricity and water.

Note: Distance Education mode only

AVIA5008
Air Traffic Management
Department of Aviation
UOC6

This course includes the following aspects: definition and quantification of risk, primacy and management of Air Traffic System safety, development of efficient procedures, Air Traffic System - 'requirements, management of traffic priorities, environmental management, financial imperatives, aviation industry liaison and public liaison'.

Note: Distance Education mode only

AVIA5009
Airline Corporate Management
Department of Aviation
UOC6

Airline Corporate Management includes organisational structures, business planning and budgeting, financial analysis, supply and demand analysis, economics, forecasting, commercial agreements liaisons, scheduling planning and fleet planning. This course provides an insight into the complex and interwoven nature of the airline business and gives a picture of the prime drivers, which differentiate airlines. This course is complementary to course AVIA5005 Airline Operational Management.

Note: Distance Education mode only

AVIA5018
Aviation Human Factors
Department of Aviation
UOC6

Aviation Human Factors is a fast-developing subject area that influences all aspects of the aviation environment from ramp to maintenance line and from airport to flight deck and has particular relevance for all involved in management. This course provides an indepth introduction to the subject in the context of organisational efficiency, and management of error and safety. Basic principles of physical and cognitive human performance are covered along with a detailed analysis of error, situational awareness, ergonomics and the evaluation of human factors. Specific aviation coverage includes Crew Resource Management (CRM), human factors in aircraft operations air traffic control, maintenance and management.

Note: Distance Education mode only

AVIA5019
Management of Aviation Technical Operations and Maintenance
Department of Aviation
UOC6 HPW6

The Course is designed to provide an introduction to and profile of the engineering and maintenance divisions of an airline. The course includes a description of the typical airline's organisational structure of engineering and maintenance, and its integration within the airline in terms of a systems approach to technical operations. It also describes how this engineering and maintenance structure must meet the regulatory requirements of an Airlines Operating Certificate (AOC). The management of technological advancements in aviation and the effect on an airline will also be covered, including the integration and sharing of data with manufactures and regulatory bodies.

Note: Distance Education mode only

AVIA5020
Aviation Research Project
Department of Aviation
UOC6

This course requires the student, under guidance, to research an issue in aviation management and produce a written report. The course of the project will be agreed between the research supervisor and the student.

Note: Distance Education mode only

AVIA5021
Aviation Safety Analysis and Research Methods
Department of Aviation
UOC6

The collection and analysis of safety data is a major issue in aviation, where past occurences often hold the key to preventing future incidents and accidents. The student is introduced to practical issues in planning, gathering and analysing safety data and the presentation of research findings. Particular emphasis is placed on proactive safety management and continuous monitoring and the processes that exist within the aviation industry to support such strategies. Part the assessment requirements of this module will involve conducting an applied safety research project.

Note: Distance Education mode only

AVIA5022
Aircraft Accident Investigation Techniques
Department of Aviation
UOC6

Aircraft accident investigation is an exacting science that draws upon a complex range of skills. This course introduces students to the skills required of an investigator, and to the processes of investigation. The course covers the principles of investigation, regulatory requirements, material evidence, witness evidence, interview techniques, preservation, transportation and alternative sources of evidence, environmental issues, proactive investigation methods and reporting.

Note: Distance Education mode only

AVIA5024
Flight Deck Operations for Advanced Transport-Aircraft
Department of Aviation
UOC6

This course takes a holistic approach to analysing the factors involved in safe operation of advanced transport aircraft, beginning with a description of current accident statistics, and their analyses. The course includes an extensive description of advanced aircraft technology such as fly-by-wire, and the interfaces between aircraft and crew such as electronic cockpit displays, heads-up displays, cockpit controls, and automation. The course reviews human performance issues such as cognition, mental models, situational awareness and decision-making from the perspective of flight crew. It concludes with an overview of current world best proctices for flight crew and aviation organisations. The course is intended for professional flight crew, aviation managers, equipment manufacturers, researchers, regulators and interested parties who would benefit from a more complete knowledge of this complex area.

Note: Distance Education mode only

AVIA5028
Airline Marketing Management
Department of Aviation
UOC6

This course is designed to give students a general introduction to marketing principles and then move to specialist areas of marketing in airlines. The history of airline marketing and its relationship to the regulatory environment is covered. A comparison of regional/ cultural marketing provides a global perspective. The process of airline marketing is covered from a theoretical approach and from practical implementation perspectives. The course briefly looks at the relationship between airlines and airports and the tourism industry. Future directions for marketing are covered.

Note: Distance Education mode only

AVIA5311
Inflight Services Management
Department of Aviation
UOC3

Inflight services management studies management issues in the provision of passenger food and beverages and in other services provided to passengers and crew during their flight. The course covers interfaces with other industries, quality assurance, menu design and pricing, catering production and operations management, and the design of inflight services.

Note: Distance Education mode only

AVIA5312
Airline Incident Investigation
Department of Aviation
UOC3

The airline industry comprises many component systems. Each of these systems in turn is a combination of other systems. The delivery of a process that is both safe and expeditious can generate a significant potential error. This course provides an introduction to the necessary skills and techniques of effective investigation that will prevent error within the aviation industry, before an accident occurs, and is applicable to all categories of staff throughout the aviation industry. Particular emphasis is placed on the roles and responsibilities of investigators and the gathering of key causal factors. This enables investigators to develop early warning systems that can improve the safety and health of their organisations through study of the principles of system safety and incident analysis.

Note: Distance Education mode only

AVIA5313
Aviation Ground Safety Investigation
Department of Aviation
UOC3

Aviation Ground Safety Investigation concerns the movement areas around an aerodrome and the investigation of incidents and accidents that occur within them. Ground damage represents a major cost to the aviation industry exceeding $200 billion per annum, yet safety measures have tended to focus mainly on aircraft safety in flight. This course covers the investigative process and issues specific to ground safety. This includes principles of safety and human factors, managing the response to incidents and accidents, handling of witnesses, victims and media, legal requirements in investigation, sources of evidence, analysis techniques, reporting and proactive management.

Note: Distance Education mode only

AVIA5314
Aviation System Safety
Department of Aviation
UOC3

Just as aircraft accidents are arguably never the result of a single causal factor, so too safe operations are rarely assured through single safety measures. Rather, it is a system of safety measures or defences that protect complex operating systems from accidents. This course considers the elements of aviation system safety including the theory of systems safety, modelling system safety, safety management systems, continuous monitoring, establishing and assessing safety culture and an introduction to risk management in aviation. In depth consideration is also given to the issue of regulating systems safety including methods of assessing compliance.

Note: Distance Education mode only

BEES9011
Essential Skills for Research Students (Post-Graduate Students Only)
School of Biological, Earth and Environmental Sciences
UOC6
Excluded: BEES4511

The course covers essential skills needed in biological research and subsequent employment. Principal topics covered include presentation skills (written, oral, and audiovisual including computer-aided presentations), database and library usage, information retrieval and usage of major computer packages as well as more specific research skills which may be tailored to particular interest groups. The course must be taken by all commencing postgraduate students in the School of Biological Science unless they have already passed BEES4511.

Note: Required for enrolment in this course: enrolment in a postgraduate research program in a biological discipline within UNSW, or completion of requirements for Honours in Biology or other discipline area.

BEES9917
Alternative Higher Degree Qualifying Program (Full-time)
School of Biological, Earth and Environmental Sciences
UOC42

Similar in content and standard to BIOS4517 Biological Science Honours but designed specifically for students who cannot regularly attend the University.

Note/s: Plus BEES9011

BEES9919
Alternative Higher Degree Qualifying Program (Part-time).
School of Biological, Earth and Environmental Sciences
UOC10.5

Similar in content and standard to BIOS4513 Biological Science Honours P/T but designed specifically for students who cannot regularly attend the University.

Note/s: Plus BEES9011

BENV7140
Multimedia on the Web
Faculty of the Built Environment
UOC6 HPW3
Excluded: ARCH9711

This course will discuss the potential and limitations of the World Wide Web as a tool for the presentation of design information. The course aims to help students develop an understanding of what constitutes a good web page as well as learning HTML. Students will learn to use a range of graphics applications (including Adobe Photoshop) as well as a Web Editor. Assessment will be through the development of a series of web pages.

BENV7141
Multimedia in Design Presentation
Architecture Program
UOC6 HPW3
Excluded: ARCH9714

This course explores the use of an industry-standard multimedia authoring tool to develop design presentations. Students will develop skills in the integration of media objects, including: edited scanned images, rendered images (produced using CAD technology), line drawings, animations (produced using CAD), video (captured off VHS) and sound. Students will be expected to apply these skills in a preliminary learning task and then in the production of one major design presentation.

Note: Assessment is by projects and student seminars.

BENV7142
CAD and Visualisation
Architecture Program
UOC6 HPW3
Excluded: ARCH7220, ARCH7221

Introduction to the concepts and techniques relating to the use CAD systems in architectural design. The course deals with both 2D drawing and 3D modelling, rendering & animation; and will include extensive hands-on use of a CAD system and a modelling & rendering application. Assessment will be through a series of exercises and one major design presentation.

Notes: Exclusions - Students majoring in Architectural Computing

BENV7143
Advanced Visualisation
Architecture Program
UOC6 HPW3

This course will align design techniques with time based 3D digital environments. It will extend digital visualisation skills by introducing sequencing and storyboards into 3D digital environments. Computer lab based exercises will cover 3D composition, time based form generation and narrative in digital 3D. Development of presentation techniques such as video editing, QuickTime VR, and VRML will be included in the final presentation. Assessment will be based on staged learning exercises and one major design presentation project.

BENV7147
Information Management Systems for Design Professionals
Architecture Program
UOC6 HPW3

This course provides an understanding of how computer-based information management systems can assist design professionals in their practices. The course is intended for those who wish to have knowledge in both the theoretical and practical aspects of design information management systems. The theoretical aspects include basic concepts of databases, data modelling, database design, implementing a database, implementing a database application and using Internet and network technology with databases. The practical aspects consider writing database proposals, using MS Access for creating databases, writing SQL statements and building database user interfaces (particularly in a network context). Assessment is through class exercises and a major database design project.

BENV7148
Object Based CAD Modelling
Architecture Program
UOC6 HPW4

This course reviews current developments in object-based CAD technologies, with particular emphasis on practical issues of application and implementation. The theoretical component of the course deals with issues of object modelling, information interchange, intelligent objects and concept modelling. The practical side of the course investigates the implementation of object-based CAD technologies in the context of a specific CAD system, covering object manipulation, IFC model interchange and object intelligence. Assessment is mainly through practical hands-on work and one major written report.

BENV7149
Design Collaboration using a Building Information Model
Faculty of the Built Environment
UOC6

This course provides a unique opportunity to participate in a multidisciplinary collaborative architectural design programme with students from a range of disciplines including architects, engineers, interior architects, builders, planners and landscape architects. The course will engage with three major learning contexts: the process of design resolution and refinement, commencing with a real concept design (a building that is at an advanced stage of design on a real site in Sydney) and working through a teamwork process to arrive at a set of well resolved design propositions; participation in a genuine collaborative design process, working as part of a multidisciplinary design team and gaining insights into the way other design professionals work; the use of a shared server-based building information model with a corresponding set of design simulation tools. An international expert in the development and use of shared building modelling technology will lead the studio, supported by a local design professional who will guide the design resolution process. Students work as part of a small multidisciplinary design team, each having equal input to the design process, but responsible for bringing to the table their own area of expertise. There will be regular reviews where guest critics will visit the studio with particular expertise to guide the deliberations of each team. The course is run in a studio format with weekly lectures and associated seminars, critique sessions and group workshops. Assessment is based on both individual and group projects, including a group design presentation at the end of the semester.

BENV7190
People and Urban Space
Architecture Program
UOC6 HPW2
Excluded: ARCH7322

Urban design is concerned with improving the quality of the public realms of human settlements. As a basis for designing guidelines for the achievement of a high quality environment it is important to understand how different patterns of urban space are associated with specific behaviours and aesthetic effects within different cultures. The lectures/ seminars focus on the empirical research on people (designers and users) and urban space uses and meanings. Assessment is by two essays.

BENV7191
Urban Heritage Conservation
Faculty of the Built Environment
UOC6 HPW3

Heritage conservation is more than old buildings. Heritage values underpin the development of a community, and an understanding of how they have been, and are continuing to be, expressed in the urban fabric is critical to the management of the built environment today. This course will provide an introduction to the theory, principles and practice of the conservation of the urban landscape. It will use a combination of lectures, case studies and studio projects to explore the opportunities, issues and dilemmas facing culturally significant items, sites and areas.

BENV7704
Principles of Political Economy
Faculty of the Built Environment
UOC3 HPW3

This course is an introduction to politcal economy for non-economists. It establishes a foundation of concepts and viewpoints which are utilised in a number of courses Topics include: the forms of capital; modes of production; global economic change and the new international division of labour; relationship between economy and state; politics and ideology; class structure; elementary price theory; factors influencing economic growth; the distribution of welfare.

BENV7710
Planning Law and Administration
Planning and Urban Development
UOC6 HPW6

The course comprises three parts, Planning Law, Planning Administration and Land Valuation. Planning Law: conceptual / theoretical nature of the law; relationship between the environmental context, the Crown, the parliament and the judiciary; ways in which the laws are made and promulgated, relationship between laws and regulations, the legal concept of property in land, definition of various legal concepts of interests in land, Australian Constitution and legal relationship between Commonwealth and States, particularly in regard to matters affecting land, the place of administrative law. Planning Administration: administrative context within which planning operates as a function of government, especially the role and function of statutory bodies in the planning and environment area, the administration of the planning function at the national, state and local levels, the art of management, administrative theory, personnel administration, the role and responsibility of the professional planner in the public and private sector. Land Valuation: principles and practices of land valuation in Australia. Definitions of value, methods of valuation, the role of the valuer, compensation and betterment.

BENV7711
City Planning Today
Planning and Urban Development
UOC3 HPW2
Excluded: Program 3360.

The way our cities look and operate, their cultural and community life are all considered by town planners. The course deals with the fundamentals of urban planning, its language; its rules and regulations; its controversial nature and the way it operates in practice. It looks at how and why urban planning came into being; how the legal and administrative system works; how the political system operates; and how planners deal with issues-from designing the city to balancing the many conflicts which arise over development projects. Lectures are given by staff of the Faculty of the Built Environment as well as planning practicioners. This course will give you the skills, the understanding and the enthusiasm to play an active role in shaping your city..

BENV7713
Development Control
Faculty of the Built Environment
UOC6 HPW6

This subject introduces students to the implementation of planning objectives in the NSW Planning System via this State s Statutory Development Control system. Various Development Control Systems are examined, based on common law, statute and policy. Strategic planning at state and local government levels are examined in detail, as is the statutory planning (i.e., development application) process. Emphasis in this subject is placed on familiarising students with the skills required by a professional planner in undertaking various planning tasks.

BENV7714
The Economics of Cities
Planning and Urban Development
UOC6 HPW3

This course examines how economic processes influence the structure and performance of cities and regions in national and global contexts, drawing upon examples from Australia, Asia, North America & Europe, and setting these economic processes against social, cultural, environmental and political influences.

BENV7715
Social Planning
Planning and Urban Development
UOC6 HPW6

This course explores contemporary issues facing the professional planner working in an increasingly diverse and complex society. Various cultural, social and environmental issues that challenge different groups' sense of belonging and claims to the city are examined. These groups include ethnic communities, children, the aged, women, people with disabilities, gays and lesbians, Aborigines and homeless people. Students are encouraged to question their own prejudices and values as they develop better understandings of the needs of these groups. The ability of the planning system to respond is explored, as are creative and inter-disciplinary approaches that can be facilitated by urban planners.

BENV7717
Metropolitan Policy
Planning and Urban Development
UOC6 HPW3

A renewed interest in urban governance is occurring in market economies. Why this is so and how urban management is conceived by different interest groups and implemented are the questions posed in this course. The course considers the answers and implications for property development and investment.

BENV7719
Planning in Practice
Planning and Urban Development
UOC6 HPW3

This course consists of two components: environment law and dispute resolution, and professional practice. Environmental law and dispute resolution examines recent statutory and administrative changes to the planning system, environmental and natural resources law, the operation of the Land and Environment Court, the significance of the court and the roles of planners at court, and other means for the resolution of environmental disputation. Professional practice focuses on professional ethics and standards, planning as a profession, negligence, preparing and responding to a consultant's brief and preparing for court work. Such hand-on skills are discussed in the broader context of philosophical positions, 'professionalism' and the social, political and industrial environment.

BENV7720
Land and Environment Law
Planning and Urban Development
UOC6 HPW3

Planning, Planning legislation, Environmental planning instruments, Environment - common law - statute - role of public and pressure groups, environmental planning control, environment assessment, heritage legislation. Land law - public and private, Estates and tenures, Co-ownership, Leases, Easements, Restrictive covenants, Licences, Residential tenancies tribunal. Old system title, Possessory title, Torrens title, Land Titles Office practice, Sale of land, Other methods of transferring land, Crown land tenures, Strata title, Community title. Alternative models including other countries, Critical perspective, Heritage Law.

BENV7721
Planning and Land Policy
Planning and Urban Development
UOC6 HPW3

The objectives of planning; The history of land use planning in Australia; The achievement of planning objectives; Planning authorities; Planning codes and development plans; Statutory powers of planning authorities; Planning procedures; Control of the development process; Retail development; Commercial development; Industrial and warehouse development; Special development; Environmental impact assessment. Government intervention in land use matters; Public finance and planning; Political considerations and planning and development; Government control and speculation - laissez-faire or public control; Planning and housing policy; Urban decay and renewal; The problems of the urban fringe; Conservation, preservation, redevelopment.

BENV7722
Qualitative Methods
Faculty of the Built Environment
UOC6

This course focuses on the importance of inter-personal relationship skills in planning practice. The emphasis is on developing and refining such skills to facilitate interviewing techniques for successful qualitative research, dealing with people, team building, community consultations and mediation. Basic instruction is given in interviewing technique, its use in different qualitative research situations, community consultation, mediation and related planning techniques. Students undertake a variety of class exercises to develop their skills. A major qualitative research project involves in-depth interviewing, transcription preparation, data analysis, and reporting of findings. Students have the opportunity to reflect on and share experiences. Assessment is based on participation in class discussions and exercises, a major research project and reading set texts.

BINF9010
Bioinformatics Methods and Applications
School of Computer Science and Engineering
UOC6 HPW5

Bioinformatics methods and data generated or analysed by these methods are of increasing importance in the biological sciences. This course explores the algorithms, assumptions, applications and limitations of a number of bioinformatics methods used for DNA and protein sequence analysis, biomolecular structure prediction and analysis, and functional genomics including microarray data analysis. Practical work emphasises the use and applications of standard bioinformatics tools and databases. The course starts with a choice of modules (biology for engineers, computer science for biologists) and is therefore suitable for students with a range of backgrounds. Assumed knowledge: Introductory statistics and probability. Computer programming skills not necessary.

Further Information: CSE class page **www.bioinformatics.unsw.edu.au/course/**

BIOC5318
Graduate Diploma (Biochemistry)
School of Biotechnology and Biomolecular Science
UOC18

BIOC5319
Graduate Diploma (Biochemistry)
School of Biotechnology and Biomolecular Science
UOC18

BIOM9012
Biomedical Statistics
Graduate School of Biomedical Engineering
UOC6 HPW3

Probability and distributions. Estimation and hypothesis testing. Associations between disease and risk factors. Linear models; analysis of variance, simple and multiple regression, discriminant analysis. Distribution-free methods. Analysis of survival data. Experiment design.

BIOM9020
Research Project
Graduate School of Biomedical Engineering
UOC6

BIOM9020 is the first half of the 12 UOC research project. BIOM9021 is the second half.

Enrolment in these courses allows a student to undertake the equivalent of BIOM9914

Masters Project over two sessions and allows graded results.

BIOM9027
Medical Imaging
Graduate School of Biomedical Engineering
UOC6 HPW3

Fundamentals of producing a medical image, image collection techniques, image reconstruction algorithms. Detailed examination of the four main areas of medical imaging: Nuclear Medicine and Positron Emission Tomography, Ultrasound, Diagnostic Radiology, Magnetic Resonance. Clinical application of each area.

BIOM9060
Biomedical Systems Analysis
Graduate School of Biomedical Engineering
UOC6 HPW3

Analysis of compartmental systems in biology and medicine. Applications include pharmacology, physiology and nuclear medicine. Topics include the mathematics of linear compartmental systems, non-linear systems,

tracer methods, parameter estimation by fitting models to date, the optimum design of experiments, and methods of control.

Note: Mathematics background required.

BIOM9311
Mass Transfer in Medicine
Graduate School of Biomedical Engineering
UOC6 HPW3

Mass transfer in the living organism and in extracorporeal medical devices. Principles of diffusion and convection. Models of gas transfer in the lung. Transfer of solutes at the capillary level. Haemodialysis, haemofiltration, plasma filtration and blood oxygenators. Transfer across the peritoneal membrane-dialysis or drug delivery. Drug delivery across the skin.

BIOM9321
Physiological Fluid Mechanics
Graduate School of Biomedical Engineering
UOC6 HPW3

Fluid mechanics of unsteady flow. Fundamentals of biological fluid flow by way of the governing equations. Kinematics and dynamics, viscous and inertial flow, boundary layers, separation, physiological flows (cardiac, vascular, pulmonary, urinary, etc.) and flow in artificial organs. Emphasis on physical rather than mathematical understanding of the relevant phenomena, to allow realistic appraisal of the nature of flow in a given organ.

BIOM9332
Biocompatibility
Graduate School of Biomedical Engineering
UOC6 HPW3

Interaction of biological fluids and cells with foreign surfaces, in vitro tests to assess biocompatibility and thrombogenicity, current status of biocompatible materials as applied to extracorporeal systems, surgical implants and prosthetic devices.

Students should note that this course will be offered in S1 from 2004.

BIOM9333
Cellular and Tissue Engineering
Graduate School of Biomedical Engineering
UOC6 HPW3

This course outlines concepts underlying development of cell-based products and aims to give students a theoretical and practical understanding of the tools available for producing such "devices" as well as the biological, physical and chemical constraints of these systems. Specific topis that will be covered include introductory cell biology and biochemistry, cellular mechanics, mass transfer in cells and tissue, analysis of cell and tissue functions, regulatory requirements for biological products and tissue engineering applications. Laboratory classes will be used to allow students to gain some practical experience with cell and scaffold manipulations.

BIOM9410
Regulatory Requirements of Biomedical Technology
Graduate School of Biomedical Engineering
UOC6 HPW3

The regulatory requirements of medical devices in Australia, Japan, North America and Europe will be reviewed. Data collation and documentation methods are examined, case studies of medical device registration will be presented.

Students should note that this course is web-based.

BIOM9420
Clinical Laboratory Science
Graduate School of Biomedical Engineering
UOC6 HPW3

The technologies, tests and operation of a variety of clinical laboratory testing systems (biochemistry, haematology, immunology, histology). Engineering solutions to physiological problems, chemical and biochemical assays.

BIOM9430
Electromedical Standards
Graduate School of Biomedical Engineering
UOC6 HPW3

Basic effects of electricity on the human body, threshold of ventricular fibrillation, termination of leakage currents, statistical basis of experimental data used to define limits of leakage currents. Formation of safety standards for electromedical equipment. Mechanisms of approval of electromedical equipment. Acceptance testing procedures. Certification schemes for electromedical equipment. National and international legal requirements.

BIOM9432
Chemistry and Physics of Synthetic and Biological Polymers
Graduate School of Biomedical Engineering
UOC6 HPW3

This course outlines the chemistry and physics of synthetic and natural polymers. It is an introductory level offering that covers polymerisation, synthesis of branched macromolecules and networks and polymer behaviour in solution and solid state. It also covers biological polymers. This includes synthesis and characterisation of biological polymers using proteins, polysaccharides and DNA as examples.

BIOM9440
Biomedical Practical Measurement
Graduate School of Biomedical Engineering
UOC6 HPW3

Hands-on practice in the use and testing of medical transducers and electromedical equipment in common use in hospitals and research laboratories to make measurements of biomedical variables of clinical significance.

Note: Limited number of places - contact School Office.

BIOM9450
Clinical Information Systems
Graduate School of Biomedical Engineering
UOC6 HPW3

An introduction to medical informatics and information systems, evidence-based medicine and clinical decision support. Aspects of database design, normalisation and structured query language (SQL). A previous knowledge of Java is necessary.

Note: Limited number of places - contact School Office.

BIOM9501
Computing for Biomedical Engineers
Graduate School of Biomedical Engineering
UOC6 HPW3

Algorithm design and documentation; programming in Java and in JBuilder; object oriented program design; event driven programming in a graphical environment.

Note: Highly recommended for Strand B students. This course is for students with little or no computing experience or for those students who wish to learn about object oriented programming in a Windows environment.

BIOM9510
Introductory Biomechanics
Graduate School of Biomedical Engineering
UOC6 HPW3

The principles of the mechanics of solid bodies, force systems, kinematics and kinetics of rigid bodies, stress-strain relationships, stress analysis of simple elements application to musculoskeletal system.

BIOM9541
Mechanics of the Human Body
Graduate School of Biomedical Engineering
UOC6 HPW2

Statics and dynamics of the musculoskeletal system: mathematical modelling and computer simulation, analysis of pathological situations.

Assumed Knowledge: BIOM9510 and ANAT2111.

BIOM9551
Biomechanics of Physical Rehabilitation
Graduate School of Biomedical Engineering
UOC6 HPW2

The application of biomechanics principles to the areas of performance testing and assessment, physical therapy, design of rehabilitation equipment, design of internal and external prostheses and orthoses.

Note: This course is not offered on a regular basis.

Assumed Knowledge: BIOM9541.

BIOM9561
Mechanical Properties of Biomaterials
Graduate School of Biomedical Engineering
UOC6 HPW3

The physical properties of materials having significance to biomedical engineering; human tissues; skin; soft tissues; bone; metals; polymers and ceramics. The effects of degradation and corrosion.

BIOM9601
Biomedical Applications of Microcomputers 1
Graduate School of Biomedical Engineering
UOC6 HPW3

Microcomputer architecture; physiological data acquisition systems: input/output signals and devices; assembly language programming; interfacing to higher level languages; the numeric data coprocessor; interrupts; graphics; practical sessions on use of Debug, Assembler, familiarisation with interrupt vector table and I/O ports. Major assignment on specific biomedical application (eg. bedside ECG monitor).

Note: A reasonably advanced background in microprocessors is required. Entry to course is by interview.

Assumed Knowledge: BIOM9040 and BIOM9050 or equivalents.

BIOM9613
Medical Instrumentation
Graduate School of Biomedical Engineering
UOC6

A critical comparative analysis of the theoretical physics and practical applications of medical transducers and electromedical equipment in common use in hospitals and research laboratories. How to choose a measurement device for a given situation.

BIOM9621
Biological Signal Analysis
Graduate School of Biomedical Engineering
UOC6 HPW3

Use of digital computers to extract information from biological signals. Signal processing using filtering, averaging, curve-fitting and related techniques, and analysis using model simulations, correlation, spectral analysis etc.

Note: Basic electronics and mathematics background required.

BIOM9701
Dynamics of the Cardiovascular System
Graduate School of Biomedical Engineering
UOC6 HPW3

Structure of the heart; organisation of the mammalian vasculature; mechanical, electrical and metabolic aspects of cardiac pumping; the solid and fluid mechanics of blood vessels; rheology of blood.

Note: Some mathematics background desirable.

BIOM9913
Project Report
Graduate School of Biomedical Engineering
UOC12

Projects are undertaken at the Graduate School or other relevant institutions towards the end of the program. Topics are chosen in collaboration with a supervisor from the Graduate School.

BIOS9001
Fundamental Knowledge in Environmental Management: Ecology
School of Biological, Earth and Environmental Sciences
UOC6 HPW45

Students gain essential knowledge for environmental managers concerning ecosystem structure and function, ecological sustainability, maintenance of biodiversity and ecosystem integrity, restoration of disturbed ecosystems, bioeconomics, conservation of threatened populations, and impacts of particular environmental threats such as climatic change, pollution, salinisation and species invasions. The course emphasises the effective management and monitoring of complex ecosystems where inherent uncertainty, limited ecological understanding and political, economic and legal constraints must be factored into environmental decision making. Issues in management of terrestrial and marine ecosystems are introduced through lectures, learning exercises and field excursions.

Assumed knowledge: This is a basic training in ecological concepts and principles for non-biologists and no biological knowledge is assumed.

Note: This course is one of the Fundamental Knowledge core courses available within the Masters of Environmental Management degree program. If places are available it may also be taken as a short course in stand-alone mode or as part of other postgraduate programs. It is offered as an intensive 2-week course in December with field training at the UNSW Field Station at Smiths Lake followed by a week of study on campus at Kensington.

BIOS9002
Management of Biodiversity
School of Biological, Earth and Environmental Sciences
UOC3 HPW21

The course introduces the concepts of biodiversity and briefly examines its components in Australia and globally. Factors which threaten biodiversity such as habitat loss, habitat degradation and exploitation, pollution and their biological consequences including extinctions are considered. Management tools are discussed covering both methods for assessing existing biodiversity and the methods and planning required to maintain it at appropriate levels.

Note: The course is available as an elective within the Masters, Graduate Diploma and Graduate Certificate in Environmental Management programs, and in other postgraduate programs within UNSW, or on its own as a short course. It is offered as an "on campus" intensive course in the winter break.

BIOS9211
World Conservation Biology
School of Biological, Earth and Environmental Sciences
UOC6 HPW10

Conservation biology is defined as the study of the effect of humans upon the biosphere.

The lectures are in five components: a) basic biology of Homo sapiens and its recent evolutionary history on the planet Earth; b) a consideration of the Future of Australian Threatened Ecosystems (FATE); c) general themes in world conservation biology; d) conservation issues outside Australasia; and e) conservation issues as they affect particular groups of species.

The course is assessed via a review paper on a given topic to be done by all students, and a second paper on a topic of the student's choice after consultation with their lecturer in charge.

Lectures are recorded and the course can be taken entirely online.

BIOS9221
Australasian Mammals and Conservation
School of Biological, Earth and Environmental Sciences
UOC6 HPW10

This course has three basic components: a) lectures on both native and introduced mammals of the region, their conservation and their effect upon the rest of the fauna and flora in this region; b) a field component (four full days) involving handling of native Australian mammals and observations of them in both the terrestrial and marine environment; and c) considerations of contemporary social attitudes to Australasian mammals as seen through the requirements for AE approval of the use of animals for research and teaching.

The course is assessed on the basis of a) participation in the practical component; b) a paper and a seminar on an aspect of wildlife management; c) preparation of an application to an animal ethics committee for either research or teaching using vertibrates.

The lectures are recorded and available online.

BIOS9231
Conservation Project
School of Biological, Earth and Environmental Sciences
UOC12 HPW20

This project may consist of

a) a laboratory investigation,

b) a field investigation,

c) a theoretical population biology investigation,

d) the production of a research technology handbook,

e) an investigation which has a strong biology conservation component, e.g. an examination of the economics of conservation or the historical record of animals or plants in Australia or New Zealand, or

f) the preparation of some educational material which is to be used for conservation purposes, e.g. a handbook which describes how to look after a particular species.

Assessment is based on a paper to be presented in a scientific journal format, and through a seminar which all students are expected to attend. The Conservation Project should include a technology or a methodology component (computer-, lab- or field-based) which extends the student's professional capacity in a significant way.

There are no set lectures, but each student must arrange a program of consultations throughout the semester with academic supervisors. A list of potential projects and supervisors is supplied, together with examples of projects which students have done in previous years. Students are encouraged to interact with municipal and state government, community groups and appropriate industry bodies for possible projects.

BIOT7070
Recombinant Protein Expression Systems
School of Biotechnology and Biomolecular Science
UOC6

Course topics deal with some basic recombinant DNA techniques, and then heterologous protein expression in prokaryotes and eukaryotes is discussed in greater detail. For prokaryotes, Escherichia coli is the model species chosen and for eukaryotes, the cell systems of yeast and mammalian cells are described. The advantages and disadvantages of the various expression cell systems are outlined. The vectors used for cloning of the protein genes are also described and illustrated. Cloning of genes into the vectors, production and subsequent characterisation of the recombinant protein are also described. These examples are actual biopharmaceutical products currently produced by the biotechnology industry and students are referred to published journal papers throughout the modules.

BIOT7071
Biochemical Engineering
School of Biotechnology and Biomolecular Science
UOC6 HPW5

This course is designed to introduce bioprocess engineering principles to biotechnology students with no previous background in bio/chemical engineering. Introduction to quantitation; physical variables, dimensions and units; presentation and analysis of measured data; linear and non-linear modelling; steady-state material and energy balances; fluid flow and mixing; principles and applications of heat and mass transfer; biological reaction kinetics; principles of bioreactor design, operation and analysis; scale-up; downstream operations; commercial aspects of bioprocessing.

BIOT7072
Eukaryotic Cell Physiology and Stem Cell Biology
School of Biotechnology and Biomolecular Science
UOC6 HPW4

Mammalian cells have a long history of application in medicine from viral vaccine production, through to antibody and recombinant protein synthesis. More recent advances in tissue engineering and the understanding of stem cell biology have opened new avenues for treatment of chronic diseases and injury. This course aims to provide a background in applied mammalian cell physiology and then focus on the new and exciting field of stem cell biology from both a fundamental and applied perspective. In addition, the ethical issues surrounding the use of human tissues, adult and embryonic stem cells are explored.

BIOT7080
Biopharmaceutical Production Process
School of Biotechnology and Biomolecular Science
UOC6

The units in this module were selected to give students a good understanding of the fundamental principles associated with biopharmaceutical manufacture. The module begins by discussing basic fermentation principles for the large-scale culture of bacterial and mammalian cells to produce recombinant protein pharmaceuticals. This is followed by a thorough study of the main unit operations associated with product recovery, commonly referred to as downstream processes. The third unit covers modern methods of product characterisation, which forms a critical component of the regulatory procedure. The final unit considers some case studies of biopharmaceutical production, drawing elements of fermentation, product recovery and product characterisation in each case.

BIOT7081
Environmental Biotechnology
School of Biotechnology and Biomolecular Science
UOC6 HPW5

Environmental Biotechnology discusses the commercial applications of bioprocess to environmental problems. Applications include the use of bacteria and fungi to detoxify wastes, converting them to usable substances. Prevention of biodeterioration of valuable materials is also an important area of study. Lectures cover biodeterioration, biomineralogy, biodegradable plastics, bioremediation, biofuels and waste water treatment. Students present research reviews and conduct experimental projects.

BIOT7160
Genomics and Proteomics
School of Biotechnology and Biomolecular Science
UOC6

The course gives a detailed insight into the fields of genomics and proteomics. Genomics is the study of the functions and interactions of the genes in a genome whereas proteomics is defined as the study of all the proteins expressed by the genome. Genomics and proteomics are central to modern biotechnology and are key to a wide range of research areas in the biological sciences including medical and environmental biotechnology. Prior to the human genome project, the number of known genes was limited as was the number of targets available for drug discovery. The sequencing of the human genome and the rapid emergence of high-throughput genomic and proteomic techniques is resulting in a surge of new drug targets such as extracellular receptors, ion channels, transporters, intracellular second messengers, transcription factors and chromosomal DNA itself. The genome and the proteome are intimately linked between a complex pathway of transcription and translation, which principally involves mRNA processing, protein folding and posttranslational modifications. Both genomics and proteomics incorporate areas of biotechnology, bioinformatics and biology, and utilise a multitude of methods and techniques to study gene and protein expression profiles of cells and whole biological systems. The course is divided into four distinct units. Unit one is an introduction to the field of genomics and includes topics such as the organisation and sequencing of the human genome, single nucleotide polymorphisms and techniques for identifying gene expression patterns. Unit two addresses the closely related areas of functional, structural and comparative genomics. Topics such as genetic testing, the use of array technologies for molecular profiling, pharmacogenomics and high-throughput technologies are covered. Unit three gives a detailed description of the current state of expression, cell map and modular proteomics. Basic technologies used in protein separations and detection including chip-based technologies are described. Unit 4 is concerned with protein characterisation and associated techniques and methods including mass spectrometry.

BIOT7170
Therapeutic Modalities of Biopharmaceuticals
School of Biotechnology and Biomolecular Science
UOC6

This course provides a detailed study and analysis of the various classes of biopharmaceuticals and includes case studies of the therapeutic mode of action of selected examples. Recombinant DNA technology has allowed the production of a wide variety of biopharmaceuticals for the treatment of human disease. There are numerous classes of biopharmaceuticals including cytokines, growth factors, clotting factors, growth hormones, enzymes, monoclonal antibodies and oligonucleotide-based compounds. Most biopharmaceuticals approved for human administration are protein-based. For example erythropoietin (EPO), a protein of the cytokine group responsible for red blood cell formation, is used therapeutically to treat anaemia. Biopharmaceuticals are now a significant sector of the health care industry, and EPO is the world's biggest selling biopharmaceutical. Other diseases targeted with biopharmaceuticals include cancer, inflammation, heart disease, diabetes, haemophilia and various viral infections. Biopharmaceuticals are also able to treat conditions such as wound healing, infertility and growth deficiency to name but a few.

The course includes a study of the pharmacology of proteins and peptides as drugs and includes pharmacokinetics, pharmacodynamics and metabolism. Oligonucleotides are also becoming an increasingly important class of biopharmaceuticals, and the mode of action of aptamers, ribozymes, DNAzymes, PNAs and other oligonucleotide-based biopharmaceuticals is studied.

BIOT7180
Biotechnology Research Project 1
School of Biotechnology and Biomolecular Science
UOC6

This course gives students an introduction to the core skills required to undertake a research project in the Biotechnology discipline. Students participate in tutorial and laboratory sessions to learn key skills such as

equipment handling, analytical techniques in biotechnology and data handling. In addition, students develop their skills in the research of the scientific literature. This course is designed as a prelude to the subject BIOT7190 - Biotechnology Research Project 2.

BIOT7190
Biotechnology Research Project 2
School of Biotechnology and Biomolecular Science
UOC6

The course gives students an introduction to Biotechnology research by undertaking a research project in the Biotechnology discipline. Students utilise skills developed in BIOT7180 to undertake directed but independent research, culminating in the submission of a research thesis. Students may also be required to participate in additional tutorial and laboratory sessions.

BIOT8010
Graduate Seminars
School of Biotechnology and Biomolecular Science
UOC3 HPW2

CEIC5333
Experimental Design in the Process Industries
School of Chemical Engineering and Industrial Chemistry
UOC6

This course deals with the design and analysis of experiments with respect to the chemical and process industries. Hypothesis testing and linear/ multiple linear regression are covered. Factorial design and response surface methodology are introduced and taught in some detail, including fractional factorial designs and blocking & confounding, in the context of engineering problems. An introduction to statistical process control, including the six sigma methodology, completes the course. MS Excel is utilised heavily throughout the course. On completing the course, students will be able to design screening experiments to identify key factors, establish first and second order regression models and to find true optimums. Students will also be able to analyse data with statistical rigour. The tools and skills from this course are applicable for students' current and future research projects as well as optimisation work on existing unit operations and even extend to applications outside science and engineering. The focus is on efficient design and robust, objective analysis.

Assumed knowledge: Basic Statistics, Excel.

CEIC7001
The Aluminium Industry
School of Chemical Engineering and Industrial Chemistry
UOC6

Topics include role of aluminium, effects of globalisation and cooperative trade agreements, quality requirements, environmental responsibility, processing options, raw material specifications, production of alumina to meet specifications, plant performance monitoring, troubleshooting, key performance indicators, cost analysis, evolution of proposals, data analysis techniques, project planning/management.

CEIC7002
Electrochemical Engineering
School of Chemical Engineering and Industrial Chemistry
UOC6

Hall-Heroult Process overview, electrode reactions, energy requirements, elec-rode fundamentals, voltage balance and voltage breakdown, voltage and current efficiency losses, cell design options and constraints, electrode materials, current and voltage distributions, magnetic fields and their effects, modeling for design optimisation.

CEIC7003
Process Operation
School of Chemical Engineering and Industrial Chemistry
UOC6

Electrolyte and cell conditions, energy vs material balances, cell dynamics, heat loss control, maintenance of electrolyte (A1F3 and A12O3 control), process control, cell start-up options, alumina feeding, fundamentals of alumina dissolution, different feeding methods, electrolyte volume, super-heat, dry scrubbing and impact on process.

CEIC7004
Material Requirements and Selection
School of Chemical Engineering and Industrial Chemistry
UOC6

Anode requirements, raw materials, production, performance testing, design constraints, anode stubs, rota, physical limits, bath volume, coatings, catalysts, sulphur content of coke, pitch impurities. Cathode blocks, jointing, graphitic for low voltage vs amorphous for low cost, porosity, mechanical/chemical wear, electrical contacting, current collectors, design limits, impact of start-up conditions. Sidewall Materials, SiC (nitride bonded), carbons, refractories.

CEIC7005
Quality Control in Smelting
School of Chemical Engineering and Industrial Chemistry
UOC6

Testing and monitoring - anodes, cathodes, predicting failure. Operating scheduling - crane utilisation, tapping and anode change, cell condition monitoring. Data processing and trend predictions.

CEIC7006
Retrofitting & Advances Cell Design
School of Chemical Engineering and Industrial Chemistry
UOC6

Advanced electrochemical cell design. Increasing productivity by - line current increase, bigger anodes (and impact on bath volume), magnetics and bus bars, cathode design changes. Advanced cell design - magnetics, thermoelectric modeling, magnetic field minimisation, modeling methodology, challenges for large cells, anode change sequence, cover, thermal effect. Process control. Options for robotics.

CEIC7007
Emissions and Waste Minimisation
School of Chemical Engineering and Industrial Chemistry
UOC6

Occupational health issues. Analysis of emissions from cells - design and work practices, impacting and emission release into potroom, dry scrubbing, work practices and dust. Emissions from anodes. Cathode wastes - reactions and chemical composition, cathode waste utilisation and/or disposal.

CEIC8101
Reaction Engineering and Catalysis
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

This course covers in-depth considerations of the analysis and design of non-isothermal reactors, treatment of variable-density systems, non-catalytic gas-solid reactions (application to minerals processing, pharmaceutics and microelectronic processing), kinetics of heterogeneous reactions, diffusion and reaction in porous crystals, design of fixed bed reactors, trickle-bed and slurry bed reactors.

In addition, there will be a project component on an individual basis. The individual study project is to be chosen in the areas identified by D-Catalysis and E-Chemical Reactions (see School for details).

CEIC8102
Process Control
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Concepts of linear Multi-Input Multi-Output (MIMO) systems, state-space representation of process systems, linear spaces and linear operators, controllability and observability analysis, Lyapunov stability analysis, stability of interconnected systems, linear optimal control, frequency-domain analysis and controller synthesis for MIMO process systems. Introduction to model predictive control, system identification, robus control, decentralised control.

In addition, there will be a project component on an individual study basis. The individual study project is to be chosen in the areas identified by codes A-Artificial Intelligency, F-Computer Modelling and Design and Q-Process Control advanced (see School for details).

CEIC8103
Particle & Separation Technology
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

The course covers lectures and demonstrations on: Particle characterisation and preparation using the latest techniques, floc characterisation and its relevance in separation techniques. There will also be relevant lectures on other aspects of separation technologies, theory and practice, novel applications to industry and environment management.

In addition, there will be a project component on an individual study basis. THe individual study project is to be chosen in the areas identified by codes O-Particle systems, D-Catalysis and S-Separations (mem., super., mass trans and diff. Oper) (see School for details).

CEIC8104
Topics in Polymer Technology
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

This subject is designed for postgraduate chemical engineering students who wish to gain a general understanding of polymerization processes. Particular emphasis is given to free-radical (co)polymerization processes, their reactions, basic kinetics and industrial applications. The course will also address polymer characterization techniques ranging from chromatography to mass spectrometry. In addition, novel living methods of free-radical polymerization will be discussed. The material may be augmented with lab visits, demonstrations, and industry visits. A large research assignment, e.g. a review of current literature material, including an oral presentation is part of the assessment.

CEIC8201
Minerals Engineering 1
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Lectures/Tutorials - Principles and applications of physical mineral processing, hydrometallurgy and electrometallurgy covering comminution, flotation, solid/liquid separation, dewatering, leaching, solvent extraction, purification and separation processes, electrowinning/refining and waste processing. Emphasis is placed on throughput and process calculations for the design of mineral processing plants.

In addition, there will be a project component on an individual study basis. The individual study project is to be chosen in the areas identified by codes M-Minerals and U-Waste Processing and pollution control (see School for details).

CEIC8203
Environmental Management
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Processes: Drinking water treatment (current practice and new technologies), sewage treatment (ocean and inland, primary, secondary and tertiary treatment), solid waste management (landfill, thermal processes and recycling), introduction to clean production.

Case Studies: Topics chosen from industry

Site Visits: to various sewage treatment plans and the NSW waste service liquid waste treatment plan, Lidcombe.

In addition, the above will include a project component on an individual study basis.

CEIC8204
Topics in Business Management in Chemical Engineering
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

The aims of this course are to introduce issues which affect business decisions encountered by management in the chemical industry. Topics include domestic and export markets, market growth, the lemming effect and product life cycles. The distinction between issues and problems using PVC and the chlorine debate is discussed. Factors affecting plant life: scale up, retrofitting, competing technologies etc. Environmental and compliance issues including green chemistry. The petrochemical industry and in particular the polymer manufacturing industry is used to illustrate the main areas. Industry speakers and site visits are used to maintain relevance and topicality.

In addition, there will be a project component on an individual study basis. The individual study project is to be chosen in the areas identified by codes C-Business Management/Inf. Tech and G-Design (at least 3 to 4 students per project) (see School for details).

CEIC8205
Fuel and Energy Engineering
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Current energy resources and alternatives for the future. Basic principles of fuel conversion processes: gasification, carbonisation, oil refining etc. Introduction to combustion of solid, liquid and gaseous (fossil) fuels.

In addition, the above will also include a project component on an individual study basis. The individual study project is to be chosen in the areas identified by Code U-Waste Processing and pollution control (see School for details).

CEIC8301
Electrochemical Engineering
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

This course will cover basic and advanced concepts in electrochemistry and electrochemical reactor design including current-voltage relationships, activation and mass-transfer controlled processes, limiting current, electrode material selection, current and voltage distribution as a function of electrode geometry and cell design. Specific examples will be used from important industrial electrochemical applications including aluminium smelting, the chor-alkali process, electroplating and batteries and fuel cells.

The course may also include a project component on an individual study basis. The individual study project is to be chosen in the areas identified by Code I-Electrochemical processes (see School for details).

CEIC8302
Process Heat Transfer
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

The course will cover operation and design of process equipment such as heat recovery units, packed beds, dryers, regenerators, economizers, evaporators, thermal desalination systems, compact heat exchangers, and etc. Both practical and fundamental aspects will be covered.

The course may also include a project component on an individual study basis. The individual study project is to be chosen in the areas identified by Code T-Transport processes and R-Refrigeration/drying (see School for details).

CEIC8303
Fouling in Process Industries and Equipment
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Fouling is a universal problem in various types of process equipment and is costing the industrial nations billions of dollars annually. This course aims to approach the problem from both practical and fundamental points of view. The course will discuss applications, process and industrial fouling occurrences, mechanisms and fundamentals, predictive models, prevent and cleaning methods, design considerations, monitoring techniques, economic considerations and some case studies.

The course may also include a project component on an individual study basis. The individual study project is to be chosen in the areas identified by Code T-Transport processes, L-Industrial process and S-Separations (mem., super., mass trans & diff. Oper.) (see School for details).

CEIC8310
Computing Studies in the Process Industries
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Introduction to computing systems. Hardware, personal computers, software. Operating systems: DOS, Windows. Languages: Basic, Pascal. Introduction to computing applications: Word Processing, Spreadsheets, Databases, Equation Solvers with specific reference to solution to Process Engineering problems.

CEIC8311
Instrumental Analysis in the Proc Industries
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

This course will encompass both chemical and physical analysis of materials. The basic principles of laboratory and on-line instrumentation will be examined and this material will be reinforced by appropriate laboratory classes. Selected topics include: analyses of and for water, colour, density and viscosity, spectroscopic, electrochemical and chromatographic techniques. The course will also include aspects of sampling and Laboratory Information Management Systems (LIMS).

CEIC8312
Safety & Communication in the Process Industries
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Toxicity of chemicals. Material safety data sheets. Storage of hazardous materials. Disposal of hazardous materials. Air pollution and ventilation, electrical and mechanical aspects of machinery. General laboratory safety. Fire precautions in laboratories. Fire fighting training. The principles of hazard analysis and hazardous operations. Safety with large scale equipment. Plant visits. Oral and written communcation. The basis of writing proposals and reports. Error analysis. Verbal presentations to small and larger audiences. Use of slides and overheads.

CEIC8313
Environmental Technologies
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

This course deals with conventional and advanced separation processes for water and air pollution control, effluent treatment and waste minimisation in the Process Industries. Topic areas covered will be selected from: Gravity Separations, Filtration Processes, Sorption Processes, Extraction Processes, Membrane TEchnology, Biological Processes, Design, Control and Monitoring, Clean Production Technologies.

Management Issues: Sustainability, decision making, environmental management system (ISO14001), life cycle analysis, material and flux analysis.

CEIC8319
Minor Project
School of Chemical Engineering and Industrial Chemistry
UOC6
Excluded CEIC8320

The aim of this course is to provide students with an opportunity to undertake independent study of a particular aspect of Process Engineering/ Chemical Engineering/Industrial Chemistry through critical evaluation of literature or the performance of limited laboratory work. Students will be expected to present the results of their investigation in a thesis-style report and in a research seminar. Students will select a project in consultation with the course authority within the program of study in which they are enrolled.

CEIC8320
Process Engineering Project for M.EngSc program only
School of Chemical Engineering and Industrial Chemistry
UOC12 HPW6

An investigation of a problem in any area related to process engineering which involves a significant research or design component. Such an investigation should be related to the research interests and expertise of Staff in the School of Chemical Engineering and Industrial Chemistry.

CEIC8330
Process Engineering in the Petroleum Industry
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

1. Origin and nature of crude oil overview of the Petroleum refinery. 2. Petroleum processing operations Hydrotreating, desulphurisation, denitrogenation, demetallation, deoxygenation, hydrocracking. Process description flow sheet, hydrogen supply, operating conditions, reactor types. 3) Catalytic cracking: Feed classification, supply and associated reactions. Mechanism of catalytic cracking. Cracking catalysts bifunctionality, properties, testing, coking and longevity. Process Engineering operating variables, reactor types and arrangement, design of fluid catalytic crackers. 4) Catalytic Reforming: Thermodynamics of catalytic reforming Individual reactions. The balance between catalyst efficiency and catalyst life. Catalysts. Deactivation. Reactor design. Residue Processing. Production of fuels, residues and carbon.

CEIC8331
Process Engineering: Natural Gas and Light Hydrocarbons to Petrochemicals
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Feedstock for the petrochemical industry. Natural gas, synthesis gas, LPG, C4 hydrocarbons. Syngas production. Steam reforming, carbon dioxide reforming, water gas shift, partial oxidation. Process based on C1 chemistry catalysts, processes and reactors. Methanation and Fischer-Tropsch synthesis, methanol synthesis. Olefin production (ethylene, propylene and butene). Steam cracking, catalytic cracking, thermal dehydrogenation, catalytic (oxidative) dehydrogenation. Manufacture of base petrochemicals. Synthesis of ethylene oxide, aldehydes and acetic acid production, hydroformylation, hydration and halogenation compounds. Manufacture of vinyl monomers and condensation polymer feedstocks.

CEIC8332
Process Engineering in the Food Industry
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

This course covers the application of process engineering techniques in the food industry, with its particular emphasis on product sensory quality and hygiene. The topics considered will include evaporation and drying, separation, refrigeration, thermal processing, prediction of quality and microbiological changes, and computer techniques. The course will include lectures, assignments and one major design project.

CEIC8335
Advanced Computer Methods in the Process Industries
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Solution of Process Engineering problems, trouble-shooting and Process Design utilising advanced computer applications including flowsheeting, numerical methods, statistical design, CAD and process integration.

CEIC8336
Environmental Chemistry in the Process Industries
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Introduction ot the chemical processes underlying major problems. The following topics will be covered: soil chemistry, acid rain, land degradation, urban air pollution, ozone depletion, global climatic change, radioactive contamination, alternative energy sources, chemical waste contamination, toxic elements, toxic organics, absorption processes and occupational diseases. The role of the chemical industry in causing and resolving the problems will be examined.

CEIC8337
Particle Characterisation in the Process Industries
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

This course will cover theoretical and practical aspects of methods of charactersating fine particulate materials. Characteristics investigated include: particle size and size distribution, density, porosity, surface area, zeta potential and electrostatic charge, morphology and structure. Techniques covered include: sedimentation, optical techniques, electrozone sensing, image analysis, time of flight analysis, inertial impaction, mercury porosimetry, gas adsorption, helium pycnometry, morphological analysis. Practical examples of industrial applications will be given together with laboratory demonstrations using all the techniques.

CEIC8341
Membrane Technology in the Process Industries
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

Classification of membranes and membrane processes. Driving forces and mass transfer mechanisms. Characterisation for membranes. Control of concentration polarisation and fouling. Aspects of the design of membranes, membrane modules and membrane systems. Operating principles of major membrane processes include microfiltration, ultrafiltration, nanofiltration, reverse osmosis, dialysis, electrodialysis, membrane distillation, pervaporation, gas permeation, liquid membranes. Selected applications and economic aspects of membrane technology in the fields of biotechnology, biosensors (including bioreactors), controlled release, chemical and food processing, water and waste treatment.

CEIC8351
Pharmaceutical Processing
School of Chemical Engineering and Industrial Chemistry
UOC6

This subject will focus on pharmaceutical processing for chemical engineers and industrial chemists. Planned topics include an overview of the pharmaceutical industry, process engineering in the pharmaceutical industry, good manufacturing practices, pharmacokinetics, regulatory aspects, clinical trials, drug delivery systems/formulations, occupational health and safety aspects in the industry, and marketing. This course may be supplemented by site visits and industry speakers.

CHEM5003
Special Program (Chemistry Postgraduate Qualifying)
School of Chemistry
UOC48

CHEM7023
Master of Chemistry (Food and Drug) Project
School of Chemistry
UOC12

CHEM7111
Quality Assurance and Laboratory Practice
School of Chemistry
UOC6 HPW3

Covers: international bodies and regulations; statistical and QA tools; uncertainty and traceability; method validation; accreditation; interlaboratory trials and proficiency testing; GLP, Guide 25 and ISO 9000 etc.; Laboratory Information Management Systems.

CHEM7112
Analysis of Biological and Organic Materials
School of Chemistry
UOC6 HPW3

Analyses biological and organic species in complex matrices (e.g., biological, food, soil, wastewater etc.). Emphasis will be on (i) bioassays and new methods requiring minimal sample preparation: enzyme and immunoassays, assay formats, transduction and design, biosensors including DNA and surface plasmon resonance devices; (ii) conventional instrumental techniques for analysis of biological and organic molecules with emphasis on sample preparation including sampling, extraction, derivatisation and clean-up.

CHEM7113
Elemental Analysis
School of Chemistry
UOC6 HPW3

The course covers the following: elemental analysis for inorganic and organic samples; environmental, water and wastewater, food, soil and plant, geological, petroleum and materials analysis; atomic absorption and emission spectroscopy; AAS (atomic absorption) and ICP-AES (inductively coupled plasma atomic emission spectroscopy) techniques; metallic and non-metallic elements in inorganic and organic matrices; elemental mass spectrometry especially ICP/MS; X-ray fluorescence: wavelength and energy dispersive techniques; elemental organic (C,H,N) analysis; analysers.

CHEM7114
Chromatography
School of Chemistry
UOC6 HPW3

Examines principles of chromatographic separation: gas, liquid and thin layer chromatography; gas chromatography: columns, instrumentation and applications; HPLC: overview of techniques, normal and reverse phase, size exclusion, ion-exchange and ion-pair techniques, and instrumentation, derivatisation and method selection; latest chromatographic software and data handling methods; applications in the food, pharmaceutical, biological and health fields.

CHEM7115
Treatment of Analytical Data
School of Chemistry
UOC6 HPW3

Covers basic definitions; errors and uncertainty; confidence limits; hypothesis testing; Outlier tests, t-tests, F-tests; ANOVA; calibration; experimental design and optimisation; multivariate analysis.

CHEM7116
Chromatography/Mass Spectrometry
School of Chemistry
UOC6 HPW3

Examines principles of mass spectrometry especially when combined with gas chromatography and liquid chromatography; method source and analyser options for environmental, forensic, clinical, pharmaceutical, food, natural product, petroleum, polymer and biological analysis; sampling and clean-up for chromatography-mass spectrometry; interpretation of spectra: use of databases; fast separations and MS/MS; quantitative methods; isotope dilution; isotope ratio MS; management and maintenance of equipment; costing analyses and planning equipment replacements.

CHEM7117
Molecular Analysis
School of Chemistry
UOC6 HPW3

Covers spectroscopic methods for the molecular analysis of materials; FTIR and Raman spectroscopy and microscopy: methods for macroscopic and microscopic analysis based on the vibrational spectrum as a fingerprint; NMR spectroscopy as an analytical technique; NMR of liquids and solids; NMR for analysis of foods; UV, visible and near infrared spectroscopy as analytical methods; X-ray absorption spectroscopy.

CHEM7118
Surface Analysis of Materials
School of Chemistry
UOC6 HPW3

Studies surface characterisation for "wet" and "dry" (vacuum) analysis; ion, electron and photon probes for surface characterisation; spectroscopic techniques for qualitative and quantitative analysis of polymer, mineral and electronic sample surfaces; ultra high-vacuum analytical instruments: principles, operation and maintenance; complementary techniques for chemical and structural analysis of surfaces, e.g. photoemission and surface X-ray absorption; secondary ion mass spectrometry for molecular analysis of surfaces of complex surfaces.

CHEM7122
Analytical Project
School of Chemistry
UOC6

A chemical analysis project compatible with the needs of the student, performed under the supervision of a member of staff. The project may involve aspects of research, method development, problem-solving and applications.

CHEM7300
Fundamental Knowledge in Environmental Management - Physical Science
School of Chemistry
UOC6

This course provides an introduction to the physical principles that underlie an understanding of the environment.

An introduction is given to the 'material' (atoms, molecules) and 'immaterial' (energy, radiation) worlds. From the standpoints of 'Earth', 'Air' and 'Water' a description of the environment is built up, which leads to an appreciation of the place of humankind in the world, and the complex web of relationships between the different aspects of the environment. Approaches to measurement are introduced as a way in which we can discover more about the environment and build a model of the world we live in.

CHIN5000
China's Provinces
Department of Chinese & Indonesian Studies
UOC8 HPW2

Introduces students to the social, political and cultural diversity of China's provinces under decentralisation and the emergence of local identities. Includes an overview of current research by Chinese and international scholars.

Note: Students enrolled in the Chinese Studies postgraduate program will be required to consult Chinese language sources and write an essay in Chinese.

CHIN5006
Business Chinese A
Department of Chinese & Indonesian Studies
UOC6 HPW3

This is an integrated Modern Standard Chinese language skills course which combines listening, speaking, reading and writing.The emphasis is on the development of communicative language competence and the gradual acquisition of business related language usage. The requirements of background speakers of Chinese dialects other than Mandarin are also catered for in this course.

Note: Course available for students enrolled in the Faculty of Commerce and Economics.

CHIN5007
Business Chinese B
Department of Chinese & Indonesian Studies
UOC6 HPW3
Prerequisite: CHIN5006

Further consolidation and development of language skills acquired in CHIN5006.

CHIN5008
Chinese Language Management Case Studies
Department of Chinese & Indonesian Studies
UOC6 HPW3
Excluded: CHIN5908

Provides an introduction to recently published Chinese-language case studies on Strategic Management in China with a focus on management issues that are specific to China. Students will gain familiarity with Chinese management terminology and the operational environment of Chinese and foreign-funded enterprises in China. Students will be expected to prepare group presentations for each session.

Assumed knowledge: Third-year level proficiency in Chinese.

Note: Course available for students enrolled in the Faculty of Commerce and Economics.

CHIN5009
Chinese for Commercial Use
Department of Chinese & Indonesian Studies
UOC6 HPW3
Excluded: CHIN5909

Aims to give students a thorough knowledge of specialised commercial Chinese language usage. Terminology will be studied in the context of actual business transactions and company records of Chinese enterprises. The focus will be on the service sector in such fields as foreign trade, finance and marketing. Emphasis will be placed on project work and group presentations.

Assumed knowledge: Third-year level proficiency in Chinese.

Note: Course available for students enrolled in the Faculty of Commerce and Economics.

CHIN5900
Chinese-English Translation
Department of Chinese & Indonesian Studies
UOC8 HPW2

Aims to give students advanced language and other technical skills needed for specialist translation from Chinese into English and vice versa. Students will complete a portfolio of translations on commercial, legal and technical topics, including one major translation project in an area of their choice. The weekly workshops will be used to discuss general professional issues and work in progress.

Assumed knowledge: Third-year level proficiency in Chinese.

CHIN5901
Chinese-English Professional Interpreting
Department of Chinese & Indonesian Studies
UOC8 HPW2

Reviews and rethinks theories/practice of interpreting and provides training in Chinese-English consecutive interpreting. Students are expected to attempt to reconstruct principles and methodologies of interpreting, to apply theories to public speaking/interpreting practice and to learn to manage pre-job research, process and impact of interpreting. The weekly workshops will provide a forum for discussion of theoretical and ethical issues in the profession.

Assumed knowledge: Third-year level proficiency in Chinese.

CHIN5905
Issues in Chinese Sociolinguistics
Department of Chinese & Indonesian Studies
UOC8 HPW2

Examines a diverse range of issues in Chinese sociolinguistics, including such topics as language planning in China and Taiwan, language variations, bilingualism, Chinese dialectology, Chinese discourse and textual analysis. Students will be expected to complete a project addressing specific issues and applying theories introduced in this course.

Assumed knowledge: Third-year level proficiency in Chinese.

CHIN5906
Chinese Business and Management
Department of Chinese & Indonesian Studies
UOC8 HPW2
Excluded: IBUS5606, MGMT5606

Introduces the regulatory framework of Chinese business and relatively complex enterprise structures and commercial transactions. The focus is on the macroeconomic, legal, cultural and operational environment. Considers the main emerging issues confronting the Chinese business community.

CHIN5909
Chinese for Commercial Use
Department of Chinese & Indonesian Studies
UOC8 HPW2
Excluded: CHIN5009

Aims to give students a thorough knowledge of specialised commercial and legal language usage in China. Terminology will be studied in the context of bi-lingual business transactions and company records. Emphasis will be placed on translation projects in both directions. Requires completion of individual projects by students.

Assumed knowledge: Third-year level proficiency in Chinese.

CHIN5910
Chinese Poetry and Poetics: Theories of Translation
Department of Chinese & Indonesian Studies
UOC8 HPW2

Examines seminal works and themes in Chinese poetry from its inception in the ancient Shijing [Book of Odes] and Chu Ci [Elegies of Chu] to the Tang, Song, and through the Qing, Republican, and contemporary eras as well as literary theory from the Shi pin [Categories of Poetry] and the Wen xin diao long [The Literary Mind and the Carving of Dragons] down to the critical and theoretical writings of Wang Guowei, Lu Xun, Wen Yiduo, Qian Zhongshu, and Liu Zaifu on poetry, poetics, literary and cultural criticism. Also critically examines the theory and practice of translation of Chinese poetry into English from Ezra Pound to Stephen Owen.

CHIN5911
Major Chinese-English Translation Project
Department of Chinese & Indonesian Studies
UOC8 HPW2
Prerequisite: Enrolment in MA (Chinese-English Translation & Interpreting)

Gives students in their final semester of study the opportunity to complete a major Chinese-English translation project in an area of their specialisation. The final translation will be of professional standard and demonstrate mastery of translation skills and the ability to use research techniques and translation tools. The translation project will consist of an annotated translation of approximately 5,000 words, with an additional introduction and a commentary on translation problems encountered during the course of the project.

Assumed Knowledge: Third-year level proficiency in Chinese.

CHIN5912
Australian-Chinese Communication in Documents
Department of Chinese & Indonesian Studies
UOC8 HPW2
Prerequisite: Enrolment in MA (Chinese-English Translation & Interpreting)

Introduces students to language issues in Australian-Chinese bilateral communication on the basis of a wide range of English and Chinese language documents. Students will familiarise themselves with language usage relating to historical links, social and cultural relations, community issues and economic and commercial exchange between Australia and China. Focuses on current issues and practical language usage. Requirements include project work with government, community and business organisations.

Assumed Knowledge: Third-year level proficiency in Chinese.

CHIN5915
Chinese Autobiography
Department of Chinese & Indonesian Studies
UOC8 HPW2

Chinese autobiography covers a literary genre that is new in China. Includes comprehensive theoretical analysis of issues of voice, narratology, mimetics, and Chinese neologisms in the early twentieth century.

Assumed Knowledge: Third-year proficiency in Chinese.

CHIN5916
Discourse Analysis for Chinese-English Translation
Department of Chinese & Indonesian Studies
UOC8 HPW2
Prerequisite: Enrolment in MA (Chinese-English Translation & Interpreting)

Introduces the key discourse concepts and paradigms from a number of discourse analytical approaches, as well as examines the relationship between the language use (particularly in the Chinese-English interpreting/translation context) and the socio-cultural practices of different language

communities. Students will learn to enhance their translation techniques through systematic application of discourse concepts in the analysis of spoken and written discourse.

Assumed Knowledge: Third-year level proficiency in Chinese.

CMED9539
Psychiatry of Old Age
School of Public Health and Community Medicine
UOC6

This course deals with the major psychiatric disorders encountered in the care of older people (dementia; depression; paranoid disorders; late onset schizophrenia and mania; anxiety disorders; stress in late life). It covers the assessment and management of these disorders, as well as other relevant issues such as preventative psychiatry, psychological treatment for the elderly, family assessment and behavioural/psychiatric disturbances in the nursing home. This course is only available to students currently enrolled in the geriatric medicine programs: MMed, GradDip or GradCert.

CMED9540
Pharmacology
School of Public Health and Community Medicine
UOC6

This course examines the pharmacology of ageing. Topics covered include pharmacokinetics, pharmacodynamics, adverse drug reactions, drug interactions and drug prescribing in the elderly. The major drug groups involved in geriatric medicine will also be noted. This course is only available to students currently enrolled in the geriatric medicine programs: MMed, GradDip or GradCert.

CMED9541
Rehabilitation
School of Public Health and Community Medicine
UOC6

This course introduces students to the principles and practice of rehabilitation medicine, with particular reference to rehabilitation of the elderly. Topics covered include the rehabilitation of stroke and other neurological disorders including spinal cord injury, orthopaedic and musculoskeletal rehabilitation, orthotics, prosthetics, and rehabilitation in the palliative care setting. The role of the allied health professional in rehabilitation of the elderly is also considered. This course is only available to students currently enrolled in the geriatric medicine programs: MMed, GradDip or GradCert.

CMED9542
Healthy Aging
School of Public Health and Community Medicine
UOC6

This course addresses a number of health issues relevant to the practitioner in his/her day to day management of older patients. Students consider the concepts of healthy ageing and wellness, and community attitudes to ageing. The value of screening and screening tools in clinical practice is discussed. A number of clinical issues are covered such as dental and oral health, physical exercise, nutrition, sexuality, and addictions in the elderly. The importance of communication and specific communication disorders in the elderly are also examined. This course is only available to students currently enrolled in the M.Med (Ger), GradDipGer or GradCertGer.

CMED9543
Organisation and Delivery of Services for Older People
School of Public Health and Community Medicine
UOC6

A course consisting of primary medical care, hospital based provision, community health services, geriatric assessment teams, institutional care, ethical aspects of care, testamentary capacity and informed consent, guardianship board, terminal care, team concepts and team leadership, funding of care - State and Commonwealth responsibilities. This course is only available to students currently enrolled in the M.Med (Ger), GradDipGer or GradCertGer.

CMED9544
Gerontology
School of Public Health and Community Medicine
UOC6

Biology of ageing - age associated changes in structure and function of majorB body systems, psychology of ageing, psychological theory and cognition in later life, sociology of health and illness in the elderly, politics of ageing. This course is only available to students currently enrolled in the geriatric medicine programs: MMed, GradDip or GradCert.

CMED9546
Major Project (Geriatric Medicine)
School of Public Health and Community Medicine
UOC16

Candidates are required to submit a major project on an approved topic. The project should include qualitative analysis and show some original thinking or critical evaluation. Candidates will be assisted in the planing and preparation of the project by a preparatory course covering aspects of study design, research methods and critical appraisal of scientific papers. Satisfactory completion of this preparatory course is a prerequisite of undertaking the project, but candidates with prior experience in research may be exempted from the preparatory course.The maximum length of the project is 20,000 words. This course is only available to students currently enrolled in the MMed in Geriatrics.

CMED9547
Supervised Clinical Experience
School of Public Health and Community Medicine
UOC8

A minimum of 140 hours of supervised clinical experience is required. Placements will be arranged in association with the students, at geriatric centres approved by the School of Public Health and Community Medicine. Overseas students are required to undertake their clinical attachments in Sydney. Students will be encouraged to spend as much time as possible in these units, and rotation through a number of units will be available, to ensure that students have ample opportunity to experience the practice of geriatric medicine in Australia. This course is only available to students currently enrolled in the MMed in Geriatrics.

CMED9548
Clinical Geriatrics 1
School of Public Health and Community Medicine
UOC6

Presentation of disease: specific features of presentation in old age. Non-specific syndromes: e.g.: immobility, falls. System disorders: e.g. haematological, renal. Also special senses: hearing, vision. This course is only available to students currently enrolled in the geriatric medicine programs: MMed, GradDip or GradCert.

Note: No longer offered

CMED9549
Clinical Geriatrics 2
School of Public Health and Community Medicine
UOC6

Presentation of disease: specific features of presentation in old age. Nonspecific syndromes: e.g. incontinence, confusional states. System disorders: e.g. cardiac, respiratory, neuroloical, vascular, metabolic, bone, endocrine. This course is only available to students currently enrolled in the geriatric medicine programs: MMed, GradDip or GradCert.

Note: No longer offered

CMED9550
Clinical Examination
School of Public Health and Community Medicine
UOC0

This is a clinical exam (oral), which is held in Sydney at the conclusion of the coursework component of the Graduate Certificate, the Graduate Diploma or the Master of Medicine in Geriatrics programs and is only available to students currently enrolled in these programs.

COMM5001
Business Communication, Ethics and Practice
Faculty of Commerce and Economics
UOC6 HPW3

This course addresses learning and communication skills that impact on academic and professional performance. A major component of the course is devoted to communication, teamwork and conflict resolution skills and the capacity to apply them, including in cross-cultural contexts. Specific attention is paid to ethical frameworks and the opportunity for informed self-reflection in applying ethical perspectives in a business context.

COMM5002
Managing for Value Creation 1
Faculty of Commerce and Economics
UOC6 HPW3

Together with COMM5003, this course exposes students to an integrated perspective of the firm and how it creates and sustains value. The course builds a conceptual and analytical framework to examine: the choices managers face at the firm and how these choices are shaped by government, society and competitors. The course positions students to move into a disciplinary specialisations enriched by understanding of the cross functional nature of management. The focus in COMM5002 is on value creation from the perspective of the disciplines of Strategy, Economics, Marketing, HRM, Organisational Behaviour, Organisational Analysis and Design.

COMM5003
Managing for Value Creation 2
Faculty of Commerce and Economics
UOC6 HPW3
Prerequisite or Corequisite: COMM5002 or enrolment in program 8415.

Together with COMM5002, this course exposes students to an integrated perspective of the firm and how it creates and sustains value. The course builds a conceptual and analytical framework to examine: the choices managers face at the firm and how these choices are shaped by conventions, regulations and legal frameworks. The course positions students to move into a disciplinary specialisations enriched by understanding of the cross functional nature of management. The focus in COMM5003 is on the management of value creation from a financial perspective drawing on the disciplines of Accounting, Finance, Information Systems and Business Law. .

COMM5004
Business Capstone Project
Faculty of Commerce and Economics
UOC6 HPW3
Prerequisite: COMM5001, COMM5002, COMM5003, enrolment in program 8404 and completion of 48 units of credit

This course provides a team-based, integrative learning experience at the end of MCom study. It allows students to work in teams to apply their skills and knowledge to a real-world business problem that crosses disciplinary boundaries. Getting to grips with a real-world business problem and reporting an outcome is an important component of the course. The other major learning outcomes of this course concern effective management of the project and the team process.

COMP4001
Object-Oriented Software Development
School of Computer Science and Engineering
UOC6 HPW4
Prerequisite: COMP2011 or COMP2711

This course will cover object-oriented design and implementation methods for complex software systems. Topics covered include: object-oriented program design techniques, object-oriented programming in C++, software reuse and designing for reuse, design patterns and styles, object persistence and distribution. Examples from a wide range of application areas will be used at all stages to illustrate concepts and techniques.

Assumed Knowledge: Competency in C.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4001**

COMP4003
Industrial Software Development
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: COMP9024 or enrolment in MIT program 8684 or GradCert program 7344.

Introduction to development and distribution of large software systems. Use of industrial tools for maintaining the code base and for producing quality portable, deliverable code. Methods for producing systematic test suites. Additional topics include licensing issues, software configuration, and internationalisation.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4003**

COMP4121
Advanced and Parallel Algorithms
School of Computer Science and Engineering
UOC6 HPW4

Topics chosen from: Spatial, semi-structured and multi-dimensional data storage and manipulation techniques, non Von-Neumann techniques, advanced and parallel algorithmic techniques, algorithm engineering and problem solving practices; algorithms for matrices and systems of linear equations, approximation algorithms, FFT and convolution and their software and circuit implementations, iteration methods for the solution of operator equations.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4121**

COMP4132
Advanced Functional Programming
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP3131 or COMP9102.

Note: Available to students in CSE programs only.

Programming techniques: combinator libraries, concurrency, monadic programming, graphics and multimedia applications. Implementation techniques: compilation by program transformation, optimisation techniques.

Parallel programming: FP approaches to high performance computing, distributed implementation.

This course will be taught in a seminar format, with students expected to give presentations based on readings of primary and secondary sources. In addition, each student needs to solve a medium sized programming assignment.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4132**

COMP4151
Algorithmic Verification
School of Computer Science and Engineering
UOC6 HPW4
Prerequisite: COMP3151 or COMP9151 or, enrolment in MIT program 8684 or GradCert program 7344, or permission from the lecturer in charge.

This course is an Advanced Topics in Concurrency occasional elective; a change of name is expected each year.

Topics will be chosen from: semantics models of concurrent and distributed systems (e.g. process algebra, event structures, Petri nets, Chu spaces), linear versus branching time, interleaving versus partial order semantics, true concurrency, semantic equivalences, modal and temporal logic for concurrent systems (proof theory and applicants), algorithmic verification (model checking, automa on infinite structures, synthesis), reasoning about knowledge in distributed systems.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4151**

COMP4161
Advanced Topics in Software Verification
School of Computer Science and Engineering
UOC6 HPW4

This course is about mechanical proof assistants, how they work, and what they can be used for. It presents specification and proof techniques used in industrial grade theorem provers, teaches the theoretical background to the techniques involved, and shows how to use a theorem prover to conduct formal proofs in practice. The courses is intended to bring third/fourth year and postgraduate students into contact with the current research topics in the field of theorem proving and automated deduction and to teach them the necessary skills to successfully use industrial grade verification environments in modelling and verification.

Topics covered included: higher order logic, natural deduction, lambda calculus, term rewriting, data types and recursive functions, induction principles, calculational reasoning, mathematical proofs, decision procedures for a variety of logical domains, and proofs about programs.

Note: experience with (first-order) logic and functional programming is required.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4161**

COMP4211
Advanced Architectures and Algorithms
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: a mark of at least 70 in COMP3211 or COMP9211.

This course builds on an understanding of COMP3211/9211 Computer Architecture to allow advanced features of current general purpose and embedded processors to be appreciated. Related research themes in computer architecture such as multiple issue, instruction level parallelism,

dataflow, multiprocessing and multithreading are exposed. The course develops research and presentation skills through readings, presentations, and project work.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4211**

COMP4411
Experimental Robotics
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: Overall WAM of 75 and, 12 units of credit from COMP3### courses or 12 units of credit from COMP9### courses, or enrolment in the postgraduate Autonomous Systems major.

Artificial Intelligence Concepts in Robotics. The approach is experimental, with hands-on experience with a small mobile robot kit. Topics covered will include a selection from: history and philosophy of robotics, hardware components and subsystems, sensors, measurements and perception, robotic architectures, multiple robot systems, localisation problem and solutions, robot learning, navigation and obstacle avoidance, robot planning, robot vision and vision processing.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4411**

COMP4412
Introduction to Modal Logic
School of Computer Science and Engineering
UOC6 HPW4
Prerequisite: COMP9101 or COMP3121 or COMP2411 or, enrolment in MIT program 8684 or GradCert program 7344, or permission from the lecturer in charge.

This course aims to introduce fourth year and beginning graduate students to modal logic. Modal logic is used widely in computer science to model a variety of systems including databases, communication protocols, software, multi-agency and knowledge systems. This course will address the basic axioms, techniques, model theory of modal logic and some representative applications. This course will be assessed on the basis of student presentations and assignments.

Syllabus: Standard modal axioms such as K, T, 4 and 5. Kripke's possible world semantics. Soundness and completeness. The canonical model theorem. Logics of belief and knowledge. Logics of time and computation. If time permits, filtrations and the finite model property.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4412**

COMP4415
First-order Logic
School of Computer Science and Engineering
UOC6 HPW4
Prerequisite: COMP9101 or COMP3121 or COMP2411 or, enrolment in MIT program 8684 or GradCert program 7344, or permission from the lecturer in charge.

This course is a presentation of the kind of logic useful for knowledge representation and reasoning. It begins with the elements of first-order logic using tableau methods and proceeds to soundness and completeness, and compactness. Using compactness it addresses issues like expressibility to show, for instance, why transitive closure is not first-order. The course concludes with an introduction to non-monotonic reasoning as a formalization of common sense reasoning.

Note/s: Permission of lecturer in charge is required.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4415**

COMP4416
Intelligent Agents
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: a mark of at least 65 in COMP3411 or COMP9414.

Agents are computational entities that act autonomously in a dynamically changing environment in order to achieve their goals. This course covers the foundations, engineering and applications of intelligent software agents, with an emphasis on theories and architectures for rational agents and on personal assistant applications. Topics include modelling intention, BDI (Belief, Desire, Intention) agent architectures, methodologies for engineering multi-agent systems, communication, coordination and negotiation in multi-agent systems, and applications of agents in electronic commerce and interface design.

This course will involve in-depth and intensive reading, and assume a high level of mathematical maturity and critical analysis. Assessment is by participation in class discussion and essay.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4416**

COMP4418
Knowledge Representation and Reasoning
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP3411 or COMP9414 or COMP4415, and 6 units of credit in COMP3### or COMP9###.

Knowledge Representation and Reasoning (KRR) is at the core of Artificial Intelligence. It is concerned with the representation of knowledge in symbolic form and the use of this knowledge for reasoning. This course presents current trends and research issues in Knowledge Representation and Reasoning (KRR). It enables students interested in Artificial Intelligence to deepen their knowledge in this important area and gives them a solid background for doing their own work/research in this area. The topics covered in more detail are AI Logics, Probablilistic Reasoning, Constraints, and Game Theory.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs4418**

COMP9008
Software Engineering
School of Computer Science and Engineering
UOC6 HPW4
Prerequisite: COMP9024 or enrolment in MIT program 8684 or GradCert program 7344.

The phases of the software lifecycle: requirements, specification, (informal and formal) analysis, design, implementation, testing, integration, and maintenance are studied. Also focuses on software project management. A major group-based software development project is undertaken.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9008**

COMP9009
Advanced Topics in Software Engineering
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9008, or a mark of at least 75 in COMP3111, or enrolment in a Software Engineering program with an overall WAM at of least 75.

The course focuses on topical aspects of Software Engineering (Science) in practice. The course will provide an in depth treatment of specialist topics in areas selected from the following: Software Engineering Lifecycle Models, Software Engineering Project Management, Risk Management, Estimation and Scheduling, Software Requirements Management, Software Configuration Management, Release Management, Product Line Development and Reuse, plus other topics as deemed topical by the course development group. The web page each session will provide more detailed information of the course to be run that session. The topics will only be relevant to those with experience in Software Engineering practices so students will need to demonstrate that they have 2yrs Industrial Experience in Software Development or 18 months IT experience, and will require permission from the lecturer in charge prior to enrolment.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9009**

COMP9018
Advanced Graphics
School of Computer Science and Engineering
UOC6
Prerequisite: a mark of at least 65 in COMP3421 or COMP9415.

Assumed knowledge: Experience with OpenGL and Java.

This course covers advanced topics in graphics and related technologies with a strong hands-on and interactive focus. Topics include: advanced features of OpenGL; 2D and 3D still, interactive and animated file formats; advanced modelling and animation techniques; detailed surface models; performance optimisation; radiosity; ray tracing and optimisations; Monte Carlo and metropolis rendering; volumetric rendering; image based rendering; interactivity; collision detection and 3D graphics hardware design. Students will be given the opportunity to present seminars on research areas of interest to them, as well as experiment with 3D graphics software.

This course will be extremely interactive. You'll be expected to be involved.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9018**

COMP9020
Foundations of Computer Science
School of Computer Science and Engineering
UOC6 HPW3

Scope:

* Mathematical methods for designing correct and efficient programs.
* Mathematics for algorithm analysis.
* Logic for proving and verification.

Topics:

* Introduction to set and relation theory
* Propositional logic and boolean algebras
* Induction, recursion and recurrence relations
* Order of growth of functions.
* Structured counting (combinatorics)
* Discrete probability
* Graph theory
* Trees for algorithmic applications

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9020**

COMP9021
Principles of Programming
School of Computer Science and Engineering
UOC6 HPW3

This is a first programming course. It provides an introduction to programming in an procedural language (C in particular) and covers the following fundamentals.

Algorithmic constructs: selection, iteration and recursion, expression evaluation and assignment; library modules and I/O streams.

Data modelling: primitive types, arrays, strings, abstract data types. Sequential ADTs, trees, hashing.

Scripting languages: shell and awk.

Lab: programming exercises and assignments.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9021**

COMP9024
Data Structures and Algorithms
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9021 or enrolment in MIT program 8684.

Data types and data structures: abstractions and representations; lists, stacks, queues, heaps, graphs; dictionaries and hash tables; search trees; searching and sorting algorithms.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9024**

COMP9031
Internet Programming
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9021, or enrolment in MIT program 8684 or GradCert program 7344.

Introduction to objects; classes and methods; events; threads; socket programming; mail protocols; web programming; server side and client side programming; mobile codes; web security. Applications: web servers, mark up languages and parsers; web services.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9031**

COMP9032
Microprocessors and Interfacing
School of Computer Science and Engineering
UOC6 HPW5
Corequisite: COMP9021 or enrolment in MIT program 8684 or GradCert program 7344. Exclusions: COMP9282, COMP9221.

Instruction Set Architecture (ISA), floating point number representation, computer arithmetic, assembly and machine language programming, machine language fundamentals; addressing modes; instruction repertoire, assembly language programming methodology, interrupts and I/O interfacing (hardware and software), serial communication, timers, analog input and output, converting analog signals to digital signals (data acquisition), taking input from a variety of sensors and driving actuators, buses and memory system, low level device drivers.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9032**

COMP9041
Software Construction: Techniques and Tools
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: COMP9021 or enrolment in MIT program 8684.

Software system decomposition and design. Overview of the software development life-cycle. Command languages. Version control and configuration management, programming for reliability. Testing and debugging techniques. Profiling and code improvement techniques. Practical work involving programming-in-the-large.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9041**

COMP9081
Harnessing the Power of Information Technology
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: Enrolment in a non-CSE program

In the digital age, it is increasingly becoming essential to use, innovatively and effectively, current and emerging information technologies to meet challenges of the new "knowledge economy". Topics include: history of IT, business and online applications, data and knowledge representation, coding and security, viruses, worms and other malware, programming principles and techniques. The course will examine latest information technology trends and outline new technologies on the horizon. Available to non-computing majors only.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9081**

COMP9101
Design and Analysis of Algorithms
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9024, or enrolment in MIT program 8684 or GradCert program 7344; Excluded: COMP9801.

Techniques for design and performance analysis of algorithms for a variety of computational problems. Asymptotic notations, bounding summations, recurrences, best-case, worst-case and average-case analysis. Design techniques: divide-and-conquer, dynamic programming and memorisation, greedy strategy, backtracking, branch-and-bound. Algorithms: sorting and order statistics, trees, graphs and flow networks, matrices, arithmetic circuits. Intractability: classes P, NP, and NP-completeness, approximation algorithms.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9101**

COMP9102
Programming Languages and Compilers
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: COMP9024 or enrolment in MIT program 8684 or GradCert program 7344.

Covers the fundamental principles in programming languages and implementation techniques for compilers (emphasis on compiler front ends). Course contents include: program syntax and semantics, formal translation of programming languages, finite-state recognisers and regular expressions, context-free parsing techniques such as LL(k) and LR(k), attribute grammars, syntax-directed translation, type checking and code generation. Lab: implementation of a compiler in a modern programming language for a small programming language.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9102**

COMP9116
Software System Development Using the B-Method and B-Toolkit
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP2111 or COMP3111 or COMP9008 or enrolment in MIT program 8684 or GradCert program 7344.

The B-Method is a rigorous mathematically based method for the development of reliable software. The method covers the complete software cycle from requirement s analysis through specification, design, implementation, testing, maintenance, and re-use. The B-Method is supported by the B-Toolkit: a collection tools of that provide for specification animation, proof obligation generation, theorem proving, configuration management, code generation, and documentation. The B-Method uses similar mathematical notation to Z, but does not use Z. Specifications are given in AMN (Abstract Machine Notation), which is a small abstract programmin g language. The B-Method is object based in the sense that systems of machines use a number of different forms of inheritance to control visibility and inherit operations. There is no dependence on a particular programming language, but the current code generator generates C.

This course will explore the use of the B-Method and the B-Toolkit. The topics covered will include: The Abstract Machine Notation; Machine

Composition; Refinement; Implementation; The method of presentation will use case studies to present the method; laboratory exercises to use the tools; a major project to apply all aspects of the method, and use of the tools.

Further Inform]ation: CSE class page **www.cse.unsw.edu.au/~cs9116**

COMP9117
Architecture of Software Systems
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: an overall WAM of 65, and COMP3111 or COMP9008 or COMP3141, and COMP3131 or COMP9102 or SENG3020, or enrolment in MIT program 8684 or GradCert program 7344.

Principal architectural issues associated with the design and construction of large scale software systems. Study and evaluation of several well-known and frequently used architectural styles, patterns and frameworks. Study of pipes and filters, layered systems, distributed object-oriented systems, component-based systems, etc. The course will also examine the practical applicability of architecture research, specifically its relationship to the work in software reuse and component interopability of platforms such as J2EE, Microsoft, NET and CORBA. Case studies and exercises will be used to illustrate the architectural issues.

Note/s: This course is available to students in CSE programs only. There are a limited number of places.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9117**

COMP9151
Foundations of Concurrency
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: COMP9024 or, enrolment in MIT program 8684 or GradCert program 7344; Excluded: COMP3151.

Concurrency = processes + communication. Communication via shared variables vs message passing. Models of concurrency: true concurrency vs interleaving. Abstractions: atomicity, locks and barriers, semaphores, monitors, threads, RPC, rendezvous. Classical problems: mutual exclusion, dining philosophers, sleeping barber, termination detection, gravitational N-body problem.

Practical work: programming assignments using the C-like language MDP.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9151**

COMP9161
Concepts of Programming Languages
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9024 or enrolment in MIT program 8684 or GradCert program 7344; Excluded: COMP3161.

Programming language paradigms: imperative, object oriented, declarative (i.e., functional and logic). Theoretical foundations of programming languages: syntax, operatational, axiomatic and denotational semantics. Implementation aspects of central language features, such as dynamic and strong typing, polymorphism, overloading and automatic memory management. Abstracting over programming languages and architectures: byte code approach, component software.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9161**

COMP9201
Operating Systems
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9032 and COMP9024, or enrolment in MIT program 8684 or GradCert program 7344; Excluded: COMP9283.

Operating system organisation and services. Process management: scheduling, synchronisation and communication. Memory management: virtual memory, paging and segmentation. Storage management: Disk scheduling, file systems. Protection and Security. Distributed operating systems and file systems. Case studies drawn from UNIX, MS-DOS, Mach. Lab. programming assignments.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9201**

COMP9211
Computer Architecture
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: COMP9022 or COMP9222 or enrolment in MIT program 8684 or GradCert program 7344; Excluded: COMP3211.

Study the architecture & organisation of modern processors, and influences upon these, with emphasis on pipelined RISC machines; gain understanding of the design of the memory subsystem, I/O, and system level interconnect; become proficient in the use of tools such as VHDL and SimpleScalar for the description, simulation, and verification of architectural designs; complete a series of assignments leading to the design, implementation, validation and assessment of a RISC system. It is assumed students are familiar with combinational and sequential logic design principles and have some experience in the use of CAD tools to describe and simulate digital systems.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9211**

COMP9222
Digital Circuits and Systems
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: COMP9032 or COMP9282 or enrolment in MIT program 8684 or GradCert program 7344. Exclusions: COMP9282, COMP9022.

This course aims to provide students with a knowledge of problem solving with digital systems (computer systems and digital circuits). The basic building blocks of combinational and sequential circuits are introduced to develop circuit solutions to problems and to understand and implement the design and operation of hardware models of digital and computer systems. HDLs will be used to describe circuits and state of the art computer aided design tools will be used to design complex systems.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9222**

COMP9242
Advanced Operating Systems
School of Computer Science and Engineering
UOC6 HPW4
Prerequisite: A mark of at least 75 in COMP9201 or COMP3231.

Covers operating systems design and implementation issues at an advanced level, focussing on specific issues such as performance and on current OS research areas. Topics selected from: Microkernels; user-level servers; performance; kernel implementation; device drivers; scheduling for real-time; effects and control of hardware caches; security and protection; persistent systems; security; dealing with large, sparse address spaces; experimental systems. A laboratory running a state-of-the-art microkernal system will be used to provide hands-on experience with low-level implementation of OS components.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9242**

COMP9243
Distributed Systems
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP3231 or COMP9201, COMP3331 or COMP9331.

A detailed coverage of distributed systems, with a particular focus on operating systems issues: client-server paradigm, remote-procedure call as OS support for client-server; distributed shared memory, distributed memory coherency; distributed file systems; distributed process management, including load sharing and process migration; concurrency control; fault tolerance, recoverability and distributed transactions; naming; industry standards; case studies.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9243**

COMP9245
Real -Time Systems: Specification , Design & Implementation
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: COMP3231 or COMP9201 and, COMP3111 or COMP9008 or COMP2111 or COMP4001, or extended versions.

System taxonomy. Time and causality. Characteristics of real-time systems and their environment. Real-time systems design such as real-time UML; model driven and software architectures; software and requirements engineering for real-time systems; temporal reflection. Performance analysis: worst case execution time analysis; scheduling tasks (rate montonic, generalised rate, slack scheduling); reliability analysis and fault tolerance. Risk assessment and minimisation. Famous faults and disasters. Time triggered architectures and approaches. Real-time languages and language Extensions. Real-time communication.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9245**

COMP9283
Extended Operating Systems
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: a mark of at least 70 in COMP9032 and COMP9024, or enrolment in MIT program 8684 or GradCert program 7344. Excluded: COMP9201

As for COMP9201 Operating Systems but in greater depth and breadth.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9283**

COMP9311
Database Systems
School of Computer Science and Engineering
UOC6 HPW3
Pre/Corequisite: COMP9021 or enrolment in MIT program 8684, or enrolment in 3978 Co-op program.

A first course on database management systems. Data modelling; principles of database design; data manipulation languages; database application techniques; introduction to DBMS internals; introduction to advanced databases. Lab: design and implementation of a database application using Oracle and SQL.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9311**

COMP9314
Next Generation Database Systems
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9311 or COMP3311 or INFS3608 or INFS5926 or INFS5992, and COMP9024 or COMP2011 or COMP2711, or enrolment in MIT program 8684 or GradCert program 7344.

Detailed examination of current developments and future trends in database, web, and e-commerce technologies. The emphasis will be on the following topics: modeling, querying, and integrating e-catalogs, integration frameworks for B2B EC applications, and web-based databases.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9314**

COMP9315
Database Systems Implementation
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9311 or COMP3311 or INFS3608 or INFS5926 or INFS5992, and COMP9024 or COMP2011 or COMP2711, or enrolment in MIT program 8684 or GradCert program 7344.

Detailed examination of techniques used in the implementation of relational, object-oriented and distributed database systems. Topics are drawn from: query optimisation, transaction management, advanced file access methods, database performance tuning.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9315**

COMP9318
Data Warehousing and Data Mining
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9311 or COMP3311 or INFS3608 or INFS5926 or INFS5992, and COMP9024 or COMP2011 or COMP2711, or enrolment in MIT program 8684 or GradCert program 7344.

Data Warehouse: (a) Data Model for Data Warehouses. (b) Implementing Data Warehouses: data extraction, cleansing, transformation and loading, data cube computation, materialized view selection, OLAP query processing. Data Mining: (a) Fundamentals: data mining process and system architecture, relationship with data warehouse and OLAP systems, data pre-processing. (b) Mining Techniques and Application: association rules, mining spatial databases, mining multimedia databases, web mining, mining sequence and time-series data, text mining, etc. The lecture materials will be complemented by projects /assignments.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9318**

COMP9321
e-Commerce Systems Implementation Infrastructure
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9021 or COMP1021 or COMP1711 or COMP2811; or enrolment in MIT program 8684 or GradCert program 7344; Corequisite: COMP9311 or COMP3311 or INFS3608 or INFS5926 or INFS5992; or enrolment in MIT program 8684 or GradCert program 7344.

The goal of this course is to expose students to basic infrastructure for building web-based ecommerce applications. It discusses web application development techniques and enabling technologies including CGI scripts, remote method invocation, servlets, JSPs, Web access to databases, programmatic access to XML documents. The lecture materials will be complemented by several assignments and labs.

Excluded: COMP9316 and COMP9031

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9321**

COMP9322
e-Commerce Systems Engineering
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9321or COMP9031 or COMP9316, and COMP9024 or COMP2011, and COMP9311 or COMP3311 or INF3608 or INFS5926 or INFS5992; or enrolment in MIT program 8684 or GradCert program 7344.

This course covers principles, techniques, architectures, and enabling technologies for the development of the different components and layers of complex e-commerce systems (presentation and personalization layer, business logic, message exchange). It discusses: (1) e-commerce transaction models, system architectures and functions, (2) enterprise applications development using J2EEE, (3) Web services and business process modelling, (4) security, transaction, payment protocols for enterprise applications, (5) e-catalogues, (6) inter-enterprise message exchange, and (6) personalization. The lecture materials will be complemented by several assignments and labs

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9322**

COMP9323
e-Enterprise Project
School of Computer Science and Engineering
UOC6 HPW3
Corequisite: COMP9322.

This course covers principles, techniques, architectures, and enabling technologies for the development of the different components and layers of complex e-Commerce systems (presentation and personalisation layer, business logic, message exchange). In particular, it discusses (1) advanced XML technologies as data exchange/transformation format, (2) a model-driven approach in Web application development, (3) business processes modelling and Web services, (4) business process automation with Web service standards, (5) security, transaction, payment protocols for enterprise applications, and (6) personalisation. The lecture materials will be complemented by several assignments and labs.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9323**

COMP9331

Computer Networks and Applications
School of Computer Science and Engineering
UOC6 HPW3
Co-requisite: COMP9024; or enrolment in MIT program 8684 or GradCert program 7344; Excluded: COMP9833.

Networking technology overview. Protocol design and validation using the finite state automata in conjunction with time-lines. Overview of the IEEE802 network data link protocol standards. Addressing at the data link and network layers. Network layer services. Introduction to routing algorithms such as Distance Vector and Link State. Congestion control mechanisms. Internetworking issues in connecting networks. The Internet Protocol suite overview. The Internet protocols IPv4 and IPv6. Address resolution using ARP and RARP. Transport layer: issues, transport protocols TCP and UDP. Application level protocols such as: File. Transfer Protocol (FTP), Domain Name System (DNS) and Simple Mail Transfer Protocol (SMTP). There is a substantial network programming component in the assessable material.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9331**

COMP9332
Network Routing and Switching
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP3331 or COMP9331.

This course will focus on the routing and switching architectures, algorithms and protocols for packet switching networks, both connectionless and connection oriented networks (such as IP and ATM networks). Advanced Internet addressing : CIDR, VPN, NAT. In depth discussion of interior and exterior routing protocols, such BGP, OSPF. IP

over ATM solutions : such as LANE, Classical IP over ATM. IP switching and MPLS. Mobile IP. Internet Multicasting. Overview of emerging switching and routing technologies, such as optical routing and QoS routing. There is a substantial network programming component in the assessable material, for which C prgramming knowledge is assumed.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9332**

COMP9333
Advanced Computer Networks
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP3331 or COMP9331.

This course teaches the fundamentals and practical solutions to quality of service (Qos) based networks, with an emphasis on the next generation Internet architectures and protocols. Topics include: scheduling policies (fair queueing, priority queueing etc.), congestion avoidance/control schemes (RED, RIO etc), admission control, multimedia protocols (RTP, RTCP etc).

This course will also cover recent Qos related developments by IETF/ IEEE such as : Intserv, Diffserv, RSVP, LAN, Qos. There will be hands on practical labs on network performance measurement and some network programming. The assessment of the course includes a substantial hands on project on building a network system in Linux/FreeBSD environment. C programming knowledge is assumed for labs and the project.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9333**

COMP9334
Capacity Planning of Computer Systems and Networks
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP3331 or COMP9331.

Techniques for performance evaluation of distributed systesms. These techniques will then be applied to designing systems to have good performance, and to the analysis of future workloads and the system changes required to cope with them.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9334**

COMP9414
Artificial Intelligence
School of Computer Science and Engineering
UOC6 HPW4
Corequisite: COMP9021 or enrolment in MIT programs 8684 or GradCert program 7344; Excluded: COMP9814.

Overview of Artificial Intelligence. Topics include: the representation of knowledge, search techniques, problem solving, machine learning, expert systems, natural language understanding, computer vision and an Artificial Intelligence progrmamming language (Prolog or LISP). Students may be required to submit simple Art ificial Intelligence programs, or essays on an aspect of A.I, for assessment, in areas such as robotics, computer vision, natural language processing, and machine learning.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9414**

COMP9415
Computer Graphics
School of Computer Science and Engineering
UOC6 HPW3
Corequisite: COMP9024 or enrolment in MIT program 8684 or GradCert program 7344.

Graphics hardware: scan conversion of lines and polygons. 2D transformations: windowing, clipping, viewports. User interfaces. 3D transformations: perspective transformation, 3D clipping, hidden surface removal, lighting and texture maps. Hierarchical modelling of objects, modelling curves and surfaces with splines and fractals. Graphics standards. Lab: programming assignments.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9415**

COMP9417
Machine Learning and Data Mining
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9024 or COMP2011 or COMP2711 or COMP2091 (or extended versions) or enrolment in MIT program 8684 or enrolment in GradCert program 7344.

Machine learning is the algorithmic approach to learning from data. This course covers the key techniques in data mining technology, gives their theoretical background and shows their application. Topics include: decision tree algorithms (such as C4.5), regression and model tree algorithms, neural network learning, rule learning (such as association rules), lazy learning, version spaces, evaluating the performance of machine learning algorithms, Bayesian learning and model selection, algorithm-independent learning, ensemble learning, kernel methods, unsupervised learning (such as clustering) and inductive logic programming (relational learning)

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9417**

COMP9431
Robotic Software Architecture
School of Computer Science and Engineering
UOC6 HPW6
Prerequisite: Overall WAM of 80 and, COMP2011 or COMP2711 or COMP9024 or, enrolment in MIT program 8684 or GradCert program 7344.

An introduction to Intelligent agent design. Picking actions using planning, learning or engineered control. Both practical and theoretical components. Practical component: Re-implement parts of a real agent architecture on a robot. Assignment based. Emphasis on engineering a working system. Theoretical component: Introduction to a variety of research agent architectures including classical planning and reinforcement learning. Lecture and lab based.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9431**

COMP9441
Cryptography and Distributed Systems Security
School of Computer Science and Engineering
UOC6 HPW5
Prerequisite: COMP9024 or enrolment in MIT program 8684 or GradCert program 7344.

Topics chosen from: intrusion detection, prevention, and response, ciphers and cryptanalysis, private key and public key systems, secure hash functions, cryptographic protocols analysis, digital signatures, public key infrastructures, authentication, key agreement, authorization, timestamping, trust management, social and legal issues, Java security model, digital cash, payment protocols, digital rights management, zero knowledge protocols, complexity theoretic foundations, quantum cryptography.

Further Information: CSE class page www.cse.unsw.edu.au/~cs9441

COMP9444
Neural Networks
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP2011 or COMP2711 or COMP9024, and 12uc COMP3### or COMP4### or COMP9### - excluding Group A, or enrolment in MITprogram 8684 or GradCert program 7344.

Topics chosen from: Network architectures: perceptrons, Hopfield and Kohonen nets, ART models, back-propagation trained feed-forward networks, recurrent nets, weightless nets. Computational complexity analysis of training neural network architectures. Probabilistic analysis of generalisation capabilities of feed-forward networks. Hardware based neural nets. Introduction to fuzzy logic, neurotrained nets; designing successful applications of neural networks; tensor product networks; and recent developments in neural networks. The assessment will include a lab project related to application of neural nets.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9444**

COMP9511
Human Computer Interaction
School of Computer Science and Engineering
UOC6 HPW3

Provides an introduction to user-system interactions, both analysis and design. The approach is cognitive, focusing on matching user goals with computer technologies. Topics: the human information processing system, models of interaction, strategies for and process of design, and evaluation. Project work is emphasised. Lab/Tutorial: Optional for Postgraduates.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9511**

COMP9515
Pattern Classification
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: COMP9024 or COMP2011 or COMP2711 or COMP2091 (or extended versions) or enrolment in MIT program 8684 or enrolment in GradCert program 7344.

The course has three basic aims: firstly to understand the field of pattern recognition in general, secondly to get familiar with pattern recognition techniques, and thirdly to obtain the ability to apply techniques to applications.

This course is an introduction to the subject of pattern recognition. We will cover theoretical foundations of classification and pattern recognition and discuss applications in character, speech, and other applications. A tentative list of topics includes: Bayesian decision theory, discriminate functions for normal class distributions, supervised learning, unsupervised learning and clustering, Structural and Syntactic pattern recognition, Edit distance, String matching, Statistical pattern recognition, and neural pattern recognition.

Assumed Knowledge for PG: MATH2859 or MATH2801 or MATH2901 or statistical course equivalent.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9515**

COMP9517
Computer Vision
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: 12 units of credit from COMP3### or 12 units of credit from COMP9### - excluding Group A.

Cameras and Radiometry, local shading models, Colour Vision perception, representation, modelling, linear filters for smoothing, edge detection using concvolution, fourier transform, scale and image pyramids, texture, segmentation by clustering, model fitting and probabilistic methods, tracking and Kalman filters, model-based vision, template matching using classifiers, recognition by relations, applications in robotics, medical imaging, satellite image analysis.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9517**

COMP9519
Multimedia Systems
School of Computer Science and Engineering
UOC6 HPW4
Prerequisite: COMP2011 or COMP2711 or COMP9024, 12uc level 3 or level 4 (for undergrads), or enrolment in MIT program 8684 or GradCert program 7344.

Provides an introduction to multimedia computing and distributed multimedia systems. The subject includes multimedia and agent fundamentals; multimedia application, structures and organization; interactive multimedia software authoring basics; information management issues; and dynamic agent and distributed processing.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9519**

COMP9520
Extended Foundations of Computer Science
School of Computer Science and Engineering
UOC6 HPW3

As for COMP9020 Foundations of Computer Science but in great depth and breadth.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9520**

COMP9596
Research Project
School of Computer Science and Engineering
UOC12 HPW6

Students undertake a supervised research project equivalent to 2 lecture courses worth 6 units of credit each.

Assessment is graded Satisfactory/Unsatisfactory and is based on a project report produced by the student. Project reports must be spiral bound and submitted on the last day of semester to the CSE Student Office. A receipt will be issued.

Available only in the final session for coursework masters students who have a distinction average.

Further Information: Contact the CSE Student Office via Postgrad@cse.

COMP9790
Principles of Global Navigation Satellite System (GNSS) Positioning
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: 18 units of credit COMP3### or COMP9### courses, or enrolment in MIT program 8684 or GradCert program 7344; Excluded: GMAT4900.

This course will introduce the student to reference coordinate systems and time systems, satellite orbital motion, signal propagation and satellite tracking observables. The principles of positioning using the current two Global Navigation Satellite Systems (GNSS) will be studied: the U.S. developed Global Positioning System (GPS) and Russia's Global Navigation Satellite System (GLONASS). The mathematical models for pseudo-range and carrier phase-based modes of positioning, for both single receiver (absolute) positioning and relative positioning implementations, will be developed. These principles will be illustrated using the Matlab GNSS toolkit, which allows the student to develop algorithms for real and simulated data processing. Land, marine and airborne positioning applications will be discussed.

Physical attendance at the lab class is optional. Students with own copies of MATLAB need not attend, and may do exercises in their own time.

Further Information: See GMAT4900

COMP9791
Modern Navigation & Positioning Technologies
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: 18 units of credit COMP3### or COMP9### courses, or enrolment in MIT program 8684 or GradCert program 7344;Excluded: GMAT4910.

This course presents an overview of the various satellite-based and non-satellite navigation technologies and some of their applications. Various user receiver configurations, system augmentations and implementation issues will be analysed. These include: differential GPS schemes and services, real-time systems and their communication links, pseudo-range and carrier phase-based techniques, pseudolites, and other satellite-based positioning systems. In addition, the role of other sensors (such as gyros, accelerometers and inertial navigation systems - INS) and ancillary data can play in navigation will be discussed. Particular emphasis will be placed on the role such positioning technologies will play in Transport Telematics and for personal location, in relation to Location-Based Services, etc. Students will gain hands-on experience with a variety of navigation technology.

Further Information: See GMAT4910

COMP9801
Extended Design & Analysis of Algorithms
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: a mark of at least 70 in COMP9024 or enrolment in MIT program 8684 or GradCert program 7344; Excluded: COMP9101

As for COMP9101 but in greater depth and breadth.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9801**

COMP9814
Extended Artificial Intelligence
School of Computer Science and Engineering
UOC6 HPW4
Corequisite: COMP9021 or enrolment in MEngSci programs 8685 or 8684; Excluded: COMP3411 or COMP9414.

As for COMP9414 but in greater depth and breadth.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9814**

COMP9833
Extended Computer Networks and Applications
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: a mark of at least 70 in COMP9021; Corequisite: COMP9021; or enrolment in MIT program 8684 or GradCert program 7344; Excluded: COMP9311.

As for COMP9331 Computer Networks and Applications but in greater depth and breadth.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9833**

COMP9844
Extended Neural Networks
School of Computer Science and Engineering
UOC6 HPW3
Prerequisite: [(A mark of at least 70 in COMP2011 or COMP2711 or COMP9024) and (12uc COMP3 or COMP4 or COMP9 - excluding Group A)] or enrolment in MITprogram 8684 or GradCert program 7344.

As for COMP9444 but in greater depth and breadth.

Further Information: CSE class page **www.cse.unsw.edu.au/~cs9844**

CONS0001
Project Finance
Building Construction Management Program
UOC6 HPW3

The application of financial analysis to building and construction projects. The workings and regulation of financial markets and institutions in Australia. International financial markets; the impact of financial market conditions on the construction industry. Sources of finance and financial instruments used in providing projects with capital. Structuring project finance packages and lender's management of risk. The characteristics of the various techniques used in project finance. Case studies are used to demonstrate the features of project financing.

CONS0002
Human Resources Management
Building Construction Management Program
UOC6 HPW3

Human resource management in context. Human resource management in the construction industry. The mechanics of human resource management. Industrial relations; equal opportunities; occupational health and safety. The human resource implications of news business ideas; evaluating human resource management activities.

CONS0003
Project Quality Management
Building Construction Management Program
UOC6 HPW3

Total quality management theory and application, alternative approaches to quality management, quality management plans, quantifying quality management and control. Analysis of ISO 9000.

CONS0005
Computers in Construction Management
Building Construction Management Program
UOC6 HPW3

This course discusses issues, problems and solutions relating to computer applications for construction project management, and the creation and distribution of information within the construction industry. It includes topics such as: project information systems structure; Internet and communication technologies; digital document formats and environment; spreadsheets; database systems; project planning software; web-based project management systems and CAD product modeling standards for interoperability with estimating and planning applications. The course involves practical use of spreadsheet, database and project planning programs for project feasibility studies; project planning; cost management, as well as web page design programs.

CONS0006
Property Management
Building Construction Management Program
UOC6 HPW3

Property development process; property market research; financial evaluation of property development. Property lifecycle. Marketing and disposal of property development. Principles of sustainable development and their application. Introduction of property asset management; commercial/industrial property management; retail property management. Building maintenance. Strata title management. Taxation in property management.

CONS0007
Principles and Practice of Management
Building Construction Management Program
UOC6 HPW3

This course provides a framework for studying the principles and practice of management. Management is the process of planning, organising, leading and controlling the work of all the members in an organisation and of using all the resources available in the organisation to reach specific organisational goals. More specifically, this course is about how organisations are managed and how managers can best help their organisations to set and achieve their goals. The emphasis is on the so-called formal organisations which provide goods and services to their customers or clients and offer career opportunities to their members.

CONS0009
Construction Planning and Control
Building Construction Management Program
UOC6 HPW3

The concept of construction planning and control; scheduling techniques - barchart, CPM, PERT, line of balance, multiple activity chart. Critical chain scheduling. Computer based scheduling. Applications of work study. Risk and scheduling; theory of decision making; utility theory.

CONS0010
Contracts Management and Law
Building Construction Management Program
UOC6 HPW3

Principles of administration of construction contracts; formation of construction contracts and subcontracts; options for project delivery; subcontracting; partnering and strategis alliance; analysis of selected contracts; contract disputes, dispute resolution; contract claims; risk allocation in construction contracts; international contracting; joint ventures.

CONS0012
Quantitative Methods in Management
Building Construction Management Program
UOC6 HPW3

Statistical analysis and modelling methods in construction management; Forecasting methods; qualitative methods.

CONS0013
Construction Management Applications
Building Construction Management Program
UOC6 HPW3

This course aims to expose students to the realities of involvement and the practical challenges that arise in the procurement of large construction projects. Topics covered include tendering, site investigation, site establishment, occupational health and safety, risk management, material management, time management, cost management, quality management, contract management and customer relationship management as well as current construction management issues. Actual case projects will be studied in detail in terms of project initiation, feasibility, design and documentation, tendering, pre-construction, construction and commissioning, with a view to demonstrating the practical application of construction management theories in industry situations. By simulating typical scenarios that are likely to be encountered, students will be given the opportunity to identify potential problems and solutions. Case studies, group projects and site visits will be used as a means of learning and teaching approach.

CONS0014
Project Management
Building Construction Management Program
UOC6 HPW3

Introduction to the concept of project management; project management theory; project delivery strategies; organisation of projects from design to commissioning; role of project manager; organisation structure; managing cultural diversity; leadership in project management; negotiation; conflict management.

CONS0015
Building Construction
Building Construction Management Program
UOC6 HPW3

This course provides a descriptive overview of the building construction process for the students from a non built environment background. The topics covered include basic construction management theory, construction estimating, planning and procurement. This course will enable non built environment students to evaluate technical construction reports from a technical and financial aspect.

CONS0016
Project Risk Management
Building Construction Management Program
UOC6 HPW3

This course discusses the fundamentals of risk management and risk management theories in relation to construction projects, definitions of risks and opportunities, risk identification and classification, risk probability and impact, qualitative analysis, quantitative analysis, decision making, risk analysis software introduction, risk versus opportunity, crisis management, business continuity management.

CONS0020
Research Project
Building Construction Management Program
UOC18 HPW9

This course aims to develop students' critical thinking and analytical skills as well as problem solving and decision making skills through a specific research project in the field of construction project management. As such students are required to develop and submit an outline on an approved topic, including a full literature review and a justification of the proposed research methodology, then move on to develop an hypothesis, collect and analyse information and data, effectively process and document the research results and draw reasoned conclusions from them.

CVEN7800
Urban Hydrology and Stormwater
School of Civil and Environmental Engineering
UOC3 HPW21

An introduction to human impacts on the hydrological cycle with an emphasis on the additional factors that need consideration in urban environments, an introduction to impacts of urban development on stormwater quantity and quality, management of urban stormwater quantity and quality, an introduction to impacts of urban developments on groundwater, case studies.

CVEN7801
Design of Stormwater Structures
School of Civil and Environmental Engineering
UOC3 HPW21

Design of stormwater quantity and quality management structures such as detention basins, retention basins, infiltration basins, artificial wetlands, gross pollutant traps, sedimentation basins, and pollution booms.

CVEN7802
Coastal Dynamics
School of Civil and Environmental Engineering
UOC3 HPW21

Theory of periodic waves in coastal waters. Wave growth, refraction, diffraction, shoaling and breaking processes. Measurement, analysis and prediction of waves.

CVEN7805
Coastal Zone Management
School of Civil and Environmental Engineering
UOC3 HPW21

Coastal hazards and management options assessment within local, State and Federal government frameworks. Environmental and ecological aspects including climate change and marine biota. Dredging and spoil disposal. Asset management and risk assessment in the coastal zone.

CVEN7807
Groundwater Hydrology
School of Civil and Environmental Engineering
UOC3 HPW21

Physical properties of groundwater. Darcy flow; porosity, hydraulic conductivity and intrinsic permeability - field and laboratory tests. Principles of groundwater flow. Storage and transmissivity. Groundwater in the hydrological cycle: flow nets; local and regional flow systems - springs; interactions with surface water. Groundwater modelling. Unsaturated zone flow and calculation of infiltration. Groundwater recharge mechanisms and water balance calculations.

CVEN7808
Investigation of Groundwater Resources
School of Civil and Environmental Engineering
UOC3 HPW21

Groundwater investigation methods. Drilling methods; well design and completion for water production and contamination investigation. Contract specification and supervision. Solutions to the radial flow equation; pumping test interpretation; programme of field work and data analysis.

CVEN7809
Geophysical Techniques in Groundwater and Geotechnical Studies
School of Civil and Environmental Engineering
UOC3 HPW21

Introduction to geophysical methods in civil and environmental engineering; physical properties of soils, rocks and contaminated material. Seismic methods - field equipment and methods for seismic refraction. Properties of seismic waves. Cross-hole surveys, tomography and characterisation of bulk modulii. Seismic refraction interpretation methods. Borehole geophysics - field equipment and methods; caliper, electrical, fluid, nuclear and electromagnetic logs. Gravity and magnetic methods. Case histories describing the use of geophysical methods in geotechnical engineering and environmental investigation.

CVEN7813
Estuarine Processes
School of Civil and Environmental Engineering
UOC3 HPW21

The objective of this subject is to extend the student s knowledge of physical and biochemical processes which occur in estuaries and how to measure, model and predict those processes. Topics include estuarine classification and density structure. Tides and water level response of estuaries. Tidal flushing of estuaries and inlets. Mixing processes and random walk and box models. Two layer models. Difference models for hydrodynamics and algal dynamics. Biochemical processes in estuaries.

CVEN7815
Introduction to Catchment Models
School of Civil and Environmental Engineering
UOC3 HPW21

An introduction to the concepts and reductionist approach involved in the modelling of catchment processes influencing the quantity and quality of surface runoff from a catchment. Also introduced are the different forms of models, how these models are combined to provide a catchment modelling system, and implementation of catchment modelling systems. The information and data required for operation of these modelling systems and sources of this information are also discussed. Finally, the calibration, validation, and reliability of catchment modelling systems is presented.

CVEN7816
Catchment Surface Models
School of Civil and Environmental Engineering
UOC3 HPW21

An introduction to processes influencing the generation of surface runoff and the transportation of pollutant constituents with the surface runoff. The surface runoff models considered include UH methods, time-area methods, linear and non-linear reservoir models and, kinematic wave methods. Water quality models considered include UAL, Simple methods, and process based models. Selection of appropriate models is discussed also.

CVEN7818
Channel and River Models
School of Civil and Environmental Engineering
UOC3 HPW21

Selection of models for routing flows along the channels and rivers in a catchment drainage network. Also included is a detailed discussion of the theory of these models. Models considered include Muskingum with both variable and constant parameters, kinematic wave models, non-inertial and diffusion models, and dynamic wave models. These models will be discussed with reference to single channel situations and network situations. Also included is a discussion of water quality models for motion of pollutant constituents in channels and rivers. These models will include plug-flow methods, and advection-dispersion models in both a coupled and uncoupled situation.

CVEN7824
Risk Analysis in Water Engineering
School of Civil and Environmental Engineering
UOC3 HPW21

Introduction to the theory of probability; joint, marginal and conditional probability; commonly used probability distributions; expectations and estimation of model parameters; hypothesis testing and confidence limits; uses in water and coastal engineering - applications to flood design, monte carlo simulation, bootstrap, and hydrological, human and environmental risk assessment.

CVEN7825
Aquatic Chemistry for Engineering
School of Civil and Environmental Engineering
UOC3 HPW21

Introduction to principles of the chemistry of natural waters and polluted systems covering basic processes of acidity and alkalinity, mineral precipitation, complexation, oxidation/reduction and surface and colloid chemistry. Tools developed enabling solution of realistic water chemistry problems including introduction to use of chemical speciation computer codes.

CVEN7826
Microbiology for Engineering
School of Civil and Environmental Engineering
UOC3 HPW21

The objective of this unit is to familarise the student with the fundamentals of water and wastewater chemistry along with the microbiology that drives most of these reactions in various environments. A structured approach is used to introduce concepts governing chemical equilibria, reaction rates, pH, alkalinity, oxidation-reduction and complexation, and integrates this knowledge with an understanding of microbial growth, metabolic diversity and persistence of disease-causing microorganisms.

CVEN7827
Contaminant Transport in the Environment
School of Civil and Environmental Engineering
UOC3 HPW21

Fundamentals of dispersion common to all environmental media (air, water, soil). Dispersion processes: nature of dispersion processes, advection and diffusion. Modelling of dispersion in the atmosphere, water bodies and soil. Transport processes in wetlands, lakes, reservoirs, estuaries, and coastal waters. Data collection relating to transport and dispersion.

Assumed knowledge: CVEN7825.

CVEN7828
Transformation and Fate of Contaminants in the Environment
School of Civil and Environmental Engineering
UOC3 HPW21

Major variables and general principles of the transformation and fate of pollutants. Air chemistry: interaction and degradation of gaseous pollutants in the atmosphere. Aquatic chemistry: transformation and fate of particles, organic contaminants, nutrients and metals released to coastal waters.

Assumed knowledge: CVEN7825.

CVEN8414
Transport Systems Part 1
School of Civil and Environmental Engineering
UOC6

Definition of basic traffic elements, zero flow travel time, capacity, impedance flow relationship. Transport networks. the determination of shortest path, maximum flow, in networks. The topological description of networks. Location theory applications in relation to transport networks. System parameters, performance. application of network analysis to existing road, rail and air transport systems.

CVEN8415
Transport Systems Part 2
School of Civil and Environmental Engineering
UOC6

Historical introduction to transport systems and development of various transport modes, road (vehicles, pedestrains, cycles), conveyor, rail, sea and air. Analysis of the opertational charactersitics of vehicles in the transport modes of road, rail and air. Analysis of congestion-related issues using queuing theory, development of optimum criteria for the distribution of cargo and passenger traffic. Terminals and mode transfer facilities. Development of system opertational models. Energy consideration, new systems.

CVEN8421
Fundamentals of Traffic Engineering
School of Civil and Environmental Engineering
UOC6

Traffic flow, concentration and speed. Fundamental diagram of traffic. Measurements, data collection presentation and statistical analysis. Traffic surveys; volume, composition, speed and travel time. Highway capacity and level of service; multi-lane and two-way-two-lane roads, urban roads, HCM-software calculations. Economic analysis of transport investments.

CVEN8702
Project Planning and Control
School of Civil and Environmental Engineering
UOC6

The planning process; time estimating; the link between planning and control; control systems; the critical path method, networks, resource levelling, resource constrained scheduling, network compression, overlapping relationships, applied cpm, cost influences, project control, legal considerations, simulation in networks, stochastic networks, project management, applications.

CVEN8703
Quality and Quality Systems
School of Civil and Environmental Engineering
UOC6

Quality management principles, practice and responsibilities; applications; quality systems documentation, manuals, implementation and procedures; quality assurance; quality control; relevant codes on quality; total quality management, quality circles and related approaches; quality requirements in contracts; continuous improvement.

CVEN8707
Contracts Management
School of Civil and Environmental Engineering
UOC6

Elements of contract law and a contract; contracts; contract documents including specifications; procurement methods (contract or project delivery strategies); tendering; time in contracts; variations; payments; rights and obligations, planning and programming; risk management and insurance; dispute resolution and dispute avoidance; claims.

CVEN8712
Dispute Avoidance and Resolution
School of Civil and Environmental Engineering
UOC6

One important aspect of project management is the commercially wise handling of disputes on projects. Few projects do not involve disputes. The source of these disputes variously might be personalities, different opinions, values, desires, needs and habits, performance, insufficient attention to documentation, unexpected eventualities, and so on. Disputes have the potential to convert an otherwise successful project into an unsuccessful one. This course focuses on a number of issues to do with disputes within projects. It firstly looks at dispute avoidance practices, non-adversarial projects and issues such as trust, goodwill and cooperation. Secondly it looks at first-attempt dispute resolution through negotiation; and where negotiation fails, other means and methods that are sought to resolve the disputes. Case studies are used to illustrate the ideas and practices.

CVEN8714
Resource Management
School of Civil and Environmental Engineering
UOC6

The management of non human (inert) resources such as equipment, plant, materials infrastructure and assets, including maintenance management, asset management, fleet management and related topics; resource acquisition, maintenance and repair policies; procurement, inventory, supply management and control; optimisation, applications; resource planning; resource disposal.

CVEN8717
Marketing in Technology and Engineering
School of Civil and Environmental Engineering
UOC6

The interface of technology and engineering with marketing. Marketing of professional consultant services; promoting; advertising; pricing of services. Client management; briefs. Marketing for contractors; competition, competitive bidding; tendering and proposals. Winning and securing work and commissions. Entrepreneurship. Marketing research; environment; products; distribution; strategies.

CVEN8727
Construction Estimating and Tendering
School of Civil and Environmental Engineering
UOC6

Estimating procedures, estimating cost of labour plant and materials, indirect costs and overheads, profit; preparation of cost estimates for engineering projects; the conversion of an estimate into a tender; bidding strategies and models; the tendering process; marketing.

CVEN8731
Project Management Framework
School of Civil and Environmental Engineering
UOC6

An overview of project management; the nature of technical and non-technical projects; the project life cycle; the project team, organisational

and behavioural aspects; the project manager; the organisation and management of project resources; project success evaluation techniques; project delivery; management information and decision support systems; case studies in project management; management theory and processes; relationship to general management; functions of project management.

CVEN8855
Water and Wastewater Analysis and Quality Requirements
School of Civil and Environmental Engineering
UOC6

The effects of impurities in water and wastewater on its suitability for various beneficial uses, and methods used for detecting impurities. Analytical methods used in water and wastewater treatment for monitoring and process.

CVEN8856
Water Treatment
School of Civil and Environmental Engineering
UOC6

Integrated design of facilities for the treatment of various types of raw water to meet specified water quality, with emphasis on water for municipal supply, including: chemical selection, dosing and mixing; coagulation - flocculation - clarification - filtration and disinfection technology. Processes for water softening, iron and manganese removal and demineralisation, including precipitation oxidation, ion exchange reverse osmosis. Taste and odour control. Disposal of water treatment residuals.

CVEN8857
Wastewater Treatment
School of Civil and Environmental Engineering
UOC6

Principles and applications of aerobic and anaerobic biological processes for treatment of wastewaters and sludges. Design of integrated systems of biological, physical, chemical and sludge treatment processes to satisfy effluent quality objectives. Effluent disposal and reuse. Stabilisation, processing, disposal and utilisation of treatment residuals.

CVEN8872
Solid Waste Management
School of Civil and Environmental Engineering
UOC6

Characterisation of municipal solid waste; collection; transfer stations; waste minimisation and recycling; waste treatment, including size reduction, composing, incineration, emerging technologies; landfill disposal, including preparation of landfill management plans and operational aspects; introduction to planning of waste management systems.

CVEN8881
Hazardous Waste Management
School of Civil and Environmental Engineering
UOC6

Waste audits and characterisation of hazardous wastes in regions and industries; control of generation and transport of hazardous waste, manifest systems; waste minimisation; on-site treatment methods; integrated off-site treatment facilities; management of residues from treatment facilities; introduction to planning of regional hazardous waste management systems. Characteristics of individual waste types (dioxins, PCBs, pesticides, heavy metal, etc.) and waste management in individual industries (steel, pulp and paper, petro-chemical, food processing, etc.).

CVEN8884
Environmental Engineering Science 1
School of Civil and Environmental Engineering
UOC6

Application of chemical principles to aqueous systems; pH and alkalinity, solubility and precipitation, complexation, redox and surface chemistry. Chemical equilibrium modelling. Introduction to chemical reaction kinetics. Introduction to Microbiology; Structure and metabolism of cells and micro-organisms; monitoring methods for pathogens and indicator organisms; impact of water and wastewater treatment on disease transmission.

CVEN8885
Environmental Engineering Science 2
School of Civil and Environmental Engineering
UOC6

Processes controlling transformation and fate of chemicals in the environment. Measurement and prediction of contaminant behaviour in natural and engineered systems. Fundamentals of dispersion common to all environmental media (air, water, soil). Air chemistry; interaction and degradation of gaseous pollutants in the atmosphere. Dispersion processes; nature of dispersion processes, advection and diffusion. Modelling of dispersion in the atmosphere, water bodies and soils.

CVEN8888
Environmental Management
School of Civil and Environmental Engineering
UOC6

Spectrum of modern environmentalism and sustainable development; environmental impact statement techniques and EIA procedures; environmental management systems; tools for the analysis and management of environmental impacts of engineering projects, including environmental risk assessment, environmental and waste audits, Life Cycle Assessment and other materials accounting techniques.

CVEN8930
Masters Project
School of Civil and Environmental Engineering
UOC12

A minor research investigation involving analysis and interpretation of data, or a critical review and interpretation of literature on a selected topic, or a design project, and the presentation of same in a thesis format.

CVEN9405
Urban Transport Planning Practice
School of Civil and Environmental Engineering
UOC6 HPW3

Analytical techniques for urban land use/transport planning practice. Planning methodology: traffic generation, trip distribution, modal-choice, traffic assignment, evaluation. Land use forecasting: calibration and verification of behavioural models, application of mathematical programming models, case studies, public transport problems.

CVEN9414
Transport Systems Part 1
School of Civil and Environmental Engineering
UOC6 HPW3

Definition of basic traffic elements, zero flow travel time, capacity, impedance flow relationship. Transport networks. The determination of shortest path, maximum flow, in networks. The topological description of networks. Location theory applications in relation to transport networks. System parameters, performance. Application of network analysis to existing road, rail and air transport systems.

CVEN9415
Transport Systems Part 2
School of Civil and Environmental Engineering
UOC6 HPW3

Historical introduction to transport systems and development of various transport modes, road (vehicles, pedestrians, cycles), conveyor, rail, sea and air. Analysis of the operational characteristics of vehicles in the transport modes of road, rail and air. Analysis of congestion-related issues using queuing theory. development of optimum criteria for the distribution of cargo and passenger traffic. Terminals and mode transfer facilities. Development of system operational models. Energy consideration, new systems.

CVEN9421
Fundamentals of Traffic Engineering
School of Civil and Environmental Engineering
UOC6 HPW3

Traffic flow, concentration and speed. Fundamental diagram of traffic. Measurements, data collection presentation and statistical analysis. Traffic surveys; volume, composition, speed and travel time. Highway capacity and level of service: multi-lane and two-way-two-lane roads, urban roads, HCM-software calculations. Economic analysis of transport investments.

CVEN9500
Engineering Geology and Geotechnical Models
School of Civil and Environmental Engineering
UOC3 HPW21

A framework for recognising the important geotechnical features of the various geological environments: namely igneous, volcanic, metamorphic,

sedimentary and carbonate. Superimposed onto this stratigraphic base are the overprinting effects of geological structure and environmental effects including stress, valley bulging, tectonic setting, glaciation, weathering and alteration; and Holocene geology. The lectures cover the continuous spectrum from soil to high strength rock. Geomorphology, the surface expression of the underlying geology and geological processes is a key part of the course. These elements and relationships are brought together within the umbrella of modern engineering concepts such as Total Geology. The final section of the course and probably the most important deals with geotechnical engineering models, what they comprise and how are developed,

CVEN9501
Geotechnical Site Investigation Methods
School of Civil and Environmental Engineering
UOC3 HPW21

Planning of site investigations and the parameters required, drilling, trenching and in-situ permeability of soil and rock. In-situ testing of soil, including SPT, CPT, piezocone, vane shear. Laboratory testing of soil including triaxial, direct shear and ring shear. Field instrumentation for pore pressure and displacement. Basics of geotechnical models.

Assumed knowledge: CVEN9500.

CVEN9502
Geotechnical Engineering of Foundations
School of Civil and Environmental Engineering
UOC3 HPW21

Principles of foundation types and design. Shallow foundations - general bearing capacity equations for vertical and inclined loads, settlement calculation, foundations in sand, rock and reactive clays. Pile foundations - pile types and construction, ultimateload capacity, equation, ultimate capacity from pile driving formulae, settlement analysis; lateral loading; use of code for design of piles. Earth pressures, retaining walls.

CVEN9506
Geotechnical Mapping
School of Civil and Environmental Engineering
UOC3 HPW21

The course deals with all key elements of mapping and logging, everything from collecting the data to processing, understanding and presenting the results. Materials range from soil to rock. Data and sampling biases; together with the shortcomings of each method are addressed.

In the mapping section the different genetic maps are covered including geological, structural, geotechnical, geomorphological, air photo, specialised vector maps and landslides. The logging is an extension of the surface mapping and deals with techniques for gatherin data in the other dimension; from pits, tunnels, trenches and cuttings; using tools such as detailed face-logs, Sirojoint, simple photogrammetry, sketch maps etc.

The logging of core is covered from first principles, dealing initially with the drilling process then leading through to processing the data. Elements covered include orientation techniques, oriented core, orientation logs, blind zones, Terzaghi corrections, drilling and sampling biases. The roles of the detailed, structure and summary logs are explained.

The course covers four days and each course is split approximately evenly between field and laboratory/lecture room time. Field work will be at sites in the Greater Sydney area. Students should plan to allow up to a further 1 to 2 days in the field to complete the field work.

CVEN9508
Rock Slope Instability and Stabilization
School of Civil and Environmental Engineering
UOC3 HPW21

Rock slope stability analysis including stereographic methods for planar, wedge and toppling modes. Probabillistic methods in rock slope stability analysis. Rock slope stabilization by anchors, bolts, cables and drainage. Pre and post failure deformations of excavated rock slopes.

Assumed knowledge: CVEN9773.

CVEN9701
Engineering Economics and Financial Management
School of Civil and Environmental Engineering
UOC6 HPW3

Project initiation and development, feasibility studies, planning; economics, review of practical decision making problems and relevant techniques, benefit/cost analysis, methods of economic appraisal; consideration of inflation and taxation in investment decisions; depreciation; management decision processes, decision theory, utility; life-cycle costing, value management; models and techniques to assist the manager, forecasting; optimisation; applications; multiple objective planning; project delivery systems; financial planning, accounting.

CVEN9702
Project Planning and Control
School of Civil and Environmental Engineering
UOC6 HPW3

The planning process; time estimating; the link between planning and control; control systems; the critical path method, networks, resource levelling, resource constrained scheduling, network compression, overlapping relationships, applied cpm, cost influences, project control, legal considerations, simulation in networks, stochastic networks, project management, applications.

CVEN9703
Quality and Quality Systems
School of Civil and Environmental Engineering
UOC6 HPW3

Quality management principles, practice and responsibilities; applications; quality systems documentation, manuals, implementation and procedures; quality assurance; quality control; relevant codes on quality; total quality management, quality circles and related approaches; quality requirements in contracts; continuous improvement.

CVEN9706
Human Resources Management
School of Civil and Environmental Engineering
UOC6 HPW3

The development of skills for the management of people and their workplaces; industrial relations, health and safety issues, the recognition of people as the basic unit of engineering productivity; the structure and function of organisations, management of group action; work delegation across organisational boundaries; interpersonal skills, conflict management; learning curves; motivation.

CVEN9707
Contracts Management
School of Civil and Environmental Engineering
UOC6 HPW3

Elements of contract law and a contract; contracts; contract documents including specifications; procurement methods (contract or project delivery strategies); tendering; time in contracts; variations; payments; rights and obligations; planning and programming; risk management and insurance; dispute resolution and dispute avoidance; claims.

CVEN9710
Management of Risk
School of Civil and Environmental Engineering
UOC6 HPW3

Introduction to the concept of risk and decision making under conditions of uncertainty; project objectives and planning, risk/factors affecting project performance; risk identification in engineering processes; human error, natural hazards and unforeseen risks; risk evaluation and quantification methods; relevant statistical techniques; risk avoidance and minimisation; financial risk, portfolio theory, risk sharing and financing; ambient and acceptable risk levels; insurances.

CVEN9718
Strategic Management for Engineering
School of Civil and Environmental Engineering
UOC6 HPW3

Strategic management for engineering and technology based organisations. Strategic versus operational planning; approaches to developing strategies. Influence of environment, resources (people, materials, plant/equipment), opportunities, competition. Strategic change, implementation, control. Influence of organisation size and shape.

CVEN9723
Design of Construction Operations
School of Civil and Environmental Engineering
UOC6 HPW3

Design theory as applied to construction processes; application to selected areas of the construction industry; building construction; queueing and simulation models; work study (method study and work measurement) procedures; productivity; job planning, layout planning, capacity

planning; planning and design of production systems (construction oriented); reliability, availability, applications.

CVEN9730
International Project Management
School of Civil and Environmental Engineering
UOC6 HPW3

International project management practices and a comparison with local practices. Managing projects overseas. Multicultural managment including values, human resources, negotiations and diversity. Globalisation. Technology transfer. Appropriate technology. Joint ventures. The management of time, costs, quality, risk, resources and people in an international setting. International contracts and dispute resolution. International marketing.

CVEN9731
Project Management Framework
School of Civil and Environmental Engineering
UOC6 HPW3

An overview of project management; the nature of technical and non-technical projects; the project life cycle; the project team, organisational and behavioural aspects; the project manager; the organisation and management of project resources; project success evaluation techniques; project delivery; management information and decision support systems; case studies in project management; management theory and processes; relationship to general management; functions of project management.

CVEN9770
Introduction to Numerical Methods in Civil Engineering
School of Civil and Environmental Engineering
UOC3 HPW3

Introduction to finite element and boundary element methods. Mathematical formulation of finite elements. Two and three dimensional elements. Linear and nonlinear analysis. Steady state and transient field problems - heat conduction, seepage etc. Dynamic analysis - frequency domain and time domain.

CVEN9773
Introduction to Rock Engineering
School of Civil and Environmental Engineering
UOC3 HPW3

Introduction to rock engineering including the engineering description of rocks, discontinuities and rock mass; the strength of rock substance, defects and rock mass; laboratory testing of rock, defect surveys, data presentation and hemispherical projections; in-situ stress and its measurement; stresses about underground openings; classification systems and introductory tunnel support requirements.

CVEN9776
Rock Engineering for Tunnels and Underground Structures
School of Civil and Environmental Engineering
UOC3 HPW3

A lecture and problem based course on the investigation, design and construction of tunnels and other underground structures, rock and rock mass strength and deformability. In-situ stresses; stresses about underground openings by elastic and numerical methods; classification systems for prediction of support requirements, including NATM; design of support elements including bolts, dowels, mesh and anchors. Measurement of in-situ stresses; instrumentation and monitoring; squeezing and swelling ground. Tunnel excavation methods and their applicability, including drill and blast, heading and bench, tunnel boring machine, road headers.

Assumed knowledge: CVEN9773.

CVEN9784
Pavement Analysis and Design
School of Civil and Environmental Engineering
UOC6 HPW6

Types of pavement, selection on basis of cost and performance. Sub-grade conditions, working platforms. Role of environmental factors including temperature and moisture. Soil moisture equilibria and drainage requirements. Prediction and characterisaton of traffic loadings. Stress distribution in flexible and rigid pavements. Computer-based and approximate methods of analysis. Principles of mechanistic design. Comparative evaluation of design criteria and design procedures for flexible and rigid pavements for roads. Concrete block paving.

CVEN9786
Industrial, Airport and Heavy Duty Pavements
School of Civil and Environmental Engineering
UOC3 HPW3

Functions of airport, industrial and heavy-duty pavements. Airport and port pavements, container facilities, bulk cargo areas, factory and warehouse floors and hardstand operation requirements. Economic considerations. Types of industrial pavement. Advantages and disadvantages of flexible, rigid and segmental pavements. Types of load, aircraft and industrial vehicles, container stacking, bulk cargo. Load equivalency concepts, port area wheel loads, standard design aircraft and vehicles, formulation and application of loading spectra. Subgrade improvement and characterisation. Selection of pavement materials. Pavement design procedures.

CVEN9793
Geomechanics
School of Civil and Environmental Engineering
UOC6 HPW3

The fundamentals of the effective stress concept, clay mineralogy, seepage analysis and Laplace Equation, basic and advanced theories of consolidation, nonlinearity and Biots theorem, critical state soil mechanics, fundamentals of continium mechanics, theory of elasticity, constitutive relationships and failure criteria for real soils, soil plasticity and Cam-clay model, theorem of collapse, fundamentals of unsaturated soils mechanics.

CVEN9798
Fundamentals of Geomechanics
School of Civil and Environmental Engineering
UOC3 HPW3

Fundamentals of Geomechanics for geologists and other professionals who wish to work in geotechnical engineering, engineering geology, and environmental engineering. Classification of soil, phase relationships, flow of water in soil. The principle of effective stress. Consolidation theory, stress distribution and settlement. Mohrs Circle, failure criteria, stress paths and strength of soils. Lateral earth pressures. Compaction of soil.

CVEN9802
Structural Stability
School of Civil and Environmental Engineering
UOC6 HPW3

Euler strut; uniform and non-uniform cross sections. Eccentric loading; stressing beyond the elastic limit. Struts continuous over several supports. Stability of frames.

CVEN9806
Prestressed Concrete Design
School of Civil and Environmental Engineering
UOC6 HPW3

Introduction to prestressed concrete. Design for serviceability. Design for strength. Statically indeterminate beams. Behaviour and design of two-way slabs. End block design.

CVEN9809
Reinforced Concrete Design
School of Civil and Environmental Engineering
UOC6 HPW3

Design of reinforced concrete structures. Topics covered will be chosen from: design of beam-columns, non-symmetric sections, flexure-shear-torsion, serviceability and detailing. Special provisions for the use of high strength concretes, strut and tie modelling and collapse load methods for the design of reinforced concrete slabs.

CVEN9818
Bridge Engineering
School of Civil and Environmental Engineering
UOC6 HPW3

Introduction to bridge engineering; site selection, type selection, bridge hydraulics, design philosophies. Transverse load distribution. Simple supported and continuous slabs on beam bridges. Box girder bridges. Cable-stayed.

CVEN9820
Computational Structural Mechanics
School of Civil and Environmental Engineering
UOC6 HPW3

Stiffness analysis of structures. Basis of finite elements: principle of virtual work, variational theorems, constraint equations. Effects of inplane rigid floors and axially rigid members on the behaviour of multi-storey frames.

CVEN9822
Steel Structures
School of Civil and Environmental Engineering
UOC6 HPW3

Introduction to limit states design. Design of compression members. Effective lengths of columns. Tension members. Local buckling. Design of plate girders. Lateral buckling of beams. Design by buckling analysis. Behaviour of beam-columns. Introduction to connection design.

CVEN9824
Advanced Materials Technology
School of Civil and Environmental Engineering
UOC6 HPW3

Concrete: high performance concrete; new methods of workability measurement; methods of placing-pumping, spraying; mix design methods; special concrete mixes. Fibre Reinforced Plastics (FRP): advanced polymer composites for structures; polymer matrix materials; fibres used properties of polymers; properties of fibres; structural applications; durability of FRP.

CVEN9855
Water and Wastewater Analysis and Quality Requirements
School of Civil and Environmental Engineering
UOC6 HPW3

The effects of impurities in water and wastewater on its suitability for various beneficial uses, and methods used for detecting impurities. Analytical methods used in water and wastewater treatment for monitoring and process.

CVEN9856
Water Treatment
School of Civil and Environmental Engineering
UOC6 HPW3

Integrated design of facilities for the treatment of various types of raw water to meet specified water quality, with emphasis on water for municipal supply, including: chemical selection, dosing and mixing; coagulation - flocculation - clarification - filtration and disinfection technology. Processes for water softening, iron and manganese removal and demineralisation, including precipitation, oxidation, ion exchange and reverse osmosis. Taste and odour control. Disposal of water treatment residuals.

CVEN9857
Wastewater Treatment
School of Civil and Environmental Engineering
UOC6 HPW3

Principles and applications of aerobic and anaerobic biological processes o treatment of wastewaters and sludges. Design of integrated systems of biological, physical, chemical and sludge treatment processes to satisfy effluent quality objectives. Effluent disposal and reuse. Stabilisation, processing, disposal and utilisation of treatment residuals.

CVEN9872
Solid Waste Management
School of Civil and Environmental Engineering
UOC6 HPW3

Characterisation of municipal solid waste; collection; transfer stations; waste minimisation and recycling; waste treatment, including size reduction, composing, incineration, emerging technologies; landfill disposal, including preparation of landfill management plans and operational aspects; introduction to planning of waste management systems.

CVEN9881
Hazardous Waste Management
School of Civil and Environmental Engineering
UOC6 HPW3

Waste audits and characterisation of hazardous wastes in regions and industries; control of generation and transport of hazardous waste, manifest systems; waste minimisation; on-site treatment methods; integrated off-site treatment facilities; management of residues from treatment facilities; introduction to planning of regional hazardous waste management systems. Characteristics of individual waste types (dioxins, PCBs, pesticides, heavy metal, etc.) and waste management in individual industries (steel, pulp and paper, petro-chemical, food processing, etc.).

CVEN9888
Environmental Management
School of Civil and Environmental Engineering
UOC6 HPW3

Spectrum of modern environmentalism and sustainable development; environmental impact statement techniques and EIA procedures; environmental management systems; tools for the analysis and management of environmental impacts of engineering projects, including environmental risk assessment, environmental waste audits, Life Cycle Assessment and other materials accounting techniques.

CVEN9895
Fundamental Knowledge in Environmental Management: Engineering
School of Civil and Environmental Engineering
UOC6 HPW3

Systems approach to defining environmental problems and developing engineering solutions; simplified models of real world processes; introduction to a range of technologies for environmental protection and resource conservation; applications of science principles to engineering; engineering interfaces with science and sociology.

Note: This is a servicing course for MEM students.

CVEN9901
Special Topic in Civil and Environmental Engineering
School of Civil and Environmental Engineering
UOC6 HPW3

This syllabus changes to allow presentation of a special topic of currrent interest particularly by visitors with recognised expertise in the topic.

CVEN9930
Masters Project
School of Civil and Environmental Engineering
UOC12

A minor research investigation involving analysis and interpretation of data, or a critical review and interpretation of literature on a selected topic, or a design project and the presentation of same in a thesis format.

ECON5103
Business Economics
School of Economics
UOC6 HPW3

An introduction to economic analysis and policy, with particular application to decision-making in business. The course provides students with the tools to use economic principles in decision-making and an understanding of the broader economic environment in which business decisions must be made.

ECON5104
International Economics
School of Economics
UOC6 HPW3
Prerequisite or corequisite: ECON5103.

Primarily a theoretical treatment of international trade and finance. This course looks at international trade and finance theory; comparative costs, gains from trade, effects of resource endowments on trade; barriers to trade including tariffs and quotas; strategic trade policy; economic integration; imperfect competition; Australian balance of payments; balance of payments adjustment mechanisms, international and external balance; foreign exchange markets; international monetary system; international monetary system; foreign investment.

ECON5106
Financial Economics
School of Economics
UOC6 HPW3
Prerequisite or Corequisite: ECON5203

This course is concerned with developing the economic principles underlying the pricing of financial assets and the management of financial risk in an uncertain world. The course begins with a discussion of stock market indices, the concept of market efficiency and fixed interest securities. We then study decision making under uncertainty, portfolio theory and the capital asset pricing model. An important part of the course

is concerned with how to price a contingent claim, for example, an insurance policy or a financial option. Many new financial products can be viewed as contingent claims. By applying contingent claims analysis, the arbitrage-free price of a new financial product can be ascertained. We will also consider how to value the capital structure of a firm using contingent claims analysis. The course concludes with a brief discussion of binomial option pricing.

ECON5108
Public Finance
School of Economics
UOC6 HPW3
Prerequisite or corequisite: ECON5103.

Public expenditure and taxation, budgetary policy and federal-state financial relations; partial and general equilibrium analysis of taxation; incidence and resource allocation effects of income taxes, wealth taxes and outlay taxes.

ECON5110
Managerial Economics
School of Economics
UOC6 HPW3
Prerequisite or Corequisite: COMM5002 or enrolment in program 8415.

This course emphasises logic and conceptual modelling - reinforced by real life examples - to highlight the pivotal link between economics and key business concerns such as costs, prices, markets, organisational architecture and government. Using the tools of economics, students learn to weigh the strategic costs and benefits of each business choice. Building on demand and costs concepts, students will learn how the details of stratedic interation and market structure (eg oligopoly, monopolistic competition) determine potential industry earnings and a firm's individual profitability. Students will then identify how firms can maintain their profitability through innovation, firm design, maintaining barriers to entry and product differentation, as well as understanding how firms can benefit from globalisation (eg trade, exchange rates) and government tax and regulatory policies.

ECON5111
Economics of Strategy
School of Economics
UOC6
Prerequisite or Corequisite: ECON5110

This course covers the fundamentals of Game Theory and its applications. Game Theory is a revolutionary way of analysing strategic interactive situations. It is basic to the understanding of market competition among large firms, the designing of incentive contracts, bidding at auctions, bargaining, and other similar problems central to economics and business. This course covers simultaneous and sequential games and their solution concepts, games of imperfect information, repeated games, and a selection of applications and case studies.

ECON5112
Organisational Economics
School of Economics
UOC6 HPW3
Prerequisite or Corequisite: ECON5110

The course draws upon the influential transaction cost literature to examine the existence and boundaries of firms. Representing a firm as the focal point of a set of contracts, the fundamental conflicts that arise within firms are discussed and a coherent economic framework is introduced to analyse the design of organisational architecture. The effect of strategy and business environment on choice of organisational design is explored. Utilizing the recent advances in game theory and information economics, the course provides a toolkit for managers to analyse the key features of organisational architecture - decision-making authority, the reward system, and the performance evaluation system.

ECON5114
Superannuation and Retirement Benefits
School of Economics
UOC6 HPW3
Prerequisite: ECON5103, ECON5203 Excluded: ACTL5002

This course provides a comprehensive analysis of superannuation and retirement benefits, primarily in Australia. Topics include: alternative superannuation arrangements, taxation and regulation of superannuation, risk management and investment strategies for superannuation, design of retirement benefits, the retirement decision, policy developments and controversies and international comparisons.

ECON5121
Topics in Business Economics
School of Economics
UOC6 HPW3
Prerequisite or corequisite: ECON5103.

This course consists of two seven-week modules chosen from a prescribed list. The modules are self-contained and examine important economic issues. Possible module topics include economics of climate change, project analysis.

ECON5123
Economics of E-Business
School of Economics
UOC6 HPW3
Prerequisite or corequisite: ECON5103.

Electronic commerce is radically altering economic activities and the social environment. It affects large sectors of the economy such as communications, finance, retail trade, education, health and government. It affects the way that businesses interact. This course examines the impact of e-commerce, and the way that business should behave strategically in this new environment. The topics covered include, (with case studies), the planning of product lines of information goods, the development of value-maximising pricing strategies, the management of intellectual property rights, the strategic implications of lock-in and switching costs, and strategic choice in relation to government policy and regulation. Implications for international trade patterns and taxation policy are also explored.

ECON5125
Fundamental Knowledge in Environmental Management: Economics
School of Economics
UOC6 HPW3

This course is specially designed for students undertaking the University-wide Master of Environmental Management. It is one of 6 "Fundamental Knowledge" courses which form core courses in the MEM. It is designed for people without a background in Economics. The course provides a basic understanding of economic principles and of the roles of economics in environmental management. The course will also explore the economics of ecologically sustainable development. Microeconomics topics include: markets, supply and demand, pollution, environmental assessment, benefit cost analysis, renewable resources and price incentives for environmental improvements. Macroeconomic topics include: sustainable development and inflation, employment versus the environment, and economic growth, development and the environment. The course will explore and critically examine both market and non-market approaches in the attempt to analyse solutions to major environmental problems.

ECON5153
International Macroeconomics
School of Economics
UOC6 HPW3
Prerequisite: ECON5103

This course considers topics in international macroeconomics, including nominal and real exchange rates, international capital markets and capital mobility, international business cycles, policy coordination and the international monetary system, financial crises and currency unions.

ECON5164
Economic Reasoning
School of Economics
UOC6 HPW3

How do economists reason? How do they know when their theories are useful? This course answers these questions. Within this context it examines the development of economics and the structure of macro and micro theory. After completing this subject, you will be able to apply economics logically to practical problems..

ECON5197
Project Report
School of Economics
UOC12 HPW3

Please contact the school for further information.

ECON5198
Economics Research Seminar
School of Economics
UOC6 HPW3

Students enrolled in ECON5198 are required to present a seminar on their research topic.

ECON5203
Statistics for Business
School of Economics
UOC6 HPW3

The aim of this course is to provide students with an appropriate basic knowledge of statistical tools used in business. Topics will include: descriptive analysis of statistical data, sampling distributions, statistical estimation; hypothesis testing; simple linear regression; introduction to time series analysis; forecasting; index numbers.

ECON5204
Mathematics for Business
School of Economics
UOC6 HPW3

The aim of this course is to provide students with the appropriate mathematical tools for application to applied problems and current research in business. Topics will include: calculus, basic optimisation techniques, mathematics of finance, matrix algebra, introduction to linear programming. This course will emphasise practical aspects of mathematics in business applications.

ECON5206
Financial Econometrics
School of Economics
UOC6 HPW3
Prerequisite or Corequisite: ECON5203

This course is concerned with the application of quantitative methods to the study of financial data. It begins by establishing the key empirical characteristics of financial data. These relate to the shape of the empirical distribution for asset returns. We then turn to an examination of the methods that are used to model these regularities. We begin with the linear regression model and discuss its application to tests of the capital asset pricing model (CAPM), the arbitrage pricing model (APT), and the forward market efficiency. We also discuss the 'spurious regression problem' which arises in financial applications. This leads to a discussion of non-stationary data and how to model long-run relationships among financial time series. We then discuss techniques of modeling time series more generally, particularly in an error correction framework. The main emphasis of the course is on applications. Students will be asked to work through a number of questions with a broad range of financial data sets.

ECON5233
Operations Research
School of Economics
UOC6 HPW3
Prerequisite: ECON5204, ECON5203

Introduces operations research as the systematic application of quantitative methods to the analysis of problems involving decision making in economics and related disciplines. Linear programming, quadratic programming, and dynamic programming with applications to transportation, inventory, portfolio selection and other fields related to economics. In addition, students are required to undertake a case study requiring data collection and analysis.

ECON5248
Business Forecasting
School of Economics
UOC6 HPW3
Prerequisite: ECON5203

This course looks at the use of econometric and statistical techniques relevant to forecasting in a business environment and computer implementation of the methods. Short-term forecasting using time series analysis, long-term forecasting with S-shaped growth curves and trend analysis. The study of applied work is emphasised in this non-specialist course.

ECON5252
Advanced Econometric Theory
School of Economics
UOC6 HPW3
Prerequisite: ECON5251

This course focuses on some theoretical aspects of economic time series and cross-sectional data analysis. Topics for the time series part include: stationary and non-stationary processes; unit root tests; VAR and cointegrated VAR models; cointegration tests; estimation and testing in the presence of unit roots. Topics for the cross-section data part include: fixed effect models; random effect models, unbalanced panels; dynamic models and estimation in the presence of autocorrelation; heteroscedasticity and unit roots.

ECON5254
Econometric Theory
School of Economics
UOC6 HPW3
Prerequisite: ECON5207

A coherent theoretical development of multiple regression analysis: Restricted least squares and tests of exact linear restrictions on parameters; theoretical aspects of problems with data; basic approaches to econometric specification in nested and non-nested models; error auto correlation and heteroskedasticity.

ECON5257
Introductory Statistics and Data Analysis
School of Economics
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8409

The aim of this course is to provide students with an introduction to basic statistical tools and quantitative methods that are useful in understanding the type of data encountered in business. Importantly, it will provide a framework for approaching economics and business problems, and experience in learning from associated data. Topics covered include: understanding data, examining relationships, randomness and sampling distributions, introduction to inference, and probability. The course also aims to provide familiarity with the use of computer spreadsheet software for data analysis and problem solving.

ECON5298
Econometrics Research Seminar
School of Economics
UOC6 HPW3

Students enrolled in ECON5298 are required to present a seminar on their research topic.

ECON5299
Project Report
School of Economics
UOC12 HPW6

Please contact the school for further information.

ECON6001
Microeconomic Analysis
School of Economics
UOC6 HPW3
Prerequisite: Enrolment in program 8412 or approval of Head of School of Economics

Consumer theory: utility maximisation, duality, household production theory, revealed preference, measuring welfare changes, choice under uncertainty. Production theory: profit maximisation, cost minimisation, factor demands. Market structure: competition, monopoly, oligopoly, monopolistic competition. Markets in general equilibrium: competition, the two-sector model, welfare economics.

ECON6002
Macroeconomic Analysis
School of Economics
UOC6 HPW3
Prerequisite: Enrolment in program 8412 or approval of Head of School of Economics

Advanced analysis of macroeconomic issues. Topics include: the structure of macroeconomic models, growth theory and capital accumulation, the structure of short run classical and Keynesian models, equilibrium and disequilibrium models of the business cycle, open economy models, fiscal policy and deficits, monetary policy and stabilisation theory.

ECON6003
Econometric Analysis
School of Economics
UOC6 HPW3
Prerequisite: Enrolment in program 8412 or approval of Head of School of Economics

The simple and multivariate regression models with economic applications emphasising practical aspects of model building. Extensions of multiple regression models when the classical assumptions break down. Introduction to simultaneous equation models. Quantitative studies of applied econometric themes such as consumption, demand, investment and production.

ECON6004
Mathematical Economics
School of Economics
UOC6 HPW3
Prerequisite: Enrolment in program 8412 or approval of Head of School of Economics

This course gives students a working knowledge of static and dynamic optimisation techniques applied in economics. Topics include classical optimisation, comparative statics, non-linear programming, differential equations and optimal control.

All techniques introduced are illustrated with mainstream applications such as consumer theory and the neo-classical theory of optimal growth.

ECON6101
Advanced Microeconomic Analysis
School of Economics
UOC6 HPW3
Prerequisite: ECON6001

Advanced topics in microeconomics. These may include: existence and uniqueness of competitive equilibrium, the welfare theorems, incomplete markets, games with complete information, games with incomplete information, market equilibria with asymmetric information (adverse selection and moral hazard), principal-agent models and mechanism design.

ECON6102
Advanced Macroeconomic Analysis
School of Economics
UOC6 HPW3
Prerequisite: ECON6002

Consumption and investment theories including models of optimisation, overlapping generation models with money, real business cycle models, equilibrium asset pricing, multiplicity of equilibrium and bubbles. Recent topics in contracting and market imperfections and the role of policy.

ECON6201
Advanced Econometric Theory
School of Economics
UOC6 HPW3
Prerequisite: ECON6003

This course focuses on some theoretical aspects of economic time series and cross-sectional data analysis. Topics for the time series part include: stationary and non-stationary processes; unit root tests; VAR and cointegrated VAR models; cointegration tests; estimation and testing in the presence of unit roots. Topics for the cross-section data part include: fixed effect models; random effect models, unbalanced panels; dynamic models and estimation in the presence of autocorrelation and heteroscedasticity.

ECON6202
Computational Statistics and Econometric Modelling
School of Economics
UOC6 HPW3
Prerequisite: ECON6003

Statistical and econometric modelling enhances our understanding of the behaviour of individuals, firms and other economic agents. This may simply involve the quantification of relationships between important driving forces within the economy but more fundamentally statistical and econometric models can provide evidence that will help discriminate between alternative views of how economic agents behave. Over the last 20 years computing power has increased dramatically and led to the development of statistical and econometric methods that utilize this power to more directly model behavioural relationships. The purpose of this course is to introduce computationally intensive statistical and econometric methods to carry out inference - estimation, hypothesis testing, confidence intervals and prediction - for complex models used in the Social Sciences. The course will provide an introduction to Bayesian inference using Markov Chain Monte Carlo simulation, simulated methods of moments estimation, and bootstrap methods. Examples and case studies of the applications of the methodology will also be provided. Actual applications will be drawn from economics, finance and marketing, but similar methods can be applied to statistical problems in the physical sciences and engineering.

ECON6203
Applied Econometrics
School of Economics
UOC6 HPW3
Prerequisite: ECON6003

This course considers alternative analytical approaches to applied econometric work. Various empirical problems are considered and the relative merits of available solutions are assessed. Specific attention is given to diagnostic testing in an LM framework, dynamic specification, influential data and non-stationarity. Practical experience is gained through replicating and extending published applied studies.

ECON6301
Strategic Market Behaviour and Government Regulation
School of Economics
UOC6 HPW3
Prerequisite or corequisite: ECON6001

Topics covered will be from amongst the following. Theory of the firm, production costs, monopoly, dominant and fringe firms, cartels, oligopoly and monopolistic competition, differentiated products, regulation, advertising, horizontal and vertical integration, strategic behaviour by firms, and R & D. Both theoretical and empirical results will be covered in the course.

ECON6302
International Trade
School of Economics
UOC6 HPW3
Prerequisite or corequisite: ECON6001

The theory and practice of international trade. The course will emphasise both traditional neo-classical trade theory as well as the more modern strategic trade theory. The principles and predictions of these theories will be used to consider the recent developments in Australian trading relations and international trading relations in general.

ECON6303
Economics of Labour Markets
School of Economics
UOC6 HPW3
Prerequisite or corequisite: ECON6001

Traditional models of labour supply; participation and hours of work, immigration. Provision of training and skills, human capital theory. The theory of screening, specific and general skills models. Demand for labour, marginal productivity theory, labour hoarding, quit rates and turnover. Internal labour markets. The theory of wage differentials and the structure of earnings. Labour market segmentation. Trade unions and theories of bargaining.

ECON6304
Business Cycles and Growth
School of Economics
UOC6 HPW3
Prerequisite or Corequisite: ECON6002

This course combines modern economic theory and quantitative techniques to examine theories of business cycles and economic growth. Measurement of business cycles, theories of real and nominal sources of business cycle fluctuations, endogenous growth theories, and cross-country growth analysis will be considered.

ECON6305
Economics of Natural Resources
School of Economics
UOC6 HPW3
Prerequisite: ECON6001

An introduction to the exploitation of natural resource systems within an economic framework, particularly forestry, fisheries, water, oil and other minerals. Policies required to ensure improved management without exploitation of these renewable and non-renewable resources under different property rights regimes.

ECON6306
Environmental Economics
School of Economics
UOC6 HPW3
Prerequisite: ECON6001 and ECON6002

This course considers the main elements of environmental economics and cost benefit analysis as it relates to the assessment of environmental issues. Topics include: pollution and pollution policy; environmental cost-benefit analysis and economic methods for measuring costs and benefits; species extinction and irreversibility; environmental ethics and discounting; the environment and developing countries; and the sustainable economy.

ECON6307
The Economics of Health and Medical Care
School of Economics
UOC6 HPW3
Prerequisite or corequisite: ECON6001

The course provides an economic approach to the analysis of health and medical care markets. Topics covered include the production of health, the production and consumption of medical care, the relationship between health and wealth, the health workforce and the training of health professionals, social insurance and the organisation of health insurance markets. Throughout the course reference is made to current government health policy.

ECON 6308
Policy Evaluation Methods
School of Economics
UOC6
Prerequisite: ECON6003

The aim of this course is to learn the tools used in practice to determine whether programs and policies are achieving their objectives. The course will critically discuss the various techniques and indicate their strengths and weaknesses. Several modern methods of cost benefit analysis will be reviewed such as natural experiments, social experiments, choice experiments and discrete choice experiments. The course will examine policies and programs in a broad range of areas including labour markets, health care, social welfare and poverty. Other areas may be discussed as well such as criminal justice, the environment, education, and development.

ECON6350
Special Topics in Economics
School of Economics
UOC6 HPW3
Prerequisite or Corequisite: ECON6001, ECON6002, ECON6003 and ECON6004

This course provides a comprehensive and indepth treatment of a topic at the forefront of contemporary research in economics. Potential topics include auction theory, personnel economics, real business cycle theory and semiparametric econometrics.

ECON7105
Business Economics (International)
School of Economics
UOC6

Note: Only offered to students in the International Professional Accounting Program Beijing ACCTES8405.

ECON7203
Statistics for Business (International)
School of Economics
UOC6

Note: Only offered to students in the International Professional Accounting Program Beijing ACCTES8405.

ECON8105
Business Economics (International)
School of Economics
UOC6

Note: Only offered to students in the International Professional Accounting Program Guangzhou ACCTES8403.

ECON8203
Statistics for Business (International)
School of Economics
UOC6

Note: Only offered to students in the International Professional Accounting Program Guangzhou ACCTES8403.

EDST5015
Modes of Thought and Their Instructional Implications
School of Education
UOC12 HPW4

Cognition and instruction. The manner in which instructional material is designed and taught can be guided usefully by cognitive theory. Current findings based on schema theory and cognitive load theory suggest that many commonly used instructional techniques are ineffective. The same theories and findings provide alternatives structured to facilitate learning, thinking and problem solving. Procedures for designing instruction that accords with our mental processes, and research techniques to test the effectiveness of novel instructional methods are central issues that are discussed.

Note: This course is available only to EdD students.

EDST5031
Research Methods 1
School of Education
UOC6 HPW2

A compulsory program of study prescribed to meet individual needs which takes account of the student's background in research methods.

Note: This course is only available to EdD students.

EDST5032
Research Methods 2
School of Education
UOC6 HPW2

Continuation of the program prescribed in EDST5031 which is finalised after discussion with the student's supervisor.

Note: This course is only available to EdD students.

EDST5101
Introduction to Design and Analysis
School of Education
UOC8 HPW2
Excluded: EDST2101, EDST3101

Focuses on concepts and applications. Chacteristics of sets of scores; descriptive statistics. Sampling, estimation, inference. Probability and its estimation. Sampling distributions. The unit normal distribution. Analysis of data from 'two-sample experiments': Student's t-test, the Mann-Whitney U test, Wilcoxon's matched-pairs signed-ranks test. Contingency tables. Correlation and its estimation: Pearson, Spearman and Goodman indices. Chi-squared test of independence. Introduction to the analysis of 'variance'. Simple regression analysis. Use of computer package programs.

EDST5103
Multivariate Design and Analysis
School of Education
UOC8 HPW2
Prerequisite: EDST5101; Excluded: EDST2103, EDST3103.

Explores issues of research design in considerable depth and focuses on more advanced statistical applications. General linear models and nonlinear relationships. The extraction and rotation of common factors by graphical and analytic means. Factor analysis as a tool in the construction of educational and psychological inventories. Structural equation modelling. The extension of factorial analysis of variance designs to include many dependent variables. Application of factor analysis and multivariate analysis of variance to educational research problems. Meta analysis, computer analysis of qualitative data. Use of computer package programs.

EDST5120
Qualitative Research Methodology
School of Education
UOC8 HPW2

Focuses on the examination of the different types of qualitative method in educational research. Various aspects of investigation are treated: ethnographic methods, interview techniques, formation of questionnaires, data collection (and what to do with it), processes of inquiry and ways of communication (multi-media). Emphasises the construction of text, written, verbal and non-verbal (art, music), discourse and content analysis, the types of discourse formation and the relationship between information and theory.

EDST5201
Philosophical Issues in Education
School of Education
UOC8 HPW2
Excluded: EDST2201, EDST3201

Philosophical views underlying educational practices and debates. Examines topics such as aims in education, the ideal of an educated person, neutrality and indoctrination in teaching, authority relations in schooling, curriculum construction, intelligence testing, learning and understanding, and other topics, in order to develop philosophical competence and knowledge. The work of one educational theorist is examined.

EDST5204
History and Philosophy in Science Education
School of Education
UOC8 HPW2
Excluded: EDST2204, EDST3204

Examines some central philosophical questions raised by the Scientific Revolution - the role of authority in science, the place of mathematics in science, the relation of sensory evidence to theory, the place of metaphysics in science, the construction and interpretation of experiments and how these can bear upon school history and science courses. Examines the extent to which individual learning recapitulates the history of science.

EDST5303
Human Cognitive Architecture
School of Education
UOC8 HPW2
Excluded: EDST2303, EDST3303

How cognitive structures are organised into a coherent architecture and how that architecture allows human beings to learn, think, reason and solve problems. The major concepts methods, and research findings which have been produced over the last half century, along with relevant applications.

EDST5306
Child Growth and Development
School of Education
UOC8 HPW2
Excluded: EDST2306, EDST3306

An examination of the principles of child development and how these principles interact with the educational process, including a study of individual differences and the manner in which these differences relate to education. Analysis of learning and how learning principles can be translated into educational practice is also discussed.

EDST5307
Mental Processes and Instructional Procedures
School of Education
UOC8 HPW2
Excluded: EDST2307, EDST3307

Factors which affect learning and problem solving. Cognitive theories that can guide us in designing instruction. How to format instruction so that it accords with students' mental processes. Techniques designed to hasten the development of problem solving expertise.

EDST5314
Stress Management Research and Practice in the Workplace
School of Education
UOC8 HPW2

Emphasises multifaceted approaches to stress management research and practice. Evaluation of various stress management procedures. Includes cognitive, behavioural and transactional models. Discusses applications in different social settings and developmental stages. Examines the role of the educator/manager as a helper, and also global and specific prevention programmes, crisis management, and recent developments in dealing with different types of anxiety and tension. A kit of readings will be provided.

EDST5320
Individual Differences and Education
School of Education
UOC8 HPW2
Excluded: EDST2320, EDST3320

Examines ability and personality differences and their effects in school, university and workplace training educational settings. Examines general intelligence, specific abilities, cognitive and learning styles, creativity, and such personality traits as extraversion and anxiety level. Examines theories of intelligence. Looks at advantages and disadvantages of ways in which educational institutions deal with individual differences.

EDST5321
Motivation in Educational Settings
School of Education
UOC8 HPW2
Excluded: EDST2321, EDST3321

Looks at the importance of motivation in school, university and workplace training educational settings and various problems and issues surrounding it. Cultural and ethological reasons why motivation is such a problem in education today. Examines theories of motivation, ethological and psychological approaches to its study, the range of motives people have and how they interact, achievement motivation and motivational consequences of self-perceptions of ability. Looks at practical applications. Also examines common motivational enhancement systems used in various institutions and their applications in educational settings.

EDST5323
Psycholinguistics
School of Education
UOC8 HPW2

Examines current psycholinguistic research into how language is represented, processed, acquired, and sometimes lost. Considers the relevance of psycholinguistic findings for the teaching and learning of language and literacy (in English and other languages), and for language revitalisation.

EDST5324
Research in Technology and Language Skills
School of Education
UOC8 HPW2

Introduces students to current research in the use of technology (e.g., computer audio, video, speech recognition, text-to-speech, internet, messaging) in developing language proficiency (speaking, listening, reading and writing skills) and electronic literacy (online communication, critical evaluation of information). Examines the design, findings, and direction of research in this area which is relevant to teaching English, English as a second language, and foreign languages.

EDST5432
Administrative and Organisational Behaviour in Education
School of Education
UOC8 HPW2
Excluded: EDST4102, EDST4302

Deals with the contexts, roles and functions of management in educational institutions: team work, decision-making, communication, planning and policy-making, human resource management, staff motivation and satisfaction, exercising power/authority/influence, structuring and organising, problem solving, quality assurance and total quality management, managing learning and teaching, and managing physical resources. Study of research into these issues in educational settings.

Note: This course may be undertaken as part of the Master of Educational Administration program.

EDST5433
Organisation Theory in Education
School of Education
UOC8 HPW2
Excluded: EDST4103, EDST4303

The application of organisation theory to educational administration. Scientific management theory, bureaucracy and professional educators, human relations, open systems theory. Contemporary critiques of conventional theories of educational organisations. Educational goals, organisational culture, educational technology, the educational environment, interorganisational linkages, organisational effectiveness. Alternative theories of educational organisation.

Note: This course is a core component of the Master of Educational Administration program.

EDST5436
Development and Evaluation of Educational Programs
School of Education
UOC8 HPW2
Excluded: EDST4206, EDST4306

Explores contemporary theory and practice in the evaluation of educational programs. Introduces students to the relationships between program development and evaluation by providing a conceptual overview of evaluation theory and examination of the practical processes involved in the evaluation of educational programs.

Note: This course may be taken as an elective in the Master of Educational Administration program.

EDST5438
Leadership Theory, Research & Practice
School of Education
UOC8 HPW2
Excluded: EDST4208, EDST4308

Develops students' understanding of leadership theories, current research and practice. Considers the major approaches to leadership such as trait, behaviour, contingency and transformational leadership theory. Also considers current research and practice in the context of education.

Note: This course may be taken as an elective in the Master of Educational Administration program.

EDST5445
Supervised Fieldwork in Educational Administration
School of Education
UOC8 HPW2
Excluded: EDST4215, EDST4315

On-the-job administrative training for a specified period under the joint supervision of a practising educational administrator and the Coordinator of the Master of Educational Administration course. Available to students by individual arrangement; placements depend on the needs and interests of students and on availability of suitable locations. Intended to give the student experience in a new administrative context. Written report required on completion.

Note: Students must contact the MEdAdmin Coordinator before enrolment.

EDST5450
Work Motivation in Educational and Training Organisations
School of Education
UOC8 HPW2
Excluded: EDST4220, EDST4320

Critically examines various models, including those based upon the needs hierarchy, goal, two-factor, congruence and expectancy theories. Analysis of empirical studies, which investigate the relationships of job satisfaction with other variables such as stress, communication, role conflict, role ambiguity, participative decision-making and organisational commitment. Considers teachers' and trainers' job characteristics, their relationship with job satisfaction and job redesign.

EDST5451
Politics of Education
School of Education
UOC8 HPW2

Offers deep insights into the political nature of our educational institutions. The implications of this research are of great benefit to educational administrators as well as students of educational management and organisations. Explores the relationship between theory and practice with direct reference to the political nature of policy making and policy implementation. Critically reviews the ideological implications of the power of political play in education policy and draws upon the work of theorists who have examined the relationship between knowledge and power.

Note: This course may be taken as an elective in the Master of Educational Administration program.

EDST5607
Research on the Learning and Teaching of Mathematics
School of Education
UOC8 HPW2
Excluded: EDST2607, EDST3607

A study of recent and current research in Mathematics Education, including problems in the areas of arithmetic, algebra, geometry, representation, computers and mathematics learning, teaching and the training of teachers. Emphasis is placed on experimental designs and methodologies as well as on findings and underpinning resulting theory. Encouragement for students to engage in research of their own.

EDST5608
Effective Teaching and Effective Schools
School of Education
UOC8 HPW2

Focuses on the literature and research into effective teachers and schools. Examines the educational outcomes used to measure effective teachers and schools. Analyses the methods used to identify effective teachers including public examination data. Examines the qualities associated with effective teachers and how these attributes are developed. Explores the classroom techniques employed by effective teachers across the disciplines and the relationship between effective schools and effective teachers. Examines the various national and international government policies to foster a climate of quality teaching and effective schools.

EDST5800
Current Issues in the Education of Intellectually Gifted Children
School of Education
UOC8 HPW2
Excluded: EDST2800, EDST3880

Focuses on Australian and international attitudes to the education of children of high intellectual potential. Explores the concept of giftedness from an analysis of its historical and cultural roots to an examination of the current focus on domains and levels of giftedness. Evaluates a range of techniques for identifying giftedness and talent in primary and secondary students, including those from minority and disadvantaged groups. Explores research on the academic, social and emotional needs of gifted children and investigates teaching strategies and school organisational structures which assist or impede the full development of high potential.

EDST5801
EdD Project
School of Education
UOC12
Prerequisite: EDST5800

Individual program of study on a topic approved by the Head of School with appropriate consultation and supervision.

EDST5803
Developing and Evaluating Programs for Intellectually Gifted Children
School of Education
UOC8 HPW2
Prerequisite: EDST5800; Excluded: EDST2803, EDST3803

Focuses on current research on the components of appropriate program development for gifted and talented children. Critical evaluation of program models currently used in Australia and internationally. Students are required to conduct needs analyses, develop and design programs appropriate for gifted students within the education system of NSW. Examines research on the effectiveness of enrichment, acceleration and various forms of ability, achievement and interest grouping with particular attention to the effects of these strategies on the students' academic and social development.

EDST5806
Catering for the Affective Needs of Intellectually Gifted Children
School of Education
UOC8 HPW2
Prerequisite: EDST5800; Excluded: EDST2806, EDST3806.

Examines the research dealing with the many dimensions of appropriate affective curriculum design for intellectually gifted students. Concentrates on the development and monitoring of affective competencies, as they complement the attainment of cognitive competencies. Focuses on the research dealing with strategies and counselling interventions which can be provided by teachers trained and experienced in guidance procedures, the role of the school counsellor and current research on the vital role of parents in this context.

EDST5888
Project
School of Education
UOC8 HPW2
Excluded: EDST3888

Individual research on a topic approved by the Head of School with appropriate consultation and supervision. Intended to prepare students for further research at doctoral level.

Note: Project topic and supervisor must be registered with the Administrative Officer.

ELEC8350
Optical Fibres (Distance Learning)
School of Electrical Engineering and Telecommunications
UOC6
Excluded: TELE4313 AND ELEC9350

Wave propagation in optical fibres. Gaussian approximation of fields in single-mode fibre, spot-size, equivalent step index fibre. Material, waveguide and intermodal dispersion. Polarisation and birefringent fibres. Ray theory, in multimode fibre. Optical fibre measurement and characterisation. Launching efficiencies in fibres. Fibre-based devices. Nonlinear and anisotropic effects.

ELEC8355
Optical Communication Systems
School of Electrical Engineering and Telecommunications
UOC6

Active optical devices: optical sources and detectors. Optical modulation techniques. Optical amplification and fibre amplifier. Optical transmitter and receiver analysis and design. Launching efficiency Fibre splicing and connection. Fibre measurement and sensing. Optical fibre cables. Digital optical communication systems. Analogue optical communication system. Optical and Wavelength Division Multiplex. Passive optical components. Optical nonlinearities. Optical fibre local area networks.

ELEC8505
Microsystems Technology
School of Electrical Engineering and Telecommunications
UOC6
Excluded: ELEC9505

Interdisciplinary overview of MST (MicroElectroMechanical Systems - MEMS). Transducer definition: Sensors and Actuators. Micromachining techniques including silicon bulk micromachining, silicon surface micromachining, stiction problems, bonding processes, LIGA technique, micromachined mould template and electroplating, sealed cavity formation, stereolithography, chemical mechanical polishing for planarisation, electric discharge micromachining, laser micromachining, focused ion beam micromachining. Properties of materials for micromachining. Mechanical transducers. Optical transducers.Thermal transducers. Magnetic transducers. Chemical and biological transducers. Microfluidic devices. Circuit interfaces to transducers. System considerations. Case studies. Technology trends.

ELEC9201
Electricity Industry Planning and Economics
School of Electrical Engineering and Telecommunications
UOC6 HPW3

The nature of the electricity & gas industries; climate change and the electricity industry; objectives & options for restructuring; insights from electricity pricing theory; wholesale electricity market design; Australia's restructured electricity industry; National Electricity Market design & performance; the role of electricity networks in a restructured electricity industry including market representation, network pricing and network regulation; ancillary services; design & implementation of retail electricity markets; electricity industry regulation.

ELEC9202
Power System Operation and Control
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Induction to the evolving electricity industry drivers of restructuring, technological developments and environmental concerns, and their impact on power system operation. Conventional approaches and tools for economic dispatch, unit commitment, hydroscheduling, production costing, reliability measures and operations planning in traditional industry structures. Power system operation within restructured electricity industries-wholesale spot electricity markets, bilateral trading, forward markets and full retail competition. Operation of power systems with renewable energy resources.

ELEC9213
Electrical Energy Systems
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: ELEC4205

Review of the basic concepts used in power system analysis: phasors, complex power, three phase systems and per-unit methodology. Modelling of power system components, including transformers and synchronous machines. Aspects of power system operation, including power flow, reactive power control and fault analysis. Harmonics and their effects. Choice and use of protective equipment, including fuses, circuit breakers, relays and surge arresters. Equipment rating for operation in steady state and cyclic modes. Overvoltages and their effect in power systems. Insulation system design and practical limitations. Insulation coordination. High voltage equipment testing methods and their use in insulation condition monitoring of electrical energy systems. Quality of supply.

ELEC9214
Power Systems Equipment
School of Electrical Engineering and Telecommunications
UOC6 HPW3

A detailed coverage of the common features of major items of power delivery equipment, including analysis of the field properties and its use in determining insulation design, magnetic circuit design and analysis, thermal design and operation of equipment and the design of both static and dynamic contact systems for equipment.

Detailed coverage of the design and operation of specific items of equipment including: Transformers (power and instrument), switchgear, protection systems, cables, overhead lines, surge arresters, earthing systems and condition monitoring and testing.

ELEC9225
Special Topic in Power
School of Electrical Engineering and Telecommunications
UOC6 HPW3

This course has no fixed format. The content changes to allow presentation of a special topic of current interest in a short course format.

ELEC9226
Electrical Services in Building
School of Electrical Engineering and Telecommunications
UOC6 HPW3

The course coverage will include the following aspects of commercial and industrial electrical systems. Regulatory aspects, switchboard design and operation, (HC and LV) cabling systems, earthing, electrical safety issues including personnel protection and fire protection, protection of electrical systems (including both overcurrent and surge protection), lightning protection, electrical lighting systems. Equipment operation and energy efficiency will also be covered, together with condition monitoring aspects of major plant. Transformers and switchgear operation and monitoring. Power quality and the effect of voltage and current Larmonics. Power frequency magnetic fields and their impact in building and industrial sites.

ELEC9231
Electrical Drive Systems
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: ELEC4216

Electrical drive systems. Elements of drive systems and their requirements for servo and industrial drive applications. Drive representation, quadrant operation, dynamic and regenerative braking. Transfer function representations of dc motor and converter and drive performance analysis. Performance analysis of induction motor drives with variable voltage, voltage source, current source and variable frequency supply. Performance analysis of synchronous and reluctance motors with variable frequency supply. Transducers in electric drive systems. The analysis of asymmetrically connected induction motors. Unified machine theory. Computer aided design and analysis.

ELEC9232
Motion Control Systems
School of Electrical Engineering and Telecommunications
UOC6 HPW3

This course contents the review of elementary mechanics; Force and torque balance, Characteristics of motion elements; Parameter measurement; Elements of a Motion Control System; System requirements; Position, velocity and torque/acceleration controls; Sensors in Motion Control: Position, velocity and acceleration sensors; voltage and current sensors; Force and torque sensors; Motion Actuators: Analysis of the dynamics of induction, brushless dc and synchronous machines. Scalar VS vector control, parameter sensitivity and identification. Stepping and switched reluctance motors, static and dynamic characteristics, Piezoelectric motors; Motion systems modeling; machine, converter and controller modeling; Motion Control System Design: Stability; hierarchical design techniques, Error analysis and elimination; Disturbance rejection.

ELEC9233
Electrical Safety
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Effects of electric current passing through the human body; factors normally providing protection from electric shock; lightning hazards; earthing of power supplies; earthing of electrical enclosures; the need for bonding; protection of personnel: RCDs, effects of electric and magnetic fields and electromagnetic radiation; electrosurgical hazards; electrical fires and their investigation; electrical discharges; electrical safety and the law; hazardous areas and their classification; gas grouping; temperature classification; Exd, Exi, Exe, Exn, Exp, Exs methods of protection; dust ignition proof; cabling and terminations for hazardous atmospheres; certification, marking, quality control and maintenance requirements for hazardous atmospheres.

ELEC9240
Power Electronics
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: ELEC4240.

Modern power semiconductor devices eg, diodes, thyristors, MOSFETs, and other insulated gate devices such as the IGBT, MCT and the FCT. Static and switching characteristics, gate drive and protection techniques. Various DC-DC, AC-DC, DC-AC and AC-AC converter circuit topologies, their characteristics and control techniques. Application considerations for remote and uniterruptible power supplies, and for computer systems, telecommunications, automobiles, traction and other industrial processes. Utility interaction, harmonic distortion, and power factor. EMI and EMC considerations.

ELEC9340
Electronic Communication Systems
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Review of signal, spectra and modulation techniques. Electronic building blocks for modulation and demoduation. Analog/digital AM modulation and demodulation. Phase lock loop design analysis and techniques for modulation and demodulation. Design of VCO, phase detectors, mixers etc. FM modulation and demodulation. S/N performance of AM and FM systems. Noise. Design of LNA. RF amplifiers.

ELEC9342
Digital Signal Processing and Applications
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: ELEC4042

Processing of analogue and digital signals, design of digital filters and their realisation, filter stability, frequency and phase responses, finite word length effects in digital filters. Comb filters, adaptive filters. Autocorrelation and crosscorrelation. Convolution and deconvolution. Multi-rate signal processing, Decimation and interpolation. Time - frequency analysis. Wavelets. . Applications include: tone detection, noise reduction, pitch estimation, speech compression and auditory modeling.

ELEC9344
Speech and Audio Processing
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Fundamentals of speech production, speech analysis: pitch and period extraction, formant estimation, voiced - unvoiced decision. Non-linear smoothing. Linear prediction. Inverse filtering. Implementation of speech/speaker recognition systems. Auditory modelling, auditory masking. Audio signal processing. Speech and audio compression. Compression standards. Speech enhancement.

ELEC9350
Optical Fibres
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: TELE4313, ELEC8350

Wave propagation in optical fibres. Gaussian approximation of fields in single-mode fibre, spot-size, equivalent step index fibres. Material, waveguide and intermodal dispersion. Polarisation and birefringent fibres. Ray theory, in multimode fibre. Optical fibre measurement and characterisation. Launching efficiencies in fibres. Fibre-based devices. Nonlinear and anisotropic effects.

ELEC9353
Microwave Circuits: Theory & Techniques
School of Electrical Engineering and Telecommunications
UOC6 HPW3

The general flow of the course is Applications, Systems, Components. Applications of microwaves: (terrestrial and satellite communications, radar, remote sensing, wireless). System requirements for elements are to be analysed. Propagation modes (TEM, TE, TM, quasi-TEM), attenuation, dispersion, S-parameters are parts of general fundamentals. Analysis of circuit components and MIC are to be introduced.

ELEC9355
Optical Communications Systems
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: ELEC8355 and TELE4314

Review of Single Mode and Multimode Optical Fibre Theory; Source to Fibre Coupling;

Optical Fibre Lasers and Amplifiers; Wavelength Division Multiplexing; Other Multiplexing Systems Photonic Components; Analog Optical Communication Systems; Digital Optical Communication Systems; Signal to Noise Ratio in Optical Communication systems; Optical Networks; Optical sources and detectors; Optical Fibre Cables; Nonlinear Optical Effects in Optical Fibres; Current Topics of Optical Communications.

ELEC9370
Digital Image Processing Systems
School of Electrical Engineering and Telecommunications
UOC6 HPW3

The fundamentals of digital image processing with topics selected from the following: image models and physical imaging systems; visual perception; rendering systems; linear filtering; linear transforms; mathematical morphology; compression; tomographic image reconstruction; inverse problems in imaging; image enhancement; edge detection; feature extraction; and geometric diffusion.

ELEC9403
Real Time Computing and Control
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Examines the implementation of modern control techniques and associated instrumentation using distributed computers. Practical hardware aspects, including measurement and actuation, data conditioning, acquisition and transmission, microprocessor devices, and other distributed computing components. Commercial realisations ranging from PLCs to full process control computing systems. Software: executive operating systems, concurrency, control algorithms, numerical problems, languages and development tools in the real-time context. Design of the man-machine interface using interactive computer display systems. The role of simulation and other CAD tools. Steps of engineering development from concept to commissioning. The viewpoint of industrial design is maintained throughout.

ELEC9405
Human Movement Control Topics
School of Electrical Engineering and Telecommunications
UOC6 HPW3

We will explore, from a control-engineering point of view, the structure and function of neural circuits responsible for controlling several hundred functional muscles and coordinating the impedances, forces and displacements of some 110 elemental movements of the human body. The muscles, biomechanical and external systems controlled by the brain can be modelled as multivariable, redundant, varying, potentially unstable, nonlinear dynamical processes. The nervous system displays an impressive ability to stabilise and control this complex system. Clearly, solutions have evolved to problems of control which are only just being recognised in control engineering. To achieve such versatility the brain functions as a family of self-organising, adaptive, optimal, feedforward-feedback controllers and can switch smoothly from one controller to another depending on the task. We will study, with neuroanatomical and neurophysiological detail, the neural circuits and signal processing algorithms that might underlie the development of human movement control systems, from conception to the mature nervous system.

ELEC9411
Introductory Physiology for Engineers
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: ELEC3402

An introduction to biophysics and physiology for Engineers. Cells, tissues and organ systems with emphasis on their functional and regulatory

characteristics and their interaction. An introduction to computer models of physiological control systems demonstrating their value in understanding the dynamics of complex neural, hormonal and circulatory responses to changes in homeostasis.

ELEC9412
Biomedical Instrumentation and Informatics
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: ELEC4483.

Design and development of biomedical instrumentation for clinical measurement and biomedical research. Hardware and software design issues required to produce instruments which satisfy Australian and International standards for safety, performance and quality control. Tutorials and laboratories will be closely integrated so that design and analysis carried in tutorial sessions will be followed by testing and development in the laboratory sessions. A design project and/or case study will also be required as part of this course.

ELEC9421
Robust and Linear Control Systems
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Rationale for the study of linear methods. Continuous and discrete LTI systems (tf,zpk and ss), discrete-time approximations. Controllability, canonical forms, pole placement (state feedback design). Observability. Lyapunov stability applied to linear systems. Basic robustness (SISO), sensitivity and complementary sensitivity, classical loop shaping, SISO dynamic controller design using polynomial methods. Robustness (MIMO), singular value decomposition, loop shaping analysis and loop shaping (state feedback). Basic least squares theory as basis for LQR and LQE. The optimal linear regulator, discrete and continuous. Kalman filter and predictor (discrete, continuous). Advanced loop shaping, LTR (continuous time). Advanced robustness, disturbance rejection, H-infinity. Decoupled MIMO controller design. Recursive least squares identification.

ELEC9422
Analysis and Design of Nonlinear Controls
School of Electrical Engineering and Telecommunications
UOC6 HPW3

The course is taught in two halves. The first half covers basic nonlinear control, design and analysis. The second half is devoted to robotic applications. The nonlinear control will cover topics drawn from analysis and design. Analysis includes: general state description of nonlinear systems, linearisation techniques, Lyapunov stability, constrained linear systems, constrained optimisation, multimode control. Design includes: actuator saturation, linearisation and gain scheduling, feedforward control, interactions and LQG control, sliding mode control, adaptive control. The above will be developed with illustrative simulation studies and CAD, and both physical modelling and systems identification will be covered. The robotics material will cover topics drawn from: manipulator kinematics and dynamics, velocity propagation and Jacobians, linear and nonlinear control of manipulators.

ELEC9450
Engineering Finance: From Random Processes to Derivative Pricing
School of Electrical Engineering and Telecommunications
UOC6 HPW3

The course aims to provide a grounding in random processes leading to a solid but understandable treatment of derivative pricing and the mathematics behind it; but all done from an 'engineering' point of view. Spreadsheet and matlab software will be used for illustration and exercises. It is expected there will be guest lectures from experts. The course is in three parts. (1) Random Process background: including topics such as Markov processes, Kolmogorov forward and backward equations, Brownian motion; simulation studies will be used to assist the theoretical material. (2) Elementary Finance Background: including topics such as futures, options, swaps, futures pricing and arbitrage methods. (3) Derivative Pricing: including topics such as binomial tree-based option pricing; Ito calculus and risk neutral pricing; pricing of European and American options; and a selection from pricing of stock indices, currency exchange instruments, interest rate instruments.

ELEC9501
Advanced Semiconductor Devices
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Overview of the current status of VLSI chip technology and its limits, including Moore's Laws. The principles of semiconductor band-gap engineering and the use of advanced heterostructure materials such as GaAs and SiGe. Applications of band-gap engineering in devices such as high-electron mobility transistors (HEMTs), resonant tunneling diodes (RTDs) and semiconductor lasers. Future trends using quantum principles, such as quantum wire devices, single electron transistors (SETs) and quantum computers. Semiconductor nanofabrication technologies for advanced devices.

ELEC9502
VLSI Technology
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Introduction to silicon VLSI technology. Future trends in VLSI technology. Technology limitations. Basic technology modules include: crystal growth and wafer preparation; mask generation techniques; lithography; diffusion process; ion implantation; oxidation; etching techniques - wet etching and plasma etching; thin film deposition - epitaxial growth, chemical vapor deposition techniques, metallisation; clean room technology; Advanced process integration for CMOS, BiCMOS and Bipolar fabrication; Failure analysis techniques.

ELEC9503
Microelectronics Design
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Properties and modelling of BJT and MOS devices and circuit components, SPICE circuit simulation, Layout rules, Basic analog building blocks, 2 stage op-amps, DRAM design, Yield, Reliability, Low power low voltage designs, Subthreshold design, Charge-redistribution and oversampled A/D conversion, Cascode and fully differential op-amps, Switched op-amp, Switched capacitor filters, Gm-C filters, Transconductors, Sample/Hold circuits and Reference sources.

ELEC9505
Microsystems Technology: Design and Microfabrication
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: ELEC8505

Interdisciplinary overview of MST (MicroElectroMechanical Systems - MEMS). Transducer definition: Sensors and Actuators. Micromachining techniques including silicon bulk micromachining, silicon surface micromachining, stiction problems, bonding processes, LIGA technique, micromachined mould template and electroplating, sealed cavity formation, stereolithography, chemical mechanical polishing for planarisation, electric discharge micromachining, laser micromachining, focused ion beam micromachining. Properties of materials for micromachining. Mechanical transducers. Optical transducers.Thermal transducers. Magnetic transducers. Chemical and biological transducers. Microfluidic devices. Circuit interfaces to transducers. System considerations. Case studies. Technology trends.

ELEC9912
Project Report A
School of Electrical Engineering and Telecommunications
UOC6 HPW6

The project is done in a major area, in which it is offered under the supervision of an academic member of staff. Where the work is carried out externally a suitable co-supervisor may be required. Projects can take many forms such as the design and construction of experimental equipment or a theoretical investigation. Work is to be carried out over 2 sessions. At the end of the work a comprehensive project report giving an account of the student s own research must be submitted. Information on the preparation of project reports is contained in the University Calendar.

ELEC9913
Project Report B
School of Electrical Engineering and Telecommunications
UOC6 HPW6

The project is done in a major area, in which it is offered under the supervision of an academic member of staff. Where the work is carried out externally a suitable co-supervisor may be required. Projects can take many forms such as the design and construction of experimental equipment or a theoretical investigation. Work is to be carried out over 2 sessions. At the end of the work a comprehensive project report giving an account of the student s own research must be submitted. Information on the preparation of project reports is contained in the University Calendar.

ELEC9930
Project Report (12 UOC)
School of Electrical Engineering and Telecommunications
UOC12

The project is done in a major area, in which it is offered under the supervision of an academic member of staff. Where the work is carried out externally, a suitable co-supervisor may be required. Projects can take many forms such as the design and construction of experimental equipment or a theoretical investigation. At the end of the work a comprehansive project report giving an account of the student's own research must be submitted. Information on the preparation of project reports is contained in the University Calendar.

ENGL5000
Individual Reading Program
School of English
UOC8 HPW2

Designed to accommodate, where possible, students with particular interests not served elsewhere. The program is designed in consultation with the Head of School and may be substituted for one elective by students who have completed three MA courses in English with a Distinction average. The Reading program requires the special permission of the Head of School and involves writing a 6,000 word essay.

ENGL5001
Introduction to Literary and Critical Theory
School of English
UOC8 HPW2

Introduces some key questions, writers and texts in contemporary critical theory. Designed for students who have done little or no previous study in the field and aims to address the needs and interests of both literary and cultural studies students. Covers a broad range of theorists, including psychoanalytic, structuralist, poststructuralist, postcolonial, feminist, and queer approaches.

ENGL5009
Shakespeare and Revenge
School of English
UOC8 HPW2

Shakespeare made vital contributions to the genre of revenge (which remained the most popular genre on Elizabethan and Jacobean stages) not only with the notoriously horrible Titus Andronicus and the best-known revenge play of all, Hamlet, but also with major revenge comedies like Twelfth Night and The Merchant of Venice. Examines Renaissance attitudes to revenge, justice and providence, and the search by Shakespeare and some of his contemporary dramatists for appropriate forms in which to express these attitudes, under the influence of the Senecan tradition.

ENGL5029
Poetry Between the Wars
School of English
UOC8 HPW2

A detailed analysis of poetry produced between 1919 and 1929, including the work of Kathleen Raine, Roy Campbell, Edith Sitwell and others.

ENGL5300
Poetry Plus
School of English
UOC8 HPW2

Encourages experimentation with a range of contemporary poetic forms and movements, and the development of an individual 'poetics' in relation to current debates about poetry. Provides the opportunity to develop a substantial and coherent body of poetic work within a supportive and critically engaged workshop environment. Focuses on the concept of poetry as public discourse rather than private expression to foster an awareness of the institutional, political and literary contexts of work produced.

ENGL5301
Innovative Fiction
School of English
UOC8 HPW2

Develops awareness of the stylistic and generic range of contemporary fiction, and understanding of the formal, narratological elements of the craft. Develops professional competency in the craft of writing. Provides the opportunity to develop original, innovative fiction within a rigorous workshop environment, and encourages consideration of wider critical and social contexts of work produced on structuring large-scale work.

ENGL5302
Intergeneric Writing
School of English
UOC8 HPW2

Generic hybridity is a feature of much contemporary literature. This course explores a range of experimental writing methodologies which use inter- or cross-generic strategies including collage and fictocritical writing (a term used to describe writing projects which combine 'creative' and fictional/poetic modes with those of criticism and commentary - the latter being drawn in particular from post-structuralist theory).

Prerequisite: English Major or special permission.

ENGL5303
Writing Workshop
School of English
UOC8 HPW2

Provides an opportunity for students to workshop their own work intensively in the productive and stimulating environment that postgraduate work at UNSW provides. At the beginning of the session students individually draw up 'contracts' in consultation with their tutor in which they develop a project proposal for the session. They subsequently meet weekly in a workshop group to work through their projects as they develop.

Prerequisite: English major or special permission.

ENGL5305
Literary Controversies
School of English
UOC8 HPW2

Covers some of the major literary scandals of the twentieth century, involving obscenity trials, religious fatwas, censorship debates, hoaxes and public controversies. Explores such topics as the nature of censorship, particularly in relation to pornography; the ethics of 'hoaxology'; the responsibility of authors (to society or to art?); the relationship of literature to other forms of public discourse; the notion of literary 'taste'; and the implication of literature in the construction of ethical identities at an individual and social level.

ENGL5521
Issues in Literary History - The English Renaissance to Modernism
School of English
UOC8 HPW2

Examines key literary texts in terms of their historical, social, cultural and political contexts, using theories of literary history to enquire into issues such as the meanings of the terms "text" and "context", their relations to one another, and the range of readings facilitated and/or prohibited by such an enquiry. Particular attention will be paid to Shakespeare and the English Renaissance, Milton and the Seventeenth Century, Pope and the long Eighteenth Century, the Romantic Revival in poetry and prose, mid-Victorianism, and the triumph of Modernism.

EXCH8001
Arts and Social Sciences Exchange Program

EXCH8002
Built Environment Exchange Program

EXCH8003
College of Fine Arts Exchange Program

EXCH8004
Commerce and Economics Exchange Program

EXCH8005
Engineering Exchange Program

EXCH8006
Law Exchange Program

EXCH8007
Medicine Exchange Program

EXCH8008
Science Exchange Program
Division of Registrar and Deputy Principal
UOC24

These courses are for administrative use by Schools and Faculty Offices only. Students will not be able to enrol in these courses via myUNSW.

UNSW actively encourages all students to take part of their degree program overseas through formal reciprocal exchange agreements with over 160 universities in 34 countries. Under the program, students can spend one or two semesters at a university in Asia, Europe, USA, India, Canada, or Latin America. Studies completed at the overseas university are credited towards the UNSW degree.

Local and international undergraduate and postgraduate students with a satisfactory academic record may apply to participate in the exchange program after one semester of study at UNSW. During their period of exchange, students remain enrolled at UNSW and pay normal activity fees and student contributions, local or international fees. The overseas university waives tuition fees for exchange students, but students are responsible for their own travel, accommodation and living expenses.

Given the objectives of Exchange programs, and reciprocal agreements with partner institutions, students are required to enrol in a full-time 24 unit exchange program. Students are usually enrolled in a 24 unit of credit exchange course that relates to the faculty that administers their degree program, and will be charged the corresponding Student Contribution amount (for Commonwealth supported students) or UNSW tuition fees (for fee-paying students). Where combined degree program students are approved to take their exchange in areas related to both component degrees, enrolment will be in equivalent 12 unit of credit courses, on the same fee principles. Please refer to Fee Band above for more information.

For details on institutions participating in the International Exchange Program at UNSW, visit **www.international.unsw.edu.au**.

EXCH8021
Arts and Social Sciences Exchange Program

EXCH8022
Built Environment Exchange Program

EXCH8023
College of Fine Arts Exchange Program

EXCH8024
Commerce and Economics Exchange Program

EXCH8025
Engineering Exchange Program

EXCH8026
Law Exchange Program

EXCH8027
Medicine Exchange Program

EXCH8028
Science Exchange Program
Division of Registrar and Deputy Principal
UOC12

These courses are for administrative use by Schools and Faculty Offices only. Students will not be able to enrol in these courses via myUNSW.

UNSW actively encourages all students to take part of their degree program overseas through formal reciprocal exchange agreements with over 160 universities in 34 countries. Under the program, students can spend one or two semesters at a university in Asia, Europe, USA, India, Canada, or Latin America. Studies completed at the overseas university are credited towards the UNSW degree.

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For details on institutions participating in the International Exchange Program at UNSW, visit **www.international.unsw.edu.au**

FINS5510
Personal Financial Planning and Management
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: COMM5003

Provides the knowledge necessary to effectively manage personal financial resources and needs in the context of globalised financial and stock markets. Considers the whole range of personal financial affairs and the planning required to optimise available opportunities to enhance individual wealth.

FINS5511
Corporate Finance
School of Banking and Finance
UOC6 HPW3
Prerequisite or Corequisite: ACCT5930, ECON5103; COMM5001, COMM5002, COMM5003

Essential aspects of financial decision-making in business. Designed to enable the student to usefully employ the following concepts in a business environment: investment decisions under uncertainty; capital structure; dividend distribution; applications of option pricing analysis to corporate finance.

Note: Does not meet disciplinary requirements for Finance.

FINS5512
Financial Markets and Institutions
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: COMM5003

Serves as an introductory course. Focuses on major financial markets, including the equity, money, bond, exchange rate and derivatives markets. The basics of financial instruments in these markets, such as bank bills, treasury bonds, futures and options are taught. Exposure to the tools of analyses and the roles and innovations of major financial institutions, eg the banks and non-banks, such as finance companies, building societies and credit unions, life and insurance companies and funds management companies.

FINS5513
Investments and Portfolio Selection
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: COMM5003

Develops a basic conceptual framework to understand modern investments. Students learn to evaluate alternative investment strategies, develop a more complete understanding of the risk-return relation, and discuss recent developments in investment management. Surveys various financial markets and provides a review of the instruments used to allocate capital and manage risk. Topics include measuring risk and return, designing portfolios, pricing risk, valuing equities, valuing fixed income securities, hedging with derivatives. Students are assessed through a variety of means; including quizzes and exams, computer exercises, and case study discussions.

FINS5514
Capital Budgeting and Financial Decisions
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS5513

Primarily concerned with the major financial decisions faced by the firm. These decisions can be broadly classified as the investment decision, the financing decision, the dividend decision and the restructuring decision. Examines the main theories and empirical evidence surrounding these decisions. This body of knowledge is then used to help solve typical 'real 'problems faced by senior finance managers. Special emphasis is given to group project work and computer applications.

FINS5515
Issues in Corporate Finance
School of Banking and Finance
UOC6 HPW3
Prerequisite: FINS5513, FINS5514

Focuses on studying corporate finance topics such as cost of capital estimation, forecasting and valuation, initial public offerings, seasoned equity offerings, debt issuance and refinancing, use of lease and convertibles, stock repurchase, mergers and takeovers, financial distress and divestiture. Mini-cases and local companies of different ownership

structures are used for illustration. There are emphases on applying current empirical evidence in estimation and problem solving, as well as spreadsheet modeling of all aspects of corporate finance.

FINS5516
International Corporate Finance
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS5513 or enrolment in program 8406.

Management of the financial functions for firms operating in several separate countries. Necessary theory and evidence basic to an understanding of international capital and foreign exchange markets, the benefits of international diversification, use of the capital asset pricing model in foreign investment decisions and cost of capital for multinational corporations, financial management of multinational corporations, foreign direct investment and financial and political risks, the role of multinational banks and the financial benefits of Euro-currencies and Euro-bonds, international equity markets and financial management of multinational corporations in new regions such as APEC, NAFTA and the EU.

FINS5517
Applied Portfolio Management and Modelling
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS5513 or enrolment in program 8406.

Provides the foundation for the analysis of active funds management: the dynamic management of equity and fixed-income portfolios. Emphases are model construction (including forecasting), data analysis, the use of derivative securities (such as options, futures, FRAs, swaps), both international and domestic diversification benefits, performance and risk measures, and risk management and control.

FINS5522
Emerging Financial Markets
School of Banking and Finance
UOC6 HPW3
Prerequisite: FINS5513 or enrolment in program 8406.

Emerging capital markets have become in vogue as a result of a wave of mass financial liberalization, which occurred towards the end of the 1980s. Emerging financial markets behave differently to developed financial markets because of their level of integration (or conversely degree of segmentation) with world markets. A major aim of this course is to examine the issues pertinent to investment in emerging financial markets from both the perspective of international investors and policy makers. These broadly revolve around financial crises, liberalization and capital flows, pricing of political risks and other risks, governance and financial architecture, and regional integration.

FINS5523
Alternative Asset Classes
School of Banking and Finance
UOC6 HPW3
Prerequisite: FINS5513 or enrolment in program 8406.

Examines various aspects of entrepreneurial finance for small and medium enterprises. Financial theories associated with entrepreneurial and closely held firms are analysed. Including: how to value new start-up firms/projects; optimal financing strategy; finance investment and innovation; asymmetric information and credit rationing; financing intellectual property rights; venture capital, business angles and pooled development funds; equity and debt capital from the public and private sectors.

FINS5526
International Corporate Governance: Accounting and Finance Perspectives
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS5513

Aims to provide students with a practical and in-depth understanding of the way corporations are monitored, governed and controlled. Examines relationships and conflicts between key stakeholders (e.g. shareholders, managers, directors, employees, banks, regulatory bodies, etc.). Both internal aspects (e.g. performance evaluation, board structure, audit process, executive compensation, ownership structure, etc.) and external environments of corporate governance (legal protection of shareholders, hostile takeovers, proxy contests, bank monitoring, competition, etc.) are discussed in detail. The scope of coverage extends beyond Anglo-Saxon countries to examine issues in alternative governance systems adopted in Continental Europe, Asia and Latin America.

FINS5530
Financial Institution Management
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS5513 or enrolment in program 8406.

The application of modern finance theory and financial modelling techniques to financial decision-making and risk management in financial institutions. Includes: (i) Uniqueness of financial institutions; (ii) Application of portfolio, arbitrage pricing, option pricing and corporate finance theories to the management of assets, liabilities, capital structure and off-balance sheet operations; (iii) Interest rate risk management and financial futures; (iv) Liquidity risk management; (v) Loan portfolio management, credit evaluation models, loan pricing and credit rationing; (vi) Capital adequacy and prudential regulation and management.

FINS5531
Risk and Insurance
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS5513 or enrolment in program 8406.

Introduces the discipline of risk management and precedes advanced work in the risk management and insurance major. Focuses on the principles associated with corporate risk management and provides a structured and well-reasoned methodology in the identification and analysis of risk. Investigates the management of identified risk through both risk control and risk financing techniques. Introduces the basic principles of insurance products, as one possible risk-financing tool.

FINS5533
Real Estate Finance and Investment
School of Banking and Finance
UOC6 HPW3
Prerequisite: FINS5513 or enrolment in program 8406.

Evaluates real estate financing, the mechanics of the mortgage market, and the application of modern finance theory to the evaluation, selection and management of direct and securitised property investments. Topics include the role of regulation, taxation, government agencies, property trusts, and the banking system on real estate activity. Analyses real estate, diversification aspects, valuation techniques, evaluates lease structures concepts of rent and yields.

FINS5534
Strategic Management of Credit Risk and Loan Policy
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS5513 or enrolment in program 8406.

Focus is on latest approaches to loan portfolio selection and credit risk modelling. Topics include: credit scoring; credit ratings and default probabilities; pricing bonds and loans as options; reduced-form models; simulation-based approaches; capital structure and risk return analysis; overview of credit risk markets. Includes Excel-based project on portfolio credit risk.

FINS5535
Derivatives and Risk Management Techniques
School of Banking and Finance
UOC6 HPW3
Prerequisite: FINS5513 or enrolment in program 8406.

Focuses on approaches to valuing standard and non-standard derivatives and on using derivatives for hedging. Theoretical, with some practical examples. Topics considered include: Forwards and futures pricing and hedging, swaps and swap valuation, numerical procedures for option pricing and hedge ratio calculation, continuous time (Black-Scholes) pricing of options and hedge ratio calculations, and introduction to exotic options.

FINS5536
Fixed Income Securities and Interest Rate Derivatives
School of Banking and Finance
UOC6 HPW3
Prerequisite: FINS5513 or enrolment in program 8406.

Studies pricing, hedging and risk management of fixed income securities and interest rate derivatives. Includes: term structure dynamics (including bond price lattices, spot and forward rate models), analytical and numerical techniques, duration measures, interest rate derivative securities (including options, futures and swaps), the interaction between interest rate risk and credit risk, mortgage-backed securities and value-at-risk, the

concepts of general collateral, an accessible treatment of the arbitrage-free models of the term structure, including the concept of state prices and no-arbitrage.

FINS5541
Advanced Investment and Funds Management
School of Banking and Finance
UOC6 HPW3
Prerequisite: FINS5517 and prerequisite or corequisite FINS5535, or enrolment in program 8406.

Covers advanced techniques of modern funds management. Includes asset allocation decisions, integration of equities and bonds, domestic versus international fund components. Covers issues in pension funds management, investment in real assets and introduces hedge funds. Structure consists of lectures, computer laboratory work and may include speakers from the funds management industry.

FINS5542
Applied Funds Management
School of Banking and Finance
UOC6 HPW3
Prerequisite or Corequisite: FINS5517 or enrolment in program 8406.

Laboratory and theoretical based course that develops fundamental concepts of asset valuation in a world with time varying risk, in order to construct and manage an investment portfolio. The course focuses on the recent advances in quantitative finance including risk modelling, forecasting, portfolio construction and evaluation. The aim is to provide students with a practitioner-orientated view of asset management where concern is based on generating superior returns. Topics focus primarily on empirical and practical tools required to actively manage an investment over time through the extensive use of computer spreadsheets.

FINS5550
International Banking Management
School of Banking and Finance
UOC6 HPW3
Prerequisite: FINS5513 or enrolment in program 8406.

Provides students with an understanding of international banking and finance in the contemporary environment. Due to the dynamic nature of the international banking environment, it is necessary to develop skills to effectively identify and understand the effects of current developments. Firstly, the international banking functions are presented; international trade financing, participation in the interbank foreign exchange and Eurocurrency markets, international investment banking services, and sovereign lending. In addition, other important topics are presented; international money laundering, international banking and debt crises, regulation of international banking activities, and offshore banking markets. Some of the topics covered may vary over time.

FINS5551
International Insurance Management
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS5513 or enrolment in program 8406.

Designed to acquaint the student with the planning and administration of a worldwide corporate insurance program under conditions of uncertainty. International dimensions of risk management are surveyed. Topics include, inter alia: the structure of insurance markets internationally; the economics of international trade in insurance; the integration and globalisation of financial services; the legal environment of risk management and insurance internationally; the tax environment for insurance internationally; rationales and nature of government intervention into insurance markets worldwide; regulatory harmonisation in insurance; the demographic and social environment for insurance internationally. Deals with insurance with a focus on global risk management.

FINS5566
Trading in Financial Securities
School of Banking and Finance
UOC6 HPW3
Prerequisite or Corequisite: COMM5003 or FINS5512 or enrolment in program 8406

Studies how and why investors trade and the impact of various market structures on the interaction and outcomes of security transactions. Examines existing market structures, types of traders and the strategies they use to achieve their objectives. By concentrating on how market participants trade, the course lays the foundation necessary to understand the practical implications of the introduction of new technologies to securities trading and the economic opportunities they present to market participants. Emphasis is placed on case studies, examples, practitioner presentations and illustrations inspired by the shift from traditional to electronically-facilitated trading. Analyses securities trading venues as operating firms; in particular concentrating on implications for competition between markets and trading systems.

FINS5574
Foundations of Financial Decision Making Under Uncertainty
School of Banking and Finance
UOC6 HPW3
Excluded:FINS3774, FINS4774

Provides an intermediate exposition of the fundamentals of portfolio selection and corporate finance. Examines: (i) the basics of choice theory; (ii) binomial option pricing; (iii) portfolio theory; (iv) classical, non-game theoretical theories of capital structure and dividend policy and empirical evidence on these theories; and (v) theories and evidence related to mergers and acquisitions.

FINS5575
Research Methods in Finance 1
School of Banking and Finance
UOC6 HPW3
Excluded: FINS3775 or FINS4775

Provides an introduction to econometric theory and its application in empirical finance. Much emphasis is on the practical aspects. There is extensive use of leading statistical and econometric software that is employed extensively in research and practice.

FINS5576
Advanced Topics in Asset Pricing
School of Banking and Finance
UOC6 HPW3
Excluded: FINS4776

Provides an in-depth treatment of asset pricing theories, including surveying the evidence from tests of these models. Both general asset pricing techniques and the micro-foundations of these models are covered. Emphasis is on applications of mathematical and statistical tools to provide a rigorous development of each topic. Students are assessed through a variety of means, which may include problem sets, exams, papers, and presentations.

FINS5577
Advanced Topics in Corporate Finance
School of Banking and Finance
UOC6 HPW3
Excluded: FINS4777

The main emphasis is exposure to the latest research on selected topics in corporate finance. The topics covered will primarily be selected on the basis of the lecturer's area of expertise, but will include methodological considerations in corporate finance research, corporate restructuring, agency theory and governance, performance measurement, valuation models, dividend policy and repurchases, forecasting, and capital structure. A combination of assessment methods will be used, including group projects, case studies and student presentations. Assumes a sound knowledge of the theories relating to the foundations of finance.

FINS5579
Research Methods in Finance 2
School of Banking and Finance
UOC6 HPW3
Prerequisite or corequisite: FINS3775 or FINS4775 or FINS5575;
Excluded: FINS4779

A more advanced course in empirical methodology in finance covering general methodological aspects, testing of hypotheses, falsifiability principle. Review of relevant econometric material, applications to topics such as generalised beta models of market equilibrium (including CAPM, APT), foreign exchange risk premium, stock price variability, volatility estimation.

FINS5591
Special Topics in Finance
School of Banking and Finance
UOC6 HPW3

A course designed in a flexible way to provide students with advanced knowledge in important areas of finance that fit in with the supervisory capacity of the academic staff. The content areas may thus vary from

year to year. A more detailed course outline will be provided prior to the commencement of the unit. May be undertaken with the permission of the Head of School.

FINS5598
Project Seminar
School of Banking and Finance
UOC6

FOOD1517
Chemistry, Biochemistry and Physics of Foods
School of Chemical Engineering and Industrial Chemistry
UOC3 HPW3

An introduction to the chemical, physical and biochemical properties of foods; food proteins, lipids, carbohydrates, nucleic acids, vitamins, minerals, pigments; food enzymes, main classes and factors affecting their activity; food rheology and texture; heat transfer in foods; effect of processing upon the properties of foods; basic techniques for the analysis of food components and properties.

FOOD1567
Food Preservation
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6
Excluded: FOOD1577, FOOD1587, FOOD1597

Introduction to food preservation and food processing; heating, chilling, freezing, dehydration; use of salt, sugar, acid, chemical preservatives, modified atmospheres in food preservation; water relations and chemical and microbial stability of foods; an integrated program of laboratory and plant exercises designed to illustrate the principles and procedures presented in the lecture course.

FOOD1577
Food Processing Principles
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6

Food processing is introduced in a series of integrated labs and lectures covering the basics of food engineering: heat transfer and fluid flow. This includes heat and mass balances, heat and mass transfer, Fourier's equation, modes of heat transfer, heat exchangers, transient heat transfer and Heisler charts for cans, food properties, physical chemistry of phases in crystalline, steam and enthalpy, thermal death, sterility, Fo, Z and D values, retorting, lethality, texture of solids and liquids, product flow and pumping, non-Newtonian behaviour, esp. viscoelasticity, and intermediate moisture foods. Some example food operations are presented, including mixing, powders and slurries, baking, frying, roasting, cooling, thawing, and freezing.

FOOD1587
Food Preservation: Principles and Applications
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6

The basis of food science is presented in a series of lectures and integrated labs covering traditional and novel methods of preserving foods for distribution and storage. Food commodities are introduced in groups, including dairy, meat, fish, fruit, vegetables, beverages, eggs, sugars, cereals and lipids. The need for preservation is discussed, including physical, chemical and biological deterioration factors and water relationships. Technologies covered are heating, chilling, freezing, drying, brining, pickling, sugar, radiation, packaging (MAP and CAP), chemical preservatives and novel methods.

FOOD1597
Unit Operations in Food Processing
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6
Prerequisite: FOOD1577, FOOD1587

The principles introduced in FOOD1577 and FOOD1587 are used in studying some of the more important unit operations in the food industry. The procedure used for each unit operation is to firstly describe the process, its applications, effects on the food product and requirements, appropriate process diagrams, mass and heat balances and flows, solving unit operation problems. Unit operations covered are refrigeration, dehydration, evaporation, extrusion, physical separation and comminution.

FOOD1657
Postharvest Physiology and Handling of Fruit and Vegetables
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6
Prerequisite: FOOD1597

Biochemistry and physiology of metabolism in fresh fruit and vegetables; respiration measurements as an index of metabolism, maturation and senescence; concept of climacteric and non-climacteric produce; physiological and metabolic changes occurring during ripening. Effect of temperature on metabolism; constraints of high and low temperatures; role of humidity control and water loss in quality maintenance; use of atmosphere control to delay senescence and ripening. Physiological disorders of stored produce; microorganisms of importance to post-harvest tissue; physical and chemical methods of control; post-harvest disinfestation and quarantine measures. Examination of current commercial storage and marketing operations.

FOOD1667
Postharvest Storage of Foods
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6
Prerequisite: FOOD1597

Pre-harvest considerations, post-harvest physiology and biochemistry, post-harvest factors affecting quality, methods of storage and handling, marketing strategies for selected food commodities.

FOOD1677
Product Design and Development
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6

Consumer, commercial and national needs for new products, types of new products, the steps in the product development process; development team, idea generation; market research: its role, specific tasks, techniques, and limitations; roles of advertising and supermarkets in new product success; product lifecycles, reasons for new product failure and preventative strategies; ingredient and additive properties and contributions to foods, effects of processing on their properties and functionality; optimisation of quality and acceptability of foods by manipulation of formulations; packaging and processing for food acceptability; sensory properties, storage stability and nutritional properties of foods; impact of new technology; sensory analysis: basic sensory analysis techniques, expert vs consumer panels, interpretation and implementation of sensory testing data, sensory rankings from different target markets.

FOOD1697
Advanced Food Chemistry
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6
Prerequisite: CHEM3811 or equivalent

Chemistry and analysis of volatile food components; qualitative and quantitative analysis, fractionation of proteins, starch and its derivatives, non-starch polysaccharides, dietary fibre constituents and lipids using advanced methods; detection and measurement of mycotoxins; analysis of selected vitamins; application of advanced separation techniques to food components.

FOOD1747
Special Topics in Food Science and Technology
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6

An individually supervised program of investigation in specialised aspects of food science and technology not otherwise offered. Embraces a literature review, laboratory work and/or industrial liaison as may be appropriate. Available only to appropriately qualified students.

FOOD1757
Topics in Food Science and Technology
School of Chemical Engineering and Industrial Chemistry
UOC3 HPW3

An investigation similar to but shorter than that outlined in FOOD1747.

FOOD1767
Reading Assignment
School of Chemical Engineering and Industrial Chemistry
UOC3 HPW3

A reading assignment in an area supporting the candidate's major disciplines or commodity interests. Presentation of a seminar may be required.

FOOD1777
Food Choice: Psychology, Preference and Acceptability
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW4

This course considers factors that influence the choice of foods and eating patterns by consumers, and provides a rational basis for the design, development and marketing of new food products and new processing technologies. It is aimed at students with interest in food and human behaviour, for example, marketing, advertising, food service/ hospitality and psychology, as well as students in food science and technology. Topics covered include: physiology of taste and smell; sensory acceptability of foods in terms of flavour, appearance and texture and its measurement (sensory evaluation); psychological, physiological, cultural, religious, environmental and genetic factors that affect food preference and consumption patterns and behaviour; eating disorders (eg. anorexia, bulimia); diet and consequences for physical and mental activity (eg. sports diets); implications for food product development, process development, marketing, advertising and diet design.

FOOD1787
Forensic Food Science
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3

This course consists of a series of lectures, discussions and assignments that examine a wide range of techno-legal issues which frequently confront companies involved in the manufacture and service of foods and beverages. A portfolio of case studies are used to demonstrate the fundamental and practical aspects of the investigative process: defining the cause of the problem, acquisition of appropriate information and analytical evidence; loss assessment; reporting; communication with solicitors, barristers and insurance companies; appearance at court. Topics covered include: the legal process; prosecution for breach of food safety, quality and labelling regulations; prosecution of fraud, deception and adulteration; compensation disputes between companies when products and processes do not meet contractual specifications; compensation claims from consumers who have experienced foodborne illness; food composition and labelling authenticity, including religious certification for halal and kosher foods, genetic modification using recombinant DNA technology, species homogeneity; sabotage, deliberate adulteration, tampering; protection of intellectual property, patents. The course is aimed at students in food science and technology, but its content and structure are designed to accommodate students with a broader background in science and technology, as well as practicing professionals in the food/ beverage industries, government regulatory agencies and consulting companies.

FOOD2627
Food Microbiology
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6

This is a lecture-laboratory course that introduces the basic concepts of food microbiology, covering the ecology, biochemistry, isolation, enumeration and identification of bacteria, yeasts, fungi and viruses associated with foods and beverages. Food spoilage: specific food microorganism associations; taxonomy and biochemistry of major spoilage species; chemical and physical changes to food properties; spoilage of specific commodities. Foodborne microbial disease: foods as vectors of disease and food poisoning; statistics and epidemiology; ecology and taxonomy of food-borne pathogenic microorganisms; control and prevention by hygiene, microbiological standards and legislation. Food fermentation: microbial ecology and biochemistry of fermentations; fermentations of alcoholic beverages, bakery products, dairy products, meats, vegetables, cocoa beans, soy sauce; production of food ingredients and processing aids by fermentation. Microbiological examination of foods: sample preparation and sampling plans; sub-lethal injury; standard methods for determination of total plate counts, indicator organisms, food-borne pathogenic species, principal spoilage species. Microbiological quality assurance: specifications and standards; decision criteria; hazard analysis and critical control point (HACCP) concept; cleaning and sanitation.

FOOD2637
Quality Assurance and Control
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW4

This course aims to provide students with a knowledge base of concepts in quality assurance (QA) and quality control (QC) in the context of the food industry. What are quality, QA, QC? ; organisation-wide quality management, quality costs, Total Quality Management and ISO9000-based Quality Management Systems; tools in quality management, brainstorming and other qualitative tools, benchmarking; production-level QA and QC, HACCP, risk analysis and management, statistical quality/process control, sampling and sampling plans, cleaning and sanitation; QA in the laboratory, accreditation, metrology, proficiency testing; regulatory aspects of QA/QC; auditing quality; staff training.

FOOD2647
Food Safety
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW4

This course presents a package of information and exercises designed to demonstrate the public health risk associated with the production and consumption of foods and the strategies adopted by industry, government and consumers to manage and control these risks. Topics covered include: chemical risks - natural, additives and residues; microbiological risks - bacteria, fungi, viruses, algae, parasites, prions; nutrition - diet and health; genetically modified foods - concepts and specific safety issues; management of food safety by industry - TQM, HACCP, ISO; management of food safety by government - food law, national and international regulation and issues; legal and insurance issues; consumer concerns - education, social, moral and ethical issues; safety in the workplace.

FOOD2657
Analytical Microbiology
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6

The aim of this course is to provide students with an understanding of the underlying principles of and practical exposure to modern and rapid methods for microbiological analysis, with specific reference to foods. The course begins with a history of the development of methods of analysis and criteria for the evaluation of methods. Methods considered include improved and advanced cultural methods, automated biochemical identification systems, ATP and lux bioluminescence, methods for assessing hygiene, ice nucleation, impedance technology, immunoassay, electrophoretic and chromatographic techniques for strain characterisation and identification, nucleic acid probes, PCR and genechip technology.

FOOD2667
Advanced Food Microbiology
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW3
Prerequisite: FOOD2627

This course consists of a series of lectures, discussion groups and visits to local food companies that takes food microbiology from its basic concepts to advanced consideration of current issues on food spoilage, foodborne microbial disease, food and beverage fermentations and the use of microorganisms as processing aids and sources of food ingredients and additives. With a focus on commodity groups, it considers industry structure, food properties and processing operations that impact on the growth, survival and biochemical activity of microorganisms as they relate to spoilage, safety and desirable fermentations. Commodities considered include dairy products, fruit and vegetables, meat products (red, poultry, seafoods) and alcoholic beverages. Advanced concepts of microbial taxonomy, biochemistry, physiology, detection and enumeration are covered as well as the use of microorganisms as sources of colours, flavours, polysaccharides, vitamins, amino acids and as probiotic and biocontrol agents.

FOOD3567
Nutrition
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6
Corequisite: BIOC2101 or BIOC2181

This course consists of a series of lectures and practical exercises that provide students with knowledge about the occurrence of nutrients in foods and their role in human physiology, health and disease. Structure, properties and sources of nutrients; role of nutrients in human structure and function. Introduction to food groups, tables of food composition, food labels, dietary recommendations; food guides; nutrition in health and disease; nutritional needs of vulnerable groups: infants, pregnant and lactating women, the aged; dietary intolerance, disorders related to the affluent diet including coronary heart disease, dental caries, diabetes, hypertension and cancer; problems of undernutrition including protein, energy, mineral and vitamin deficiencies; physiological and nutritional aspects of dietary fibre, alcohol; assessment of nutritional status using dietary and anthropometric techniques; practical exercises on anthropometric techniques and measurement of nutrient intake using computer systems on an individual and group basis.

FOOD3577
Advanced and Applied Nutrition
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6
Prerequisite: FOOD3567

This course consists of lecture and discussion classes that build on the basic concepts of nutrition with respect to the food supply, giving advanced treatment of the following topics. Food and nutrition policy: structure of the population; food supplies, food consumption, nutritional epidemiology; population dietary references; food programs such as food fortification, supplementary feeding schemes, nutritional rehabilitation, nutritionally modified foods, nutritional regulations and standards, nutrition education, dietary and nutrition interventions (ORT, family planning, infection control, growth monitoring); principles, practice and evaluation of applied nutrition programs; advanced assessment methods in nutrition: nutrient bioavailability studies, nitrogen balance tests, vitamin load tests, sodium and potassium excretion, creatinine excretion, fitness assessment, biochemical assessment, design and evaluation of nutritional epidemiology studies, food intake studies.

FOOD4617
Advanced Food Engineering
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6
Prerequisite: FOOD1577, FOOD1587

This course consists of lectures and discussion groups covering advanced aspects of modern food processing and preservation. This includes food bulk and thermal properties, rheological properties and models of heat transfer (analytical, graphical and numerical methods, computer packages, microwave, infrared, and radio frequency irradiation), process modelling and control, dehydration, evaporation and distillation, membrane processes.

FOOD5117
Minor Project
School of Chemical Engineering and Industrial Chemistry
UOC6 HPW6

The aim of this course is to provide students with an opportunity to undertake independent study of a particular aspect of food science and technology through critical evaluation of literature or the performance of limited laboratory work. Students will be expected to present the results of their investigation in a thesis-style report and in a research seminar. Students will select a project in consultation with the course authority within the program of study in which they are enrolled.

FOOD5127
Research Project
School of Chemical Engineering and Industrial Chemistry
UOC12 HPW12

The aim of this course is to provide students with an opportunity to undertake independent study of a particular aspect of food science and technology through performance of laboratory-based research work. Students will be expected to present the results of their investigation in a thesis-style report and in a research seminar. Students will select a project in consultation with the course and/or program authority, within the program of study in which they are enrolled.

GBAT9101
Project Management
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Project management involves the overall planning, control and coordination of a project. It is the process by which the responsibility for all phases is combined within one multi-disciplinary function. This course introduces you to the project management skills needed during the lifetime of a project by working through a chronological model. It explores key concepts of project management from the beginning to the termination of the project.

GBAT9102
Management of Manufacturing Systems
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Management of Manufacturing Systems presents an integrated and coherent account of current production management philosophies to give managers a sound grounding in the modern principles and techniques of managing manufacturing companies. There is strong emphasis on strategic perspectives of manufacturing, the relationship between manufacturing and business strategies, and the implications of a given manufacturing strategy for detailed manufacturing management decisions, plans, policies and performance measures.

GBAT9103
Environmental Management
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Environmental Management provides an overview of the range of environment issues facing our community, and the responsibilities of managers in addressing those issues. Via an understanding of the big picture, managers can make sound economic decisions compatible with a commitment to a sustainable environment. The more specific issues and control strategies discussed provide insights into environmental control techniques and methods for handling environmental problems ranging from legal aspects to quantitative risk assessment.

GBAT9104
Management of Innovation and Technical Change
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

This is one of two capstone courses and integrates some of the key elements of all MBT courses, including the role of quality and continuous improvement. This course considers how organisations approach and support the imperatives of innovation and creativity, and how managers can influence their organisations to be more innovative. The course also examines the broad area of change and how to manage the change process whether stimulated internally from within the organisation or imposed by external forces.

GBAT9105
Risk Management
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

All managers must manage risk because decisions must be made in a fast changing and uncertain world. Organisations are increasingly implementing integrated risk management programs in which the same process is applied to all types of risk whether financial or technical. This course follows the risk management process and discusses how it is applied to issues of interest to the class. The particular focus is on risks that arise in a technical context such as project management, outsourcing, liability, IT, the environment and safety.

GBAT9106
Information Systems Management
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Information Systems Management addresses current management issues in the deployment of information systems and information technology. It deals with the relationship between the organisation and its information systems, strategic and tactical planning for information systems and the management and acquisition of systems and technology. Attention is paid to issues such as outsourcing enterprise systems and business continuity planning. The focus is on management of the systems, not the technology itself.

GBAT9109
Energy Management
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Energy Management examines the role of energy in business and our society. It discusses the use of major energy resources and technologies. It gives an insight into the role of markets over the price and availability of energy fuels and sources, the impacts of energy use on the natural environment and the application of an energy management program in a corporate setting.

GBAT9112
Managing Occupational Health and Safety
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Workplace injury involves organisations in insurable costs (workers' compensation premiums) and uninsurable costs (productivity losses, low morale, reputation damage, equipment losses and downtime). This course concentrates on the prevention of workplace injury and associated costs and losses through the application of effective management systems. Industry case studies are used as are analysis and application of management techniques.

GBAT9113
Strategic Management of Business and Technology
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

This is one of two capstone courses and integrates some of the key elements of all MBT courses, including ethical considerations and sustainability. This course focuses on the role of high level strategic thinking and planning, and the measurement of strategic outcomes. It examines the characteristics of an effective strategy and highlights the need to integrate technology into corporate strategy along with ethics, strategic HR and risk analysis.

GBAT9114
Principles of Marketing
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Principles of Marketing is a course designed to introduce basic marketing concepts, theories and analytical tools to managers working in today's highly competitive and complex business environment. The course places particular emphasis on the management of profitable exchange processes in the context of modern organisations and covers a diverse range of marketing topics including marketing strategy and planning, the marketing environment and how to monitor it, consumer and organisational behaviour, marketing research, market segmentation and development of target markets, new product development, pricing, distribution, promotion and international marketing.

GBAT9115
Information Technology for Managers
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

The pervasiveness of Information Technology means that it affects almost every aspect of our lives, so that today's managers need a set of skills that equip them to work comfortably with new technologies. Information Technology for Managers provides an understanding of the implications of the introduction and use of information technologies in the workplace. The course enables participants to recognise the potential of new and existing technologies and promotes informed decision making about their adoption.

GBAT9117
E-Business Strategy & Management
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Drawing on the application of information technology for competitive advantage, this course looks at the potential effects of e-Business on the value chain, product differentiation, strategic relationships and market share. Important technologies are emerging in the vital areas of data transfer and personal interaction and these will set the foundations for the future management of e-Business. Topics in the course include the potential impact of e-Business in both business-to-business and business-to-consumer transactions, security and communications, legal and ethical issues, EDI and electronic payments systems and revenue-generation strategies.

GBAT9119
Managing for Organisational Sustainability
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: Currently enrolled in program 8616, 7333 or 5457;
Excluded: ACCT5985.

The current global business environment continues to throw up challenges for organisations and their managers. Managers now face increasing pressure to balance short and long-term needs for economic, social and environmental sustainability. This course examines how organisations and their management can support sustainable organisational strategies. We see how holistic and integrated approaches to people management and stakeholder relations can increase an organisation.s capability for continuous renewal and long-term viability.

Managing for Organisational Sustainability deals with topics such as organisational capabilities and sustainability, triple bottom line thinking, corporate social responsibility, stakeholder management, alternative performance management systems, organisational learning and change, and managerial competencies for sustainability.

GBAT9120
Accounting: A User Perspective
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Accounting: A User Perspective is designed for those who use accounting information, rather than those whose task it is to prepare it. The focus is on the understanding and use of accounting information, as well as the composition and meaning of the financial statements. The course covers accounting reports prepared for external users as well as accounting reports used by managers to plan, control and make decisions.

GBAT9121
Managing Agile Organisations
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Managing Agile Organisations seeks to develop the managerial perspectives and competencies required for the emergent knowledge economy. It addresses the new challenges posed by fast-moving service life cycles, workforce empowerment, the virtual structuring of organisations, globalisation, and heightened ambiguity. It examines how these challenges should be met by managers in agile organisations, as they negotiate time and space, interactions and discourse, power and culture, diversity and commitment, and innovation and change.

GBAT9122
Business Economics
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457 Excluded ECON5109

An understanding of economics is essential for the run viability of a business. The economic environment in which business operates will have a vital bearing on day-to-day decisions. Business Economics lays the foundations for such knowledge. It provides a basic introduction to those economic principles which are important for business, as well as providing general economic literacy to enable participants to read and understand economic reports and to be able to communicate with and understand business people, economists and policy makers.

GBAT9123
Fundamentals of Corporate Finance
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

This course stresses the fundamentals of corporate financial decision making with special reference to investment, financing and dividend distribution. The course develops distinct conceptual frameworks and specialised tools for solving real-world financial problems at both the personal and corporate level. Examples include funds management, mergers and acquisitions, capital raisings, portfolio selection of financial securities, public floats and the pricing of assets in the stock market. Illustrations from real-life corporate practices are used to highlight the importance and relevance of financial management to the realisation of personal and corporate financial objectives.

GBAT9124
Business Law and Technology
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Fundamentals of People Management seeks to enhance the knowledge and awareness of people management and examines the different ways in which organisations approach the management of their employees. We explore the behaviour of people at work and the impact this has on others and on the organisation itself. We consider the relationship

between people management and the organisation's strategy and locate the management of 'people at work' within various theoretical, philosophical, historical and regulatory contexts.

GBAT9125
Fundamentals of People Management
Graduate Programs in Business & Technology
UOC6 HPW1.5
Prerequisite: must be enrolled in Program 8616, 7333 or 5457

Fundamentals of People Management seeks to enhance your knowledge and awareness of 'people management'. It examines the different ways in which organisations approach the management of their employees. We explore the behaviour of people at work, and the impact this has on others and on the organisation itself. We consider the relationship between people management and the organisation's strategy and locate the management of 'people at work' within various theoretical, philosophical, historical and regulatory contexts.

GEOH9011
Environmental Impact Assessment
School of Biological, Earth and Environmental Sciences
UOC6 HPW4

Environmental planning legislation and decision making processes in Australia with special reference to NSW. The content and structure of Environmental Impact Statements and the stages in the granting of development consent. Approaches to EIA with reference to the assessment of impacts on the natural, social and economic environments. Case studies exemplifying procedures, techniques, methods, and issues. Trends in EIA in Australia and selected other countries.

GEOH9015
Population Health and Environment
School of Biological, Earth and Environmental Sciences
UOC6 HPW4

Relationship between environmental factors and disease morbidity and mortality is examined by consideration of the epidemiological transition in different countries, and the spatial and occupational-specific variation in disease incidence in Australia. Methodology for standardising, testing for significance and data quality.

GEOH9018
Transportation Applications of Geographical Information Systems
Built Environment Geography
UOC6 HPW3

This course provides an overview and hands-on experience in the design, use, and interpretation of Geographic Information Systems for Transportation (GIS-T s). Topics covered include transportation layers, transportation related referencing systems, data structures, network structures, urban transportation planning models, logit and other spatial models. At the end of the course, the student will have a sound working knowledge of transportation GIS and an ability to work directly with real problems in government and private sectors.

GEOH9019
Special Topic in GIS
School of Biological, Earth and Environmental Sciences
UOC6 HPW3

Selected topics may be pursued in the forum of individually supervised readings and assignments linked to studies in postgraduate programs offered through the School

Note: This course requires prior approval of the Supervisor.

GEOH9530
Project
School of Biological, Earth and Environmental Sciences
UOC12 HPW0

An investigation of a problem in environmental management, remote sensing or geographical information systems which may involve an identifiable research component. Such an investigation should be related to the research interests of particular schools within the Faculty of Science.

GEOL0114
Project in Geology
School of Biological, Earth and Environmental Sciences
UOC12

A project equivalent to 6 hpw study for one session which requires the student to carry out detailed processing and analysis of a comprehensive data set for a geological project that may relate to the student's field of employment.

GEOL9053
Hydrogeochemistry
School of Biological, Earth and Environmental Sciences
UOC3

This course covers chemical composition of natural and contaminated groundwaters; inorganic parameters in natural waters; calculation and presentation of hydrochemical data as a basis for interpretation; chemical reactions and processes in groundwater systems; chemical evolution of groundwater; aqueous geochemistry; equilibrium and disequilibrium; dissolution and precipitation of minerals; carbonate system.

GEOL9054
Analysis and Interpretation of Hydrogeochemical Data
School of Biological, Earth and Environmental Sciences
UOC3

This course covers oxidation and reduction processes; redox conditions and redox zonation of natural and contaminated groundwaters; water-rock interaction; ion exchange and sorption reaction; weathering and water chemistry; mass balance; groundwater salinity; corrosion and incrustation in groundwater bores; analysis and interpretation of hydrochemical data using graphical techniques; study of chemical reactions and processes using field and laboratory data.

GEOL9055
Hydrogeochemical Modelling
School of Biological, Earth and Environmental Sciences
UOC3

The course covers: a review of isotope theory and methodology; stable and radioactive isotope studies; a review of modelling theory; hydrogeochemical modelling using speciation and mass balance modelling codes (NETPATH, WATEQ-4F, PHREEQC, MINTEQ-A2); case studies and applications in natural and contaminated groundwater systems; the application of hydrogeochemical modelling in dryland salinity, seawater intrusion, mining, water-rock interaction and landfill studies.

GEOL9111
Groundwater Environments
School of Biological, Earth and Environmental Sciences
UOC3

A study of the detailed occurrence and the environmental problems associated with groundwater in aquifer systems of importance to Australia. Environments include karst hydrogeology and hydrogeochemical processes in karst terrains, natural saline groundwaters, deep sedimentary basins, groundwater-surface water interaction, fractured rock, alluvial plains, and unconsolidated sediments.

GEOL9112
Investigation and Management of Salinity
School of Biological, Earth and Environmental Sciences
UOC3

The course covers fresh water-saline water interaction in coastal aquifers; occurrence and salinity mechanisms of naturally occurring saline groundwaters; saline lakes and playa brines; dryland salinity mechanisms, occurrence and management; irrigation-induced salinity, mechanisms and management; case studies.

GEOL9124
Groundwater Project
School of Biological, Earth and Environmental Sciences
UOC12

A project equivalent to 10HPW study for one session which requires the student to carry out a detailed investigation relating to groundwater or hydrogeology. The study may relate to the student's field of employment.

GEOL9151
Petroleum Geology
School of Biological, Earth and Environmental Sciences
UOC6

Studies petroleum generation, including kerogen types and maturation, entrapment and degradation processes; sedimentology of petroleum-

bearing sequences; features of sedimentary rocks, with special reference to reservoir materials; primary and secondary porosity; introduction to clay minerals; structural and stratigraphic traps, including diapirs and fractured rock reservoirs; coal-bed methane, oil shale and other non-conventional petroleum sources; geological setting of Australian petroleum basins; exploration and evaluation of petroleum deposits, including an introduction to geophysical techniques.

Note/s: External only.

GEOL9152
Petroleum Geophysics
School of Biological, Earth and Environmental Sciences
UOC6

Studies principles and applications of gravity, magnetic refraction and reflection methods; nature and properties of seismic waves; acquisition of seismic data in land and marine environments; fundamentals of signal processing; processing of seismic reflection data; three-dimensional and four-dimensional (time-lapse) seismic methods; inversion of seismic traces; amplitude variation with offset (AVO); vertical seismic profiling (VSP); integration of geology and geophysics in petroleum exploration and development programs.

Note: External only.

GEOL9252
Groundwater Quality and Protection
School of Biological, Earth and Environmental Sciences
UOC3

Studies water quality determinations and standards; principles of water quality control; monitoring and sampling methods; field and laboratory studies; groundwater contamination evaluation; site assessment and investigation; risk assessment and risk management; aquifer protection and rehabilitation; remediation. Includes case studies.

GEOS0310
Image Processing in Geophysics
School of Biological, Earth and Environmental Sciences
UOC6

The course covers geophysical data types, sources and formats; data acquisition techniques and methodologies;. pre-processing, display, filtering and enhancement techniques; statistical analysis of geophysical data, classification, data integration and interpretation; computer software for geophysical image interpretation; applications of geophysical imagery in Geology and Environmental Science. Computer-based exercises are an essential part of this course.

Note: This course is offered as a 5 day short course in either Winter or Summer Session and will require the completion of additional assignment and assessment materials.

GEOS0360
Hyperspectral Remote Sensing
School of Biological, Earth and Environmental Sciences
UOC6 HPW3

The course covers spectral properties of natural and synthetic materials; physical interaction of EMR with the atmosphere and Earth; imaging spectrometry and hyperspectral images; processing of multi-spectral and hyperspectral images; applications of hyperspectral remote sensing to geological, botanical and environmental studies; mapping and data integration methodologies; implementation in commerce. Computer-based exercises are an essential part of this course.

Note: This course is offered as a 5-day short course in either Winter or Summer Session and requires the completion of additional assignment and assessment materials.

GEOS9012
Remote Sensing Applications
School of Biological, Earth and Environmental Sciences
UOC6 HPW3

Using a diverse range of case studies, this course demonstrates broad remote sensing applications in forestry, agriculture, natural resource management, wildlife conservation, environmental change, pedology, oceanography, geology, meteorology, and politics. Specific applications relate to the assessment of tropical and sub-tropical land cover change, ecosystem dynamics and biogeochemical cycles, vegetation biophysical properties, wetlands management and monitoring, fire, pollution, urban studies and cold region hydrology. Computer-based laboratories allow the students to explore a range of optical, thermal and radar data appropriate to particular applications, and provide exposure to practical image processing and interpretation techniques including classification, change detection, formulation of indices and derivation of empirical relationships. Practical experience with IDL ENVI and Erdas Imagine is provided.

GEOS9013
Directed Problems in Remote Sensing
School of Biological, Earth and Environmental Sciences
UOC6 HPW3

A detailed investigation of a particular aspect of remote sensing technology or an area of applications relevant to candidates' interests and background.

Note: This course requires prior approval of the School's Postgraduate Coursework Supervisor.

GEOS9016
Principles of Geographic Information Systems and Science
School of Biological, Earth and Environmental Sciences
UOC6 HPW3

Approximately 80% of all data collected have associated geographic attributes, and there is an increasing need for people with the skills and abilities to manipulate and make sense of that information. This course provides an introduction to, and understanding of, the basic principles, structures, procedures and applications of geographic information systems and science. Topics covered in the course provide a comprehensive overview and practical experience in the analytical treatment of geographical information, including: information sources; data storage, representation and visualisation; projections and coordinate systems; the analysis of spatial data to generate new information; and the dissemination of such digital information through avenues including the internet.

GEOS9017
Advanced Geographic Information Systems and Science
School of Biological, Earth and Environmental Sciences
UOC6 HPW3
Prerequisite: GEOG9016 or GEOS9016

Geographic information systems have improved considerably over the past decade in response to a world that has become very much richer in digital geographic information. The requirement to build complex applications and simulations has become more urgent with the need to plan for a changing climate, to feed an increasing population and to provide pinpoint marketing analysis for business. This course explores a toolbox of conceptual approaches and methods to model and analyse a range of highly complex, often non-deterministic problems. It provides a true enabling technology for the natural sciences and a rich source of computational and representational challenges for the computer sciences. Topics covered include spatial dynamic spatio-temporal modelling; geostatistics; error analysis and data accuracy; network analysis; and machine learning and artificial intelligence methods in GIS

GEOS9019
Special Topic in GIS
School of Biological, Earth and Environmental Sciences
UOC6 HPW3

Selected topics may be pursued in the forum of individually supervised readings and assignments linked to studies in postgraduate programs offered through the School

Note: This course requires prior approval of the Supervisor.

GEOS9021
Image Analysis in Remote Sensing
School of Biological, Earth and Environmental Sciences
UOC6 HPW3

This course, which is largely laboratory based, provides an in-depth understanding of image processing, analysis and interpretation. Topics include human vision and colour, the construction, display, enhancement and filtering of images, geometric, radiometric and atmospheric correction, supervised and unsupervised classification, principal components analysis, and spatial modeling. The course also demonstrates the theory of hyperspectral and radar remote sensing through lectures and practical computer-based processing. The course provides training in both remote sensing and GIS software, including ERDAS, ENVI, ArcView and Arc/Info.

GEOS9023
Innovations in Spatial Informational 1
School of Biological, Earth and Environmental Sciences
UOC3 HPW2

A presentation of new data acquisition techniques or processing methodologies applied to a current issue within the fields of remote sensing, Geographic Information Systems, image processing or geopositioning.

Note: This course may require attendance at a residential short course of up to 4 days duration and will require the completion of additional assignment and assessment exercises.

GEOS9024
Innovations in Spatial Information 2
School of Biological, Earth and Environmental Sciences
UOC3 HPW2

A presentation of new data acquisition techniques or processing methodologies applied to a current issue within the fields of remote sensing, Geographic Information Systems, image processing or geopositioning. This course addresses content significantly different from that addressed in Innovations in Spatial Information 1.

Note: This course may require attendance at a residential short course of up to 4 days duration and will require the completion of additional assignment and assessment exercises.

GEOS9530
Project
School of Biological, Earth and Environmental Sciences
UOC12 HPW0

An investigation of a problem in environmental management, remote sensing or geographical information systems which may involve an identifiable research component. Such an investigation should be related to the research interests of particular schools within the Faculty of Science.

GMAT9023
Innovations in Spatial Information 1
School of Surveying & Spatial Information Systems
UOC3 HPW2

A presentation of new data acquisition techniques or processing methodologies applied to a current issue within the fields of remote sensing, Geographic Information Systems,image processing or geopositioning. This course may require attendance at a short course of up to four days duration and will require the completion of additional assignment and assessment exercises.

GMAT9024
Innovations in Spatial Information 2
School of Surveying & Spatial Information Systems
UOC3 HPW2

A presentation of new data acquisition techniques or processing methodologies applied to a current issue within the fields of remote sensing,Geographic Information Systems, image processing, or geopositioning. This course will address content significantly different from that addressed in Innovations and Spatial Information 1. This course may require attendance at a short course of up to four days duration and will require the completion of additional assignment and assessment exercises.

GMAT9106
Special Topic in Geomatic Engineering A
School of Surveying & Spatial Information Systems
UOC6 HPW3

This syllabus is flexible to allow presentation of a special topic of current interest presented by visitors with recognised expertise in the topic.

GMAT9107
Special Topic in Geomatic Engineering B
School of Surveying & Spatial Information Systems
UOC6 HPW3

A special course taken by an individual student or a small group of students by private study in conjunction with tutorial sessions with the member(s) of staff supervising the course.

GMAT9200
Principles of GNSS Positioning
School of Surveying & Spatial Information Systems
UOC6 HPW3

This course will introduce the student to reference coordinate systems and time systems, satellite orbital motion, signal propagation and satellite tracking observables. The principles of positioning using the current two Global Navigation Satellite Systems (GNSS) will be studied: the U.S. developed Global Positioning System (GPS) and Russia's Global Navigation Satellite System (GLONASS). The mathematical models for pseudo-range and carrier phase-based modes of positioning, for both single receiver (absolute) positioning and relative positioning implementations, will be developed. These principles will be illustrated using the Matlab GNSS toolkit, allowing students to develop algorithms for real and simulated data processing. Land, marine and airborne positioning applications will be discussed.

GMAT9201
GPS Receivers and how they work
School of Surveying & Spatial Information Systems
UOC6 HPW3

This course will introduce the electronic and signal processing aspects of L1 Global Positioning System (GPS) receivers. The following topics will be dealt with: signal specifications, introduction to CDMA, calculating a position, problems receiver designers must overcome (multipath etc.), front end RF design, correlator principles and approaches, signal acquisition/reacquisition and tracking, how measurements are made, receiver interfaces, augmentation systems (e.g. EGNOS, WAAS) and a discussion of off-the-shelf solutions such as boardsets and chipsets. These principles will be illustrated using Matlab, allowing students to develop algorithm components of receivers.

GMAT9202
Designing GNSS Receivers
School of Surveying & Spatial Information Systems
UOC6 HPW3

This course will deal with the more advanced aspects of Global Navigation Satellite System (GNSS) receiver design. GNSS receivers considered will be those that can track signals from GPS both current and modernized constellations, GLONASS and Galileo. Initially, GNSS positioning is introduced for those who have not completed GMAT9201. The remaining topics will likely vary from year to year to ensure new developments are incorporated into the teaching, but will typically include: specifications for the GPS L2C and L5, GLONASS and Galileo signals, frequency plan implications of the new GNSS signals, correlator implications of the new GNSS signals, antenna design challenges, time transfer, integrity and RAIM, weak signal GPS assisted GPS (A-GPS), integration with inertial systems and Software Radio basics. These principles will be illustrated using Matlab-based exercises and working receiver development kits.

GMAT9205
Fundamentals of Geopositioning
School of Surveying & Spatial Information Systems
UOC6 HPW3

Basic concept of geodesy, fundamentals of positioning, Cartesian and geodetic coordinate systems and datums for spatial information applications, including mathematical conversions between geodetic, Cartesian and topocentric coordinate systems, basic ellipsoid geometry, and transformations between national and international datums. Orthometric and ellipsoid height systems, and geoid models for height transformations. Principles and classifications of map projections and the Universal Transverse Mercator (UTM) projection in particular. Emphasis on Australian datums and projections: AGD/AMG, GDA/MGA and AHD. Fundamentals of Global Navigation Satellite Systems and their applications in geopositioning. Introduction to principles of geopositioning using GPS techniques. Geo-referencing of space/airborne and land-based spatial information acquisition systems. Lectures complemented with class dicuss ions,lab.computations,and field exercises in the use of GPS equipment.

GMAT9210
Modern Positioning Technologies and Applications
School of Surveying & Spatial Information Systems
UOC6 HPW3

This course presents an overview of the various satellite-based and non-satellite navigation technologies and some of their applications. Various user receiver configurations, system augmentations and implementation issues will be analysed. These include : differential GPS schemes and services, pseudo-range and carrier phase-based techniques, pseudolites, terrestrial RF-based and other satellite-based positioning systems. In addition, the role of other inertial sensors (such as gyros, accelerometers and magnetometers) and ancillary data can play in navigation will be discussed. Particular emphasis will be placed on the role such positioning technologies will play in Transport Telematics and for personal location, in relation to Location-Based Services, etc. There will be some guest lecturers from industry.

GMAT9211
Introduction to Geodesy
School of Surveying & Spatial Information Systems
UOC6 HPW3

Selected topics from: The earth's gravity field. The earth's motion in space. Coordinate and time systems used in geodesy. Horizontal and vertical control networks. Earth satellite motion. Principles of satellite positioning. Gravimetric geodesy. Space geodetic methods. Variations of geodetic positions with time.

GMAT9212
Introduction to GPS Surveying
School of Surveying & Spatial Information Systems
UOC6 HPW3

Fundamental concept of satellite positioning, the GPS components (satellite,ground and user segments), field planning and office procedures for GPS surveying, GPS instrumentation, GPS observables and modelling, data processing for single point positioning, differential positioning and precise relative positioning.Integer ambiguity resolution. Introduction to modern GPS surveying techniques, real-time and post processed baseline solutions, adjustment of baselines within networks, datum transformations and height determination. Applications of GPS surveying. Integration of GPS with GIS. Current status and future trends of GPS positioning. Tutorials, class discussions and field exercises will permit a greater understanding of the principles of GPS surveying, and the current GPS performance using commercial hardware/software systems.

GMAT9600
Principles of Remote Sensing
School of Surveying & Spatial Information Systems
UOC6 HPW3

Remote sensing techniques are powerful tools for spatial data acquisition and this course will describe the history, challenges and developments in remote sensing. Topics covered include definition and physics of basic electromagnetic radiation propertises, energy-matter relationships, spectral signatures of surfaces and the atmosphere, the reduction of atmospheric effects, sensor concepts (including film and electro-optical sensors), an introduction to data processing and enhancement (including image interpretation procedures). Satellite missions such as Landsat, SPOT, and ERS will be briefly introduced, as well as future remote sensing satellite constellations. The variety of satellite and airborne platforms, and the greater access to imagery, now make it possible to use remote sensing to address a wide range of applications. The diverse and ever-growing applications will be reviewed.

GMAT9606
Microwave Remote Sensing
School of Surveying & Spatial Information Systems
UOC6 HPW3

Use of passive and active (radar) microwave techniques in remote sensing of earth resources. Topics include: real and synthetic aperture radar systems; passive microwave radiometry; energy-surface interactions; interpretation of microwave image data: applications in agriculture, geology, oceanography and hydrology; issues in signal and image processing; characteristics of airborne and spaceborne microwave sensors.

GMAT9906
Major Assignment
School of Surveying & Spatial Information Systems
UOC12 HPW3

This course provides an opportunity for an individual student to study a selected topic in the areas of surveying and spatial information systems. Students will be expected to discuss the potential topics and work plan with the member(s) of staff in charge of the course before the enrolment.

HPSC5001
Introduction to History and Philosophy of Science
School of History and Philosophy of Science
UOC8 HPW2

Introduces issues and techniques in the history and philosophy of science, taking the origins of modern science as an extended case study. The content and philosophical presuppositions of the new science are analysed, along with its relations to social, religious and political developments in the period. Emphasis is placed on critical historical thinking and use of tools from the sociology of knowledge. Major interpretations of the rise of modern science by Duhem, Hessen, Koyre, Merton, Kuhn, Popper and Shapin will be assessed.

Note: Please consult School before enrolment.

HPSC5002
Environment, Sustainability and Development
School of History and Philosophy of Science
UOC8 HPW3

Introduces relationships between Environmental Policy and Sustainable Development and their links to science, technology and modern society. Key themes: Notions of Sustainable Development; Technical and Social Innovation; Globalisation and Governance; & Eco-politics and Controversy. Topics include: the contested meaning of Sustainable Development; innovations promoted as 'Sustainable Development'; dynamics of globalisation and governance; authority and social relations of science; models of technological and social change; public understanding and participation in technological and environmental controversy. Topics, explored theoretically and through case studies, may include: energy systems, waste, modern genetics and its use in agriculture; conservation of biodiversity, and technologies in everyday life.

Note: Please consult School before enrolment.

HPSC5010
Key Themes in the History of Science
School of History and Philosophy of Science
UOC8 HPW2
Excluded: HPST5400

Introduces students to key issues, methods and debates in the history of science by means of close examination of several case studies of significant turning points in the development of Western science. The critical examination of select primary sources will be stressed, along with the central historiographical debates concerning each case. Related issues in the philosophy of science and sociology of scientific knowledge will be introduced into each case study as appropriate. Case studies will be selected from amongst the following: The Copernican Debate and the demise of the Medieval world-view; Galileo, Science and the Church; the rise of the Newtonian world-view; the Chemical Revolution of the 18th century; the emergence of modern biology and geology in the early 19th century; the Darwinian Revolution; Origins and Development of Molecular biology.

HPSC5020
Supervised Reading Program
School of History and Philosophy of Science
UOC8 HPW2

Allows students to pursue an area of interest in consultation with a supervisor. Involves writing a 6,000 word essay.

HPSC5120
Issues in the History of Life Sciences and Biotechnology
School of History and Philosophy of Science
UOC8 HPW2

Examines some of the historiographic issues surrounding the rise of molecular biology, and in general the development of technologically-oriented life science and industry over the past century. Specific themes may include the political dimensions of biomedical science policy, the evolution of industrial involvement in academic life science and medicine, and the changing social significance of the pharmaceutical and biotechnology industries.

HPSC5130
History and Politics of Medicine and Health
School of History and Philosophy of Science
UOC8 HPW2

Examines issues relating to the history and politics of medicine and health, with an emphasis on the social context of medical knowledge, practices and institutions including conceptions of medical health and policy, the perception and management of risk, and the use and expansion of medical technology and testing. Topics may include: perceptions and expectations of health and disease; ethics and professionalisation; changes in Western medical theory and practice; public health and preventative medicine.

HPSC5200
Foundations of Cognitive Science
School of History and Philosophy of Science
UOC8 HPW2
Excluded: HPST5100

Intended to introduce and provide an overview of foundational issues in the interdisciplinary field of Cognitive Science. The field includes psychology, artificial intelligence, linguistics, neuroscience and philosophy. Topics include: philosophy of mind and psychology from Plato, Aristotle and Descartes to the present; neural nets, finite automata and Turing Machines; Godel's Theorem, mechanism and the mind - can a computer be conscious?; Chomsky's revolution - rediscovering the mind; from behaviourism to mentalism; representation, symbols and intentionality - the Language of Thought; classical symbolic AI or connectionist neural nets?

HPSC5210
Philosophical Issues in Cognitive Science
School of History and Philosophy of Science
UOC8 HPW2
Excluded: HPST5200

Examines a range of philosophical issues in cognitive science, including folk psychology, neurological reductionism, levels of explanation, computational approaches to cognition, situated action theory, cognition and evolution, distributed representation, and dynamical systems theory.

HPSC5300
History of Technology: Concepts and Cases
School of History and Philosophy of Science
UOC8 HPW2

Examines key concepts for a sophisticated treatment of technological change, including: invention, innovation and diffusion; technological paradigms; technological systems their 'evolution' and 'momentum'; deterministic versus interactive models of change; interpretive flexibility of technical artefacts and the social construction of technology. Applies these concepts to the understanding of historical cases with contemporary resonances, including: power in the industrial revolution; the electrification of societies since 1850; the industrialisation of food and eating; telephony; and automobility.

HPSC5500
Society, Environmental Policy and Sustainability
School of History and Philosophy of Science
UOC8 HPW2
Excluded: SCTS5315

Examines the principles of sustainable development in the social, historical and political context within which they've been devised, and their application in different spheres and programs of government, industry, institutions, and community groups. Students will engage with the social and historical context of modern environmentalism, science and the environment, the precautionary approach, sustainability and the built environment, and the international agreements and national commitments to ecologically sustainable development. As an outcome, participants will gain practical insights into key environmental issues and the capacity to apply this knowledge to policy making and management problems, and to problems arising in planning and design.

HPSC5510
Risk Policy, Decision Making and Communication
School of History and Philosophy of Science
UOC8 HPW2
Excluded: SCTS5316

Examines risk controversies that highlight a matter of growing prominence in policy more generally. That is the pressure for public involvement in the management of matters of concern, such as climate change or the regulation of genetic engineering that currently rely on expert risk management. Illuminates this state of affairs by examining social theories of risk and work on risk perception. These are used to develop an appreciation of risk policy and decision making, and the related field of risk communication. Also examines public involvement in decision making via a local case study.

HPSC5520
Fundamental Knowledge in Environmental Management: Social Science
School of History and Philosophy of Science
UOC6 HPW3
Excluded: SCTS5317

The social sciences play an integral role in comprehensive environmental management, and their importance has been recognised in recent years. Explains the social, political and historical contexts of organisational and theoretical frameworks within which environmental issues are interpreted and decision making occurs. Investigates the role of science and the influence of technological change on both environmental impacts and environmental management. Uses case studies of important environmental issues to explore social science methods and provide an overview of the contributions made by a range of disciplinary areas.

HPSC5600
Environment and Development in the Asia-Pacific
School of History and Philosophy of Science
UOC8 HPW2
Excluded: SCTS5312

History of cultural and economic change in the Asia Pacific, with a focus on the approaches to technological and industrial development which has allowed first Japan and now Korea, Taiwan, Singapore and mainland China to achieve rapid economic growth. Australia's orientation towards the region is also examined, together with the impact which knowledge-intensive high-technology industries and global economic pressures have had on this relationship.

IEST5001
Frameworks for Environmental Management
Institute of Environmental Studies
UOC6

This course provides an introduction to the Master of Environmental Management program. Participants will gain an appreciation of the complex and transdisciplinary nature of environmental management issues and of the inherent challenges in multi-disciplinary group approaches to environmental management issues. The emphasis is on exploring conceptual and practical frameworks for environmental management. Starting from the premise of sustainability as a current broadly-endorsed framework for environmental management, the following are explored: the development of the concepts of sustainable development and sustainability; problems in practically interpreting and implementing sustainability; disciplinary perspectives on the concepts (e.g. from philosophy, planning, health sciences etc); the "principles" of sustainable development and experience in their application; responses to the "sustainability framework" at different levels of governance, by different sectors, by corporations, by professional organizations; critiques of sustainability as a framework for environmental management; alternative models.

IEST5002
Tools for Environmental Management
Institute of Environmental Studies
UOC6

Provides an introduction to the wide range of "tools" used in environmental management and for environmental decision-making. These include: environmental impact assessment, social impact assessment, public participation, policy formulation, risk management, environmental management systems, life cycle assessment, materials flux analysis, State of the Environment reporting/accounting, auditing, modelling. Links will be drawn between the "tools" course and material covered in "Frameworks for environmental management" and the "fundamental knowledge" courses. This course will provide an introduction to a number of specialist courses that may be taken as electives (in for example environmental impact assessment).

IEST5003
Addressing Environmental Issues
Institute of Environmental Studies
UOC6

Brings participants in the Master of Environmental Management together in the final stage of their program to focus on analysis and problem solving in multi-disciplinary teams. Will further illustrate the nature of, and need for, a transdisciplinary approach to addressing environmental problems. Group work will draw on current or recent key environmental issues and will be supported by high level seminars addressed by guest speakers from both within UNSW and externally.

IEST5004
Environmental Management Research Project Part A
Institute of Environmental Studies
UOC6

A 6 unit of credit project relevant to the program of study. Students are required to undertake an investigative project under appropriate supervision and present a satisfactory report.

Prerequisite: Completion of 4 courses toward the Master of Environmental Management at a distinction level average (i.e. 75%).

IEST5005
Media Advocacy and Public Education
Institute of Environmental Studies
UOC8 HPW2

This course, offered as a short course, develops practical abilities in designing media-based education campaigns (suitable for health, environmental issues, for example). The media are seen as a resource to be utilised in advocating social or behavioural change and as the conduit for public education programs. Cross-cultural issues are considered as well as questions of 'targeting' groups by age, gender and sub-cultural definition. Introduces techniques of qualitative media/social research in the context of public education.

IEST5009
Professional Competencies in Sustainability: External Drivers
Institute of Environmental Studies
UOC3 HPW27

IEST 5009, led by Dr Robert Gale, other IES faculty and guest speakers, explores the professional competencies that environmental and sustainability managers must have to understand the fundamental drivers of sustainability and to develop strategies to engage with and respond to these drivers. These competencies include contextual scanning (environmental scanning) of external drivers and influences on the organisation's economic, social and environmental situation. External drivers to be considered include the stock market and shareholder activism, lender's liability, insurance risks, and technological change.

IEST5010
Professional Competencies in Sustainability: Internal Responses
Institute of Environmental Studies
UOC3 HPW26

IEST 5010, led by Dr Robert Gale, other IES faculty and guest speakers, examines specific case studies on business practice in environmental management and sustainability including corporate sustainability reports to draw out lessons learned about how environmental and sustainability managers integrate sustainability into the core management functions of their organisations. Learners will acquire knowledge and skill about internal responses and change management strategies to integrate ecologically sustainable development goals and objectives into organisational design, strategic plans, program budgets, procurement policies, environmental performance, monitoring and reporting.

IEST5011
Managing Greenhouse Gas Emissions
Institute of Environmental Studies
UOC6

This short course, led by Dr Mark Diesendorf, aims to teach students to explain and evaluate the scientific evidence for the anthropogenic greenhouse effect and its potential impacts; develop policies and strategies for all levels of government to reduce substantially greenhouse gas emissions from energy and transportation; compare and evaluate different scenarios for achieving these reductions.

IEST5012
Environmental Management Research Project Part B
Institute of Environmental Studies
UOC6

A 6 unit of credit project relevant to the program of study. Students are required to undertake an investigative project under appropriate supervision and present a satisfactory report.

Prerequisite: Completion of IEST 5004 at a satisfactory level.

IEST5018
Environmental Management Research Project Part C
Institute of Environmental Studies
UOC6

A 6 unit of credit project relevant to the program of study. Students are required to undertake an investigative project under appropriate supervision and present a satisfactory report.

Prerequisite: Completion of IEST 5004 and 5012 at a satisfactory level

IMGT5110
Information Retrieval Systems
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite or corequisite: INFS5988

Characteristics and structure of textual records: definition, content, structure and context; elements of record metadata. Databases of textual records: databases as collections of textual records, categorisation of database types, contrast and comparison with other types of databases eg relational, electronic record keeping principles. Textual information retrieval principles: boolean operators, proximity operators, limit operators, truncation, inverted indexes, keyword versus phrase indexing, controlled vocabulary and thesaurus use versus uncontrolled keyword searching, retrieval command languages, set logic and construction for retrieval purposes. Construction and implementation of search strategies: search sequence diagrams, query expansion, broadening and narrowing search results, strategies to avoid information overload. Advanced retrieval features: relevance feedback, introduction to weighting and probabilistic retrieval. Information retrieval systems for specific information environments: libraries, archives, records management systems, etc. Basic design and creation of text-based databases using information retrieval systems: data structures, documentary and management metadata elements and their properties, data entry or conversion requirements, data output techniques. Creation of basic information resources for delivery and access via the World Wide Web.

IMGT5120
Organisation of Knowledge
School of Information Systems, Technology & Management
UOC6 HPW3

The primary focus of the course is the organisation of knowledge for effective management and retireval. Students are introduced to systems of classification and representation of knowledge as essential processes for providing systematic knowledge management and resource discovery. Because knowledge management values both explicit and tacit knowledge resources, the course focuses on strategies and processes of organization of information resources available within an organization (namely records and internal documents) and resources from the public domain that are essential to an organisation's operations. The course focuses on theories and practice of knowledge organization as it relates to meanings, contexts and subjects of information products in whatever form. The methods by which knowledge is created, categorized, classified and represented are studied, as are the standards used internationally for knowledge representation and categorization. New mechanisms for organizing and providing efficient access to the subject content carried by the various media are studied, including traditional print-based materials, electronic documents, and the World Wide Web. For example, particular attention is paid to initiatives such as metadata and global information locator schemes (GILS) as applied to content and document organisation in the electronic media and the World Wide Web.

INDO5002
Politics and Society in Indonesia
Department of Chinese & Indonesian Studies
UOC8 HPW2
Excluded: HIST5204

The Indonesian response to colonial domination in the 20th century, the impact of Japanese occupation, the Indonesian Revolution which culminated in the defeat of the Dutch in 1949, and the search for a new political order down to the 'coup' of 1965. Emphasis on the communists, the Muslims and the populists, and attempts to create political linkages between the elites and the masses. Analysis of those forces for and against an economic and social revolution in Indonesia and of the emergence of the military as a dominant force in Indonesian society.

INFS5731
Information Technology and Business Strategy
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: must be enrolled in program 8407

Information systems and information technology are integral components of every modern organisation. Part of this relationship is the role IS and IT plays in the pursuit of a business's strategy and long term goals. The relentless development of information technology capability, as seen most recently in e-business, has lead to many organisations seeking to bring the deployment of information systems within the organisation into the strategic planning process so as to assist the organisations make effective use of their IT resources in the pursuit and support of the long term viability and competitiveness of business.

This course examines the nature of business strategy and the role IS plays in that strategy from both a theoretical and practical perspective, looking at both the common traditional approaches and the latest emerging strategies. Cases and examples will be used throughout the course to

illustrate concepts and focus class discussions. The experiences of the course participants will also be an important component of the course.

This course will be of benefit to all practitioners looking towards a career in the management of information systems.

INFS5732
Managing and Delivering Information Technology services
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: must be enrolled in program 8407

This course examines evolving methodologies, best practices, standards, and technologies for the management and delivery of IT as a service. After studying this course students will be able to:

Analyse and design (systematically) IT managment requirements from a business service perspective;

- Explain the role of different levels of international standards for the delivery and management of IT services;
- Compare and critically evaluate the management solutions provided by different vendors;
- Discuss the limitations of standards-based solutions;
- Discuss the pros and cons of outsourced vs in-house strategies for the management of IT services.

INFS5733
Information Technology Quality and Project Management
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: must be enrolled in program 8407

This course aims to give students an appreciation of: successful IS project management and the impact of quality considertions on this; the role of standards and methodologies; PM methodology - tools and techniques, supplemented with examples from case studies and group case analysis exercises in class. After studying this course students will be able to: describe the evolution of quality and project management and their importance to improving the success of information technology projects; discuss the benefits of good project management; explain a range of quality and project management terms and techniques; detail the project management life cycle; apply project management methodologies across the key PM knowledge areas; integrate quality systems across all aspects of project management; discuss the benefits and limitations of a range of project management software programs and select the best program for a given project.

INFS5740
Information Technology Management Project
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: must be enrolled in program 8407

Information Technology Management Project is a capstone course offering each student the opportunity to demonstrate mastery of the theory and practice of information systems management by applying the knowledge and skills gained in the Master of Information Systems (MIS) program to a project of the student's choice. This is done by completing a project report reflecting the cumulative knowledge gained from these experiences. Ideally this course should be completed by students who are enrolled in their last session of the MIS program. This course is focused on developing fundamental research skills enabling students to conduct quality and rigorous enquiry in organisational settings.

INFS5848
Information Systems Project Management
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5988

An introduction to the central concepts and issues of project management and the practical benefits of project planning and management together with resource management. Practical sessions in project planning and the use of a computer based management tool. Additional topics include customer focus, lifecycle customisation, work packages, progress monitoring, risk evaluation, quality management, people skills, and negotiation skills. Case studies of and examples from software development projects wil be used as illustrations.

INFS5885
Management of E-Business Technology
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5988

This course aims to provide students with an introduction to the issues that surround the management of E-Business Technologies within the business environment. The course will address business issues that impinge on E-Business in a commercial environment. It will give students an introduction to technologies of E-Business that are widely used in Commerce/Industry and an appreciation of the management issues which surround the application and use of these technologies. Case organisation examples will be used throughout the course to illustrate the application of course materials.

INFS5905
Information Systems Auditing
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5988 or INFS5978

Management of information systems audit and the evaluation of IT management. Analysis and review of internal controls in contemporary computer installations and applications. Use of basic and advanced information systems audit techniques and methodologies, including audit software, integrated test facility, and concurrent auditing techniques. Technology audit reviews of the audit requirements for such technologies as LANs, EDI, and expert systems. Legal and professional requirements, amd computer abuse/fraud auditing. Review of future IS audit techniques, methodologies, research and social implications.

INFS5926
Advanced Data Management
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5992

The principle and practice of data administration in a large organisation. Design, redesign and tuning of database. Distributed databases and database management systems. Reliability, security and integrity of the database.

INFS5927
Knowledge Management Systems and Technology
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5988

The objective of this course is to provide the student with an understanding of the business of managing the generation, organisation, distribution, maintenance, storage, analysis, application, archiving and disposition of corporate knowledge. It considers various systems and technology supporting knowledge management. It also addresses knowledge discovery in databases and corporate data warehouses, by identifying meaningful patterns in data.

INFS5953
Information Systems Management
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5988

This course aims to assist students to develop their knowledge and understanding of important issues involved in the management of information systems in organisations and their ability to critically analyse these issues. Management of information systems will be considered at strategic, tactical and operational levels. Particular emphasis will be given to the management of enterprise-wide and inter-organisational systems and planning for their strategic use. Students without knowledge of and experience in management or the use of IS in organisations, may wish to undertake Information Systems Project Management INFS5848 before enrolling in this course.

INFS5978
Accounting Information Systems
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite or Corequisite: ACCT5930

Accounting Information Systems aims to provide an introduction to the use and management of information systems used within the realm of accounting. Students will have the opportunity to develop their knowledge and understanding of the role of accounting information systems in organizations, examine the information technology components of information systems and review the means by which organizations acquire and deploy accounting information systems. The course will include hands-on usage of accounting information systems and tools germane to the area. The course also includes a study of contemporary

issues confronting accounting information systems, and a consideration of the ethical practices related to the development and use of these systems.

Note: Only offered to students in the Accounting Program (ACCTAS8404) and the Professional Accounting Program (ACCTDS8404).

INFS5983
Business Data Communications
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5988

Data communication networks, interfaces between networks and computers, data communications software, standard communication protocols, network architectures, distributed databases, design of information systems which include data communications.

INFS5984
Information Systems Security
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5988 or INFS5978

Reviews concepts, theory, methodologies and techniques discussed in IS security literature and practice. Includes: information systems security management, risk analysis and management, physical and logical security, database and telecommunications security, continuity planning, computer abuse, internet and electronic commerce, legal and social issues. Case studies will provide students with an understanding of computerised security techniques in practice.

INFS5986
Research Topics in Information Systems 1
School of Information Systems, Technology & Management
UOC6 HPW3

The development of science. Alternative social science research methodologies - case study, normative, laboratory, field studies and field tests. The research process. Judgement in research. Statistical analysis of research data and interpretation of results. Writing the research report.

INFS5987
Research Topics in Information Systems 2
School of Information Systems, Technology & Management
UOC6 HPW3

The objective of this course is to enable the students of information systems research to carry out data analysis using statistical tools for empirical research. It examines both the theoretical aspects of scientific data and statistical analysis and introduces the student to a statistical data analysis package.

INFS5988
Business Information Systems
School of Information Systems, Technology & Management
UOC6 HPW3

This course aims to provide an introduction to the use and management of information systems in business. Students will have the opportunity to develop their knowledge and understanding of the role of information systems in organisations, study relevant and current topics to the area, and examine the components that interact within information systems. This course also encourages students to consider ethical practices related to the development and use of information systems.

INFS5989
Information Systems Design
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite or corequisite: INFS5988.

An understanding of the role and expectations of a systems analyst in the context of the organisational environment, exploring and using the tools and techniques available to the systems designer, expanding and building on the framework of analysis and design acquired from the other courses and student experiences.

INFS5991
Decision Support Systems
School of Information Systems, Technology & Management
UOC6 HPW3
Prerequisite: INFS5988

This course covers issues in the design, development and implementation of systems designed to support decision-making tasks in organisations. The course reviews models of individual and organisational decision-making and provides an overview of a number of exisiting and emerging techniques that support decision-making, such as, management science, statistics, expert systems, artificial intelligence, group decision-support systems, data warehousing and data mining. Methodologies for the development and implementation of DSS applications are discussed. Case studies describing organisational experiences with DSS applications will be discussed.

INFS5992
Data Management
School of Information Systems, Technology & Management
UOC6 HPW3

A review of data management principles including both simple and complex file designs, and the concept of database management systems. Alternative database management system architectures, including network hierarchical and relational approaches. Database query systems, including relational algebra. Case studies and assignments embodying these principles.

INFS5993
Special Topic in Information Systems and Management
School of Information Systems, Technology & Management
UOC6 HPW3

A specially assigned project, program or set of readings relating to information systems and management research.

INFS5998
Project Seminar
School of Information Systems, Technology & Management
UOC6

Please contact the school for further information.

INFS5999
Project Report
School of Information Systems, Technology & Management
UOC12 HPW3

Please contact the school for further information.

JAPN5000
Special Project
Department of Japanese & Korean Studies
UOC8 HPW2

A project of 8,000 English words or 16,000 Japanese characters on a topic approved by the Department.

Assumed knowledge: Third-year level proficiency in Japanese or equivalent for those writing in Japanese.

JAPN5001
Features of Language: Japanese
Department of Japanese & Korean Studies
UOC8 HPW2

Offers a profile of spoken and written Japanese, with specific reference to the meaning of grammatical features interpreted in functional terms and related to the contexts in which they operate. Reference is also made to other languages such as Chinese and English, offering a typological-comparative perspective. Examines major grammatical features eg transitivity, mood and theme.

Note: No prior knowledge of Japanese or any language other than English is necessary.

JAPN5002
Issues in Teaching Japanese as a Foreign Language
Department of Japanese & Korean Studies
UOC8 HPW2

Current issues in teaching Japanese as a foreign language are explored. Topics include innovative curriculum development, materials and resources, teacher roles, teacher discourse, teaching styles that promote learning, teaching of culture, communication and grammar, assessment and evaluation. Students will have opportunity to experience micro teaching, as well as observe undergraduate Japanese classes at UNSW. Conducted in Japanese.

Assumed knowledge: Third-year level proficiency in Japanese.

JAPN5003
Japanese In-Country Research Project I
Department of Japanese & Korean Studies
UOC8

Students will be required to study one session at a Japanese university in a program approved by the Department and complete a research report of 12,000 - 15,000 Japanese characters. Upon their return from Japan students will give a presentation and sit an oral exam on their research report.

Assumed knowledge: Third-year level proficiency in Japanese.

JAPN5004
Japanese In-Country Research Project II
Department of Japanese & Korean Studies
UOC8

Students will be required to study one session at a Japanese university in a program approved by the Department and complete a research report of 12,000 - 15,000 Japanese characters. Upon their return from Japan students will give a presentation and sit an oral exam on their research report.

Assumed knowledge: Third-year level proficiency in Japanese.

JAPN5006
Japanese Sociolinguistics
Department of Japanese & Korean Studies
UOC8 HPW2

Provides an introduction to sociolinguistics showing the relevance of an understanding of the social and cultural context of Japan to the analysis of spoken and written Japanese discourse. Includes methodology, speech varieties, language contact, language change, language behaviour, language attitude, language acquisition and management. Students will examine issues through practical experiences. Focuses equally on issues related to intercultural communication problems in foreigner-Japanese contact situations.

Assumed knowledge: Third-year level proficiency in Japanese.

JAPN5007
Creative Reading & Writing A: Learning about Semiotic Resources
Department of Japanese & Korean Studies
UOC8 HPW2

Offers a multidimensional view of how Japanese works creating meaning through grammar in the context of communication. Provides students with an opportunity to explore their own Japanese language-based experiences through semi-autonomous learning. Students will learn to 'read' and 'write' creatively in order to 'think' and then 'speak' and write in Japanese. Students are expected to give verbal presentations and write a short essay in Japanese (4,000 - 5,000 Japanese characters).

Assumed knowledge: Third-year level proficiency in Japanese.

JAPN5008
Creative Reading & Writing B: Acting on Semiotic Resources
Department of Japanese & Korean Studies
UOC8 HPW2
Prerequisite: JAPN5007

Builds on what has been achieved in JAPN5007. Helps students develop and further their own academic interest: their research interest will be expanded and enriched into their academic area or specialisation in Japanese. Students are expected to give verbal presentations and write an essay in Japanese (5,000 - 7,000 Japanese characters).

JAPN5011
Japanese Teaching Practicum
Department of Japanese & Korean Studies
UOC8 HPW2
Prerequisite: JAPN5002 or JAPN5020

Fourteen weeks of practicum teaching (or 6 intensive weeks in summer). Students will be involved in the team teaching of Japanese in the Department of Japanese and Korean Studies, while keeping a detailed journal. Includes observation of lessons conducted by experienced lecturers, participation in course planning meetings, delivery of lessons, and assessment of student learning under the guidance of the lecturer-in-charge.

Note: Students need to have completed two JAPN5000 level courses to enrol in this course.

JAPN5015
Research Methods in Japanese Studies
Department of Japanese & Korean Studies
UOC8 HPW2
Excluded: JAPN3901

Introduces students to a variety of research methodologies and techniques for analysis that are relevant to a wide range of research in Japanese Studies. Students will experience some of the components of research, such as micro proposal writing, interviewing, and analysis of a short transcript.

Assumed knowledge: Third-year level proficiency in Japanese.

JAPN5018
Discourse and Society in Japan
Department of Japanese & Korean Studies
UOC8 HPW2

Explores various types of discourse located in the socio-cultural contexts that make up Japanese society by interpreting discourse as the verbal manifestation of the social activity. Through our investigation of the nature of discourse, we shed light on the social activities that create meaning in society. The types of discourse dealt with include casual conversation, media discourse, children's literature, professional discourse and academic discourse. Students will be required to analyse a short discourse and its socio-cultural context in terms of the theoretical framework presented in the course.

Assumed knowledge: Third-year level proficiency in Japanese.

JAPN5019
Empowerment through Japanese Grammar
Department of Japanese & Korean Studies
UOC8 HPW2

Explores key areas of the grammar of Japanese and how they can be taught to learners of Japanese as a foreign language at the intermediate and advanced levels. To empower students as teachers and researchers of Japanese, provides them with opportunities to observe Japanese grammar classes, and participate by assisting FL learners in carrying out tasks and by taking part in discussions dealing with course planning and delivery of lessons.

Note: Conducted in both English and Japanese.

JAPN5020
Issues in Learning Japanese as a Foreign Language
Department of Japanese & Korean Studies
UOC8 HPW2

Current issues in learning of Japanese as a foreign language are explored. Topics include learner characteristics and diversity, second/foreign language acquisition of Japanese, learner-centred approach to language education, learning resources, learner autonomy, collaborative learning, and learner discourse. Students will have the opportunity to observe undergraduate Japanese language classes at UNSW. Conducted in Japanese.

Assumed knowledge: Third-year level proficiency in Japanese.

KORE5000
Special Project
Department of Japanese & Korean Studies
UOC8 HPW2

A project of 8,000 English words or equivalent Korean words on a topic approved by the Department.

Assumed Knowledge: Third-year level proficiency in Korean.

KORE5001
Korea's Place in East Asia
Department of Japanese & Korean Studies
UOC8 HPW2

Introduces Korea's role in East Asia in the late 19th and 20th centuries, focussing on social, cultural and political conflicts with Japan, particularly the intellectual foundations of its national identity.

KORE5002
Creative Reading and Writing A
Department of Japanese & Korean Studies
UOC8 HPW2

Offers a multidimensional view of how Korean creates meaning through grammar in the context of communication. Opportunities to explore Korean language-based experiences through semi-autonomous learning:

eg learning to 'read' and 'write' creatively in order to 'think' and then 'speak' and write in Korean.

Assumed Knowledge: Third-year level proficiency in Korean.

KORE5003
Creative Reading and Writing B
Department of Japanese & Korean Studies
UOC8 HPW2

Further consolidation and development of skills acquired in KORE5002. Deals with a broader range of topics/issues relevant to Korean language-based curricula.

Assumed Knowledge: Third-year level proficiency in Korean.

KORE5004
Korean In-Country Project I
Department of Japanese & Korean Studies
UOC8

Participation in 3-4 weeks of intensive language and culture study at a Korean university in a program approved by the Department and completion of a training course specially arranged for them. Upon returning from Korea, students will submit a 2000-3000 Korean word essay on a special topic and sit for an oral examination based on the essay and their in-country learning.

Assumed Knowledge: Third-year level proficiency in Korean.

KORE5005
Korean In-Country Project II
Department of Japanese & Korean Studies
UOC8

Participation in 3-4 weeks of intensive language and culture study at a Korean university in a program approved by the Department and completion of a training course specially arranged for them. Upon returning from Korea, students will submit a 2000-3000 Korean word essay on a special topic and sit for an oral examination based on the essay and their in-country learning.

Assumed Knowledge: Third-year level proficiency in Korean.

KORE5006
Workshop in Teaching Korean
Department of Japanese & Korean Studies
UOC8 HPW2

Explores current trends and issues in teaching and learning Korean as a Foreign Language. Topics include balanced literacy program, literature-based language learning, critical thinking and multiple literacy, classroom interaction, student-controlled discourse, collaborative learning and integrated curriculum.

Assumed Knowledge: Third-year level proficiency in Korean.

KORE5007
Insights into the Korean Language
Department of Japanese & Korean Studies
UOC8 HPW2

Systematic approach to learning Korean grammar, covering theoretical and practical issues from the introductory through advanced levels. Deals with phonology, syntax, semantics and pragmatics, including practical topics such as romanisation, sentence patterns, cross-linguistic issues and idioms. Specific teaching topics might vary, with focus on one or two particular areas of grammar (eg Korean syntax, semantics, etc).

Assumed Knowledge: Third-year level proficiency in Korean.

KORE5008
Korean Teaching Practicum
Department of Japanese & Korean Studies
UOC8 HPW2

Designed for those who have little or no experience in teaching Korean. Includes both campus and field-based experience. Students will be introduced to professional practice in an institution where Korean is offered, drawing together theory and practice needed for effective Korean language teaching.

Assumed Knowledge: Third-year level proficiency in Korean.

KORE5009
Research Methods in Korean Studies
Department of Japanese & Korean Studies
UOC8 HPW2

Introduces students to a variety of research methodologies and techniques for analysis that are relevant to a wide range of research in Korean Studies. Students will experience some of the components of research, such as micro proposal writing, interviewing, and analysis of a short transcript.

Assumed Knowledge: Third-year level proficiency in Korean.

LAWS3009
Comparative Criminal Justice: From Investigation to Trial
Faculty of Law
UOC8 HPW2

This course pursues particular topical and specialist themes utilising guest speakers, class discussion and student presentations. Particular encouragement is given to students to pursue, if they wish, areas of interest. Examples of topics likely to be covered in 2006 include: the impact of the state on policy and decision-making in pre-trial matters and the recognition given to individual rights (such as the right to a fair trial, to silence and/or to liberty) and including where relevant, the impact of Bill of Rights legislation; issues associated with prosecutorial charging practices; restorative justice (from South Africa's Truth & Reconciliation Commission to youth and drug courts in common law jurisdictions); issues arising from countries' decisions to alter their legal practices and their legal institutions – e.g. Spain and Japan's move to 'jury' adjudication and Italy's move to an adversarial trials from an inquisitorial ones; criminal trial decision-making and advocacy practices in select European and common law countries; and how and why differences arise within the common law adversarial legal tradition.

LAWS3011
Anti-Money Laundering and Proceeds of Crime
Faculty of Law
UOC8 HPW2

This subject will examine the money laundering process and common typologies and will provide a critical appreciation of international initiatives, including recent measures to combat the financing of terrorism. It will cover Commonwealth and State laws and the requirements for reporting of financial transactions and include an analysis of comparative anti-money laundering regimes and the more problematic policy issues surrounding confiscation legislation. Consideration will also be given to the relationship between the development of anti-money laundering initiatives and the impact of globalisation including: the use by criminals of the means that have allowed for increased trade; the emergence of economically powerful non-state actors; cross border crime and corruption; and counter measures in developing economies.

LAWS3012
Corruption Law and Policy: Australian and International Perspectives
Faculty of Law
UOC8 HPW2

This subject will provide a theoretical understanding of the nature of corruption and a critically analysis of the impact of corruption in different societies. It will cover the development of anti-corruption laws and the creation of inquisitional commissions in Australia with particular focus on the laws and institutions in New South Wales. This will include an analysis and evaluation of the additional investigative and special coercive powers granted to those commissions and the applicable practices, procedures and evidentiary rules. The course will also consider global efforts to counter corruption and will compare some of the laws, strategies and methods that have been adopted in an attempt to combat corruption in developed and developing economies.

LAWS3029
Issues in Broadcasting Regulation: A Comparative Analysis
Faculty of Law
UOC8 HPW2

Despite new media developments, broadcasting regulation remains a matter of central importance. This course provides students with an opportunity to consider contemporary issues affecting the policy and legal regulation of broadcasting using comparative examples, particularly the United Kingdom, the United States, Australia and Canada. An underlying theme of the course is how current developments - technological, economic and regulatory - are affecting fundamental assumptions about the role of broadcasting regulation and the regulatory design itself. By examining different aspects of broadcasting regulation, you should gain an insight into the challenges and importance of designing appropriate regulation for broadcasting. Themes will include: rationales for, and approaches to regulation; structural aspects of regulation; broadcasting control and competition; content regulation; and, broadcasting regulation futures.

LAWS3033
Defamation, Privacy and the Media
Faculty of Law
UOC8 HPW2

This course deals with the laws which seek to strike a balance between protection of reputation and privacy, on the one hand, and freedom of speech for the media, on the other. Topics include: relevant aspects of constitutional protection of freedom of speech in Australia; the law of defamation (the concept of reputation; what the plaintiff must prove; the available defences; remedies; procedural aspects); other causes of action protecting reputation; criminal libel; legal protection of privacy. Attention is paid to the operation of the relevant laws in practice, to the impact of new technologies of communication and to theoretical, historical, comparative and policy aspects of the various topics.

LAWS3035
Developing Computer Applications to Law
Faculty of Law
UOC8 HPW2
Excluded: LAWS1032

This subject covers the theory and practice of developing computer applications for use in the law. It combines critical analysis and 'hands on' experience. It covers the use of text retrieval and hypertext techniques, knowledge-based technologies such as expert systems (systems that give legal advice) and automated legal document generators, with a strong Internet emphasis.. Systems in use in public administration and private practice will be demonstrated and discussed critically. Each student will design and implement an internet-based computer application in an area of law. The use of appropriate development tools is taught during the course. Familiarity with the use of a microcomputer and a word processing program is a pre-requisite. Familiarity with computerised legal research is desirable.

LAWS3037
Data Surveillance and Information Privacy Law
Faculty of Law
UOC8 HPW2

The subject examines laws protecting privacy and regulating data surveillance in both public administration and electronic commerce. Australian laws are examined in their international context. There is emphasis on the role of technologies in both privacy protection and privacy invasion. Topics may include: uses and effectiveness of data surveillance; data surveillance law as a new method of public administration; identification (population registers, smart cards, digital signatures etc); general law and administrative law protection of privacy; 'Information Privacy Principles' as a new general body of privacy law; sector-specific privacy legislation (eg credit reporting, spent convictions, health, telecommunications); personal data exports. Each student will conduct research on the legality, use and effectiveness of data surveillance techniques, and the effects of data protection law, on one area of public administration or commercial practice. The subject is supported by extensive Internet resources (see http://www2.austlii.edu.au).

LAWS3039
Law and Internet Cultures
Faculty of Law
UOC8 HPW2

U.S. technology powers the internet and disseminates American culture on an unprecedented scale. U.S. law and policy dominates the way we understand the regulatory challenges posed by the technology. Especially for those who are not U.S. citizens, there are important and complex political, economic, social and cultural questions that need to be asked. How is American influence wielded through the internet and its technologies? How is this influence being negotiated? Where and why is it being resisted? This study of cultural and economic issues informs a comparison of U.S., Australian and non western regulatory approaches.

LAWS3041
Contempt and the Media
Faculty of Law
UOC4 HPW2

This course deals with the laws which seek to strike a balance between protection of the integrity of legal proceedings, on the one hand, and freedom of speech for the media, on the other. Topics include: relevant aspects of constitutional protection of freedom of speech in Australia; the principles of contempt of court, together with associated statutory provisions, in their application to media publications (scandalising the court; the sub judice doctrine; restrictions on reporting court proceedings or jury deliberations; journalists' confidential sources; remedies; procedural aspects). Attention is paid to the operation of the relevant laws in practice, to the impact of new technologies of communication and to theoretical, historical, comparative and policy aspects of the various topics.

Note: This course will be taught during the first half of Session 2.

LAWS3042
Censorship and Free Speech
Faculty of Law
UOC4 HPW2

This course deals with the laws which prohibit the publication of material on the ground that it is deemed to offend some community standard, such as racial tolerance or respect for religious sensibilities. These laws are evaluated in the light of legal, political and philosophical principles of freedom of speech. Topics include: the concept of freedom of speech; legal protection of freedom of speech; laws directed against vilification on grounds of gender, race or religion; censorship on grounds of obscenity or pornography; the law of blasphemy. Attention is paid to the operation of the relevant laws in practice, to the impact of new technologies of communication and to theoretical, historical, comparative and policy aspects of the various topics.

Note: This course will be taught during the second half of Session 2.

LAWS3044
Electronic Commerce Law and Practice
Faculty of Law
UOC8 HPW2

Electronic commerce is now an accepted way of conducting business. In a relatively short period of time commerce via the World Wide Web and other online platforms has boomed, and a new field of legal theory and practice is now recognisable. This course offers the student a comprehensive overview of the legal and regulatory structure of electronic commerce, including: current legislative and self regulatory responses to electronic commerce, commentary on recent case law; plus an analysis of proposed law reform. The course covers electronic commerce jurisdiction, online contract formation, electronic authentication, online payment systems and transactions, online dispute resolution, security and the determination of liability for unauthorised transactions.

LAWS3049
Advanced Issues in Torts
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

This course considers current issues in tort law and focuses on providing some of the tools necessary to understand how the law of tort(s) might develop in new contexts. The course reviews recent developments in a range of torts, including intentional torts, economic torts, and torts covering claims for personal injury including negligence. The course does not review the tort of defamation. In addition it considers the interaction between tort and human rights in a number of countries, including Canada and the United Kingdom and how rights might be protected in a country without a Bill of Rights such as Australia.

LAWS3080
Insurance Law
Faculty of Law
UOC8 HPW2

This course provides an advanced analysis of law and policy covering general insurance. The insurance industry faces unprecedented levels of economic and legal reform, as well as rapid convergence with other financial services. Topics covered will include prudential regulation, mergers, licensing, disclosure requirements and the complaints system. The course will include in depth analysis of several leading cases, as well as consideration of the legal issues arising from the collapse of HIH Insurance and the subsequent Royal Commission. Legislation and regulations considered will include the Insurance Contracts Act, the Insurance (Agents and Brokers) Act, the General Insurance Code of Practice, the General Insurance Brokers' Code of Practice and the Financial Services Reform legislation.

Note: This course does not cover life insurance and health insurance.

LAWS3082
Risk Management and Insurance in Sport
Faculty of Law
UOC4 HPW2

This course has been designed to give postgraduates an in depth understanding of the commercial issues which arise in the context of the conduct of sport and sporting events. Issues such as assessing potential liability of organisations and individuals in a sporting context, implementing risk management programs and processes, and effectively dealing with insurance issues will be dealt with from a commercial perspective.

LAWS3083
Sports Sponsorship and Marketing: Commercial Issues
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

This course has been designed to give postgraduates an in depth understanding of the commercial issues which arise in the context of the sponsorship and marketing of sport. Issues such as development and protection of intellectual property by organisations and individuals, licensing images, merchandising and branding, essential contractual terms, drafting and negotiating sponsorship agreements, dealing with sponsorship conflicts, as well as legislation affecting these arrangements will be considered in a detailed manner.

LAWS3088
Regulation of Online Investing
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

This course will begin with an introduction to the Internet and the institutions and new business types in the online investing industry. It will then consider the relevance of the Australian Financial Services Licensing provisions to these online market operators. The course will go on to consider the operating conditions of online brokers, and the legal implications of their customer relations. Subsequent parts of the course will cover public securities and financial products offered using electronic offer documents and the challenges to traditional exchanges from alternative trading systems. Internet fraud, market manipulation and misleading and deceptive conduct in online financial services will be covered next followed by an analysis of the enforcement and liability implications of a number of the topics previously considered during the course. Finally, the international dimension of online investing will be considered.

The course will raise cross-cutting issues: eg. behavioral finance and online investors, the loss of regulatory 'gate-keepers' ie advisory brokers; the overwhelming amounts of financial information available and new actors such as day-traders.

LAWS3089
Corporate Law and Regulation
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9220 or 5750

This course provides an introduction to the structure and regulation of business corporations in Australia. It will also examine some of the theoretical debates about the nature of the corporation and consider their influence on approaches to regulation of corporations. The first part of the course focuses on factors influencing choice of business organization, the process and consequences of incorporation. This part of the course will also consider various aspects affecting the structure of the corporation: its internal rules; the corporate organs and the financing of the corporation. Attention will be given to the differences in regulatory approach between small and large corporations. The second part of the course will focus on corporate governance and topics will include directors' duties and remedies available for breach of directors' duties or to protect against oppression of minority shareholders. Finally, the course will consider briefly some issues of concern to the larger corporation such as fundraising and takeovers. The course is designed for students with a non-law background and will provide a useful introduction to other courses in the corporate and commercial law program.

LAWS3091
Corporate Control Transactions
Faculty of Law
UOC8 HPW2

This course explores the concept of corporate control through a study of the legal doctrines defining control and affecting its exercise, and of the regulation of transactions touching its acquisition and transfer. The provisions of Chapters 6 –6A of the Corporations Law are at the centre of this study. In addition to key issues in the form and conduct of transactions effecting control transfers, the subject also examines theories shaping legal regulation and the policies and interests which influence its contours.

LAWS3092
Securities and Financial Markets Regulation
Faculty of Law
UOC8 HPW2

The broad aim of this course is to examine the structure and regulation of markets for corporate securities. The study is primarily a legal analysis although it considers some financial theory relevant to legal responses to market operations. Topics include: the legal structure of co-regulation of securities markets including the role and powers of the ASX and ASIC; the efficient market hypothesis and its implications for mandatory corporate disclosure and prospectus regulation; prospectus disclosure and liability; the licensing of securities dealers and investment professionals; the conduct of securities business; abusive trading on secondary markets, including stock market manipulation and insider trading.

LAWS3095
Corporate Insolvency
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

The course examines the theory and practice of corporate insolvency focussing on company receivership and liquidation. It covers the winding up of a corporation, the appointment of a provisional liquidator, the powers and duties of the receiver and manager, the operation of the administration procedures under the Corporation Law (with UK analogies), and the powers and duties of the liquidator including an examination of the realisation and distribution of the corporation's assets, the position of unsecured creditors, and the potential liability of a corporation's controllers. Reference will be made, as appropriate, to the insolvency regimes in force in other countries, and to the theoretical difficulties in loss sharing in 'common pool' activities.

LAWS3099
Managed Funds, Superannuation and Insurance
Faculty of Law
UOC8 HPW2

Financial Services is an innovative and rapidly changing sector which is highly regulated. This course offers the student a comprehensive examination of the regulatory environment governing the managed investments, superannuation and insurance industries (including the recent reforms under the Financial Services Reform Act) and related compliance issues. The course focuses on providing a comprehensive and practical examination of the regulatory framework presented in a way which will help you understand the interrelationship between these industries. This intensive course will provide both those unfamiliar, and those with practical knowledge of the financial services sector with a solid understanding of the regulatory framework in which participants in these industries operate and will address topical issues faced by industry participants today, including the increasing convergence of regulation of these industries. This course will not cover issues relating to general insurance, which is covered in our other postgraduate elective, Insurance Law.

LAWS3439
Fundamental Knowledge in Environmental Management: Law
Faculty of Law
UOC6 HPW3
Excluded: LAWS4361, LAWS4362

Note: This is a service course for another faculty, not offered to postgraduate law students

This course has been specifically designed for candidates undertaking the MEM program. It is one of six fundamental knowledge courses for students without any formal background in the relevant disciplinary area. The course aims to provide students with an introduction to the fundamental principles and concepts of environmental law and policy. In addition, the course examines the basic legal institutions and mechanisms that comprise the environmental legal system as well as the legal techniques used in environmental protection. The focus of the course is both international and domestic. Topics that will be addressed in the course include: introductions to domestic and international legal systems; concepts and principles of environmental law and policy; the design of environmental laws and institutions; environmental planning and assessment; pollution control; environmental dispute resolution; protection of biological diversity; and heritage conservation.

LAWS4015
Strata and Community Title
Faculty of Law
UOC8 HPW2

Please view course outline online at http://www.law.unsw.edu.au/course/postgraduate.asp

LAWS4016
The International Context of Intellectual Property
Faculty of Law
UOC8 HPW2
Pre-requisite: LAWS4017

This course has been designed to give postgraduates an overview of intellectual property in the international context. The course will cover aspects of policy related to globalisation, cultural diversity, issues of world trade and the Internet. The role of global industry and non governmental organisations in policy formation will be explored and the development of major international agreements and fora examined. The role of intellectual property as a major tool of world trade will be evaluated in the light of political, social and cultural dimensions. This course is an important element in postgraduate consideration of IP, IT and communications issues.

LAWS4017
Intellectual Property: Regulation and Policy
Faculty of Law
UOC8 HPW2

This course has been designed to give postgraduates from a non-legal background an overview of intellectual property, which is becoming one of the most important areas of commercial legal practice, and is vital to the marketing, advertising, entertainment and communications industries. This course aims to introduce students to each of the general law and statutory protections outlined below. There are increasing interrelationships and overlaps between these protections, particularly because of the Trade Practices Act. For each of the heads of protection, the course gives consideration to the subject matter which is protected, the pre-conditions for protection, and the nature of infringement. Other matters such as remedies, competition law and international protection are dealt with briefly but cannot be examined in detail in an intensive course. However, as far as possible in an intensive overview, this course focuses on the commercial and business aspects of intellectual property.

LAWS4019
Competition Law
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

The course is intended to provide students with a detailed understanding of competition law in Australia as well as an introduction to specialist topics in competition. The course will cover the following topics: The economic and policy objectives of competition law; Collusive arrangements, including price fixing and collective boycotts; Monopolisation; Access and Utility regulation; Vertical arrangements, including exclusive dealing and resale price maintenance; Mergers.

LAWS4021
Issues in Intellectual Property
Faculty of Law
UOC8 HPW2
Prerequisite: LAWS4017

The aim of this course is to develop themes and explore issues concerning the protection of ideas, business reputation or innovations and commercialising and trading in such matter. The course assumes in the student an understanding of intellectual property law. General principles will not be covered, rather, specific topics. International, policy and theoretical aspects may be addressed. Typically, the topics may include: global information policy and the role of copyright in a technological society; digital piracy and copyright control mechanisms; developments in moral rights; protection of cultural property; patenting of biotechnological inventions; biopiracy; global protection of trade marks; the interface of IP law and competition law; current law reform initiatives and other topical issues.

LAWS4023
Commercial Contracts: Problems of Performance, Breach and Termination
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

This course focuses in depth upon principles of contract law which govern the performance, breach and termination of many commercial and conveyancing transactions; it is concerned with complex applications of general contract law principles rather than with more specific rights that are sometimes conferred by statutes dealing with consumer contracts. The course systematically examines a large number of issues which may arise in the course of contractual performance but can seldom be fully considered in undergraduate contract law courses despite their considerable practical importance. In the course of this examination the course addresses a range of difficult questions that have been raised in recent judgments of the High Court of Australia but often remain unanswered. While the course seeks primarily to reveal frequently unrecognised interrelations between legal principles, very considerable class time is devoted to discussion of issued problems which highlight the practical significance and dimensions of conceptual issues. Some specific topics likely to be considered are: contingent conditions precedent to the duty of performance, and their elimination; confusion arising from the multiple classifications of serious breaches; problems in identifying a repudiation and acting upon it; the effect of an unaccepted repudiation; the consequences of repudiation where the victim is not ready, willing and able to perform its own obligations; unconscionable exercises of a right to affirm, or a right to terminate, following serious breach; problems raised by Shevill's case; identification of rights surviving termination.

LAWS4025
Commercial Property Transactions
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

This course is designed to equip students with a knowledge of contract, equity and property law and cognate statute law governing the conduct of commercial land dealings. The course goes beyond a study of the standard form contract for sale of land used in New South Wales and treats topics of national interest and importance and of significance for cross border transactions. Where a study of state legislation is made, the New South Wales model will be used although reference may be made, for comparative purposes, to the legislation in other states. Topics to be studied include: Issues of formation - formal and informal agreements; intention; agreements deferring essential terms; machinery for settlement of terms; exclusive dealing and restitution for expenses incurred; agreements to negotiate in good faith; estoppel; Enforceability - statutory formalities; part performance; estoppel; Options - nature of put and call options; formalities for creation; assignment of options; exercise of options; relief against forfeiture of options; rights of pre-emption; Vendor disclosure - the common law and caveat emptor; mandatory vendor disclosure legislation; the Trade Practices Act, 1974 and the Fair Trading Act, 1987; Title - the fee simple; strata title; community land title; native land title; objections to and requisitions on title; termination for defective title; compensation and damages for defective titles; Remedies - rescission and termination; rescission for non-fulfilment of condition; discharge for breach under the general law; termination for failure to complete - the essentiality of time and notices to complete; anticipatory breach and repudiation; the obligation to tender performance and the right to dispense with tender of performance; express avoidance clauses; damages under the general law; liquidated damages and penalties; compensation for errors and misdescription; remedies under the Trade Practices Act, 1974; specific performance; forfeiture of land and development contracts and relief against forfeiture.

LAWS4026
Banking and Finance Law
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

Banking and Finance Law is a single semester course which examines the law and practice concerning the provision of corporate finance. The course is of particular relevance to those seeking to strengthen professional skills and will be taught primarily by specialist practitioners, principally by leading banking and finance law partners of Mallesons Stephen Jaques. A transactional approach will be adopted in appropriate classes. The focus of the course is upon legal issues in debt finance, including secured transactions, bank finance and capital market borrowings, subordinated and unsecured lending, syndicate loan financing, negotiable instruments and stamp duty and other revenue considerations. Equity capital raising will not be covered in this course but will be dealt with in LAWS3092 Securities and Financial Market Regulation.

LAWS4027
Advanced Debt Capital Markets
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

The most significant development in the Australian financial markets over the last decade has been the development of the debt capital markets. The local and international debt capital markets represent an important source of funds for Australian business. In this advanced course, students will examine in detail the operation of the capital markets and focus on the key legal and other issues relevant to a comprehensive understanding of these markets.

Topics include: Introduction to the debt capital markets and their operation; Australian regulation; taxation of debt capital markets; stamp duty and rating agency issues relevant to a debt capital markets issue; issuer insolvency and structured capital markets products.

LAWS4028
Corporate Governance
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

This course builds upon foundational study in corporate law to examine in greater depth the principles and practices that shape the sound governance of business corporations. Topics examined include: the desirable role, structure and composition of the board of directors with a view to enhancing corporate performance; the board's relationship to management; the role and responsibility of shareholders including institutional investors; the recognition and management of risk; ensuring the integrity of financial reporting systems; executive remuneration; and corporate social responsibility: responding to social claims and stakeholder expectations.

LAWS4029
Elements of Contract
Faculty of Law
UOC4 HPW2
Prerequisite: Academic Program must be either 9220 or 5750

This course is designed to introduce non-law graduates to the law governing the formation and performance of contracts. The course looks at the distinctive nature of contractual obligations particularly as these obligations affect the regulation of relationships in society, business and the commercial world.

LAWS4031
Discharge of Contracts
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9220 or 5750

The course examines some basic principles governing five major ways in which contracting parties may be discharged from their obligations: (i) by performance; (ii) by express or implicit agreement of the parties that their obligations be terminated; (iii) by failure of a non-promissory condition precedent to major performatory obligations;

(iv) by election of the innocent party to terminate further delegations following a serious breach by the other party; and (v) by the occurrence of supervening events which frustrate the originally intended operation of the contract. Significant attention will be given to some legal remedies that become available following discharge in the five situations just mentioned.

LAWS4032
Construction Law for Non-Lawyers
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9220 or 5750

Construction Law concentrates on the legal aspects of construction contracting, from a practical and legal perspective. The course looks at construction terms and roles, project delivery structures, tendering, contract formation, the site, scope, variations, extensions of time, liquidated damages, warranties, dispute resolution, payment, defects rectification and statutory rights. The course focuses on four standard form contracts commonly in use in the industry (JCCF, PC1, AS 4300 and AS 4000) and considers how the risk profiles of each contract differ. The course does not deal with all aspects of law relating to construction; rather, it is focussed on the construction contracting aspects of projects.

LAWS4036
Restitution and Unjust Enrichment Law
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

Restitution is the law's response to unjust enrichment. This course will deal with the question of how and when a plaintiff can compel a defendant to hand over enrichment gained at the plaintiff's expense. Courts in Australia, alongside those in other common law jurisdictions, recognise unjust enrichment as a source of rights and obligations.

The course will also deal with such fundamental questions as:

(1) the reasons for and measures of an unjust enrichment claim;

(2) the constituent elements of a claim in unjust enrichment; and

(3) how the law of unjust enrichment is conceptually related to other sources of rights and obligations (eg tort, contract).

LAWS4037
Securitisation - International Law and Practice
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

Securitisation has become an indispensable of a financial institution's capital market toolbox. This course allows the student a comprehensive overview of the wide-ranging securitisation products as well as their legal and regulatory regime, both in a domestic and in an international context.

The course will look in detail at the building blocks of securitisation, and demystify the financial, accountancy and regulatory environment as to enable legal practitioners to work closely and efficiently in a multi-disciplinary team.

Various case studies will be part of the course, to enhance students self-work and stimulate discussion with experienced practitioners.

LAWS4080
Issues in International Law
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210, 9220, 5740 or 5750

This course provides a solid introduction to the central principles and issues in public international law. Topics covered include: history and development of international law; how international law is made; how the basic units of international law, States, are constituted; and how States and other international legal persons resolve their disputes. These principles and issues are examined and their application assessed in the context of current affairs and evolving international legal developments.

LAWS4081
Advanced Issues in International Law
Faculty of Law
UOC8 HPW2
Prerequisite: LAWS4080

This course will study selected currently relevant topics of public international law in more depth than is available/possible in the basic Public International Law course. The focus of the course will vary from year to year depending on current international events. The operation of the rules of International Law will be examined and assessed in action in the context of the chosen topic/event.

LAWS4083
International Commercial Arbitration
Faculty of Law
UOC8 HPW2

Many cases of injury to multinational companies which would formerly have been pursued as a diplomatic claim by the national State of the company are now resolved by arbitration directly between the company and the respondent State. In this sense, international commercial arbitration can be seen as a natural extension of inter-State dispute settlement procedures, of great and growing importance. This course will examine the law and practice relating to the arbitral process and recognition and enforcement of arbitral awards. Reference will be made to the Model Arbitral Rules and the case law emanating from a number of Arbitral Bodies and Tribunals such as the ICC, UNCITRAL, ICSID and to the decisions of ad-hoc arbitral tribunals.

Prerequisite or corequisite: LAWS2081 Public International Law or equivalent.

LAWS4088
Law of Armed Conflict
Faculty of Law
UOC8 HPW2

This course examines international humanitarian law, the law that governs the conduct of internal and international armed conflict. It examines rules governing the methods and means of warfare and protection of civilians and combatants with particular reference to the 1949 Geneva Conventions, the 1977 Additional Protocols and the Hague Conventions on the laws of war. Also examined are issues of enforcement including the nature and identification of war crimes and crimes against humanity and the principles of jurisdiction upon which enforcement rests. Analysis of the role of the law of armed conflict as a moderating influence in the conduct of states is a central focus of the course.

Prerequisite or corequisite: LAWS4080 Issues in International Law or equivalent

LAWS4091
International Law of Equality and Discrimination
Faculty of Law
UOC8 HPW0
Exclusion: LAWS2412 and LAWS4092

Equality (or non-discrimination) is central to the enjoyment of human rights and freedoms. This course explores the fundamental principles of the international law of equality and non-discrimination and their place in human rights law. It also examines the application of these principles to selected contemporary circumstances. The course focuses particularly on sex, disability and race discrimination, looking closely at gross or entrenched violations, comparing the approaches of various domestic non-discrimination law regimes and analyzing the main policy debates. Special attention is given to the role and accountability at law of non-state actors. Several eminent guest speakers will address the class on particular topics.

LAWS4092
Issues in Discrimination Law
Faculty of Law
UOC4 HPW2
Exclusion: LAWS2412 and LAWS4091

Equality (or non-discrimination) is central to the enjoyment of human rights and freedoms. This course explores the fundamental principles of the international law of equality and non-discrimination and their place in human rights law. It also examines the application of these principles to selected contemporary situations of sex, disability and race discrimination, looking closely at gross or entrenched violations.

LAWS4120
Themes in Asian and Comparative Law
Faculty of Law
UOC8 HPW2

Asia is of increasing relevance to both practising lawyers and policymakers. With Australasian law firms expanding their network of offices into Asian countries and government departments increasingly linking up with their Asian counterparts, there is growing demand for 'Asia-literate' lawyers. This course provides students with the suite of skills necessary to successfully navigate Asian laws and legal institutions. The course reminds students of the dangers of uncritically projecting their own values and assumptions about law onto Asia. Thus, the first part of the course explores a wide range of theoretical concepts - legal orientalism, comparative legal historiography, parallelism, law and culture, legal development and capitalism, Asian legal theories, transplantability of law and interdisciplinarity in Asian law - to equip students with a new framework for interpreting and engaging with Asian law. The second part of the course invites student to apply these concepts to a contemporary issue in Asian law -either a commercial law or human rights issue, depending on student interest - to enable students to exercise these new skills in context. By the end of the course, students will be able to question whether or not traditional comparative law method is suitable for analysing Asian law and devise their own framework for solving Asia-related practice and policy problems.

LAWS4127
Japanese Law in Context
Faculty of Law
UOC8 HPW2

Japanese Law in Context invites students to look inside Japanese law. The purpose of this course is to go beyond a mere description of the 'external' contours of the Japanese legal system and explore the 'internal' workings of the system. The course is divided thematically into issues of the 'who', 'what', 'where', 'when', 'why' and 'how' of Japanese law. Thus, the course covers: the reasons for engaging with the Japanese legal system, including the economic, political and cultural rationales (the why); where to locate Japanese law, ie, as part of comparative law, the 'new' Asian law or Japanese studies (the where); the structure, institutions and classification of the legal system (the what); the various methodologies that may be adopted in analysing Japanese law (the how); Japanese legal history and historiography (the when); and the major theoretical positions on Japanese law and their advocates (the who). The course concludes with a case study on a major contemporary issue in Japanese law - eg, product liability, administrative law reform or sexual harassment, depending on student interest - in which students will be encouraged to apply these contextual factors to evaluate the impact of that issue on Japanese society.

LAWS4128
Japanese Law and Politics
Faculty of Law
UOC8 HPW2

Japanese Law and Politics explores the relationship between law and governance in Japan. Although the course ostensibly deals with public law topics such as constitutionalism, administrative law and judicial activism, the course adopts a thematic approach to how these topics are played out in the Japanese legal setting. Thus, the theme of policymaking in Japan examines how the public policy agenda is set in Japan, focusing on the policy-making powers of the Diet, the bureaucracy, the judiciary and other legal agents. The theme of parochialism investigates Japan's political and legal engagement with the global community, tracing the tension between Japan's eagerness to assume a more prominent political role within the global community and its reluctance to internalise unwelcome international norms on the other. The theme of privatization charts the rise of corporate governments in Japan, exposing three trends of privatization in Japan - deregulation of rules, delegation of adjudication to private parties and relegation of public functions to the corporate domain. The final theme of pluralism explodes the myth of homogeneity in Japan and examines how the Japanese are prepared to use State legal institution to transform social protest into legal action.

LAWS4129
Japanese Law and Society
Faculty of Law
UOC8 HPW2

Japanese Law and Society examines how contemporary social issues are regulated within Japanese law. Thus, the course looks at how Japanese law articulates the position of the family unit in society, using an interdisciplinary lens to analyse marriage, divorce, adoption, family registration, succession and aged care. The course continues with an exploration of how Japanese law impacts on women, indigenous Ainu people, ethnic minorities, persons with disabilities, members of the pariah community (burakumin) and religious minorities. The course then analyses the torts of defamation, negligence and wartime compensation to define the socio-cultural basis to how Japanese law apportions blame. Finally, the course concludes by examining Japan's system of crime and punishment. By the end of the course, students will be able to dismiss common stereotypes about Japanese society and develop a more nuanced understanding of social law and policy in Japan.

LAWS4130
Japanese Law and the Economy
Faculty of Law
UOC8 HPW2

Japanese Law and the Economy takes a problem-based approach to examining how Japanese law regulates commercial transactions. Students will work on a hypothetical business deal between an Australian and Japanese party. Throughout the course, students will be exposed to a wide variety of commercial law topics - contract law, anti-trust, product liability, corporate law, intellectual property, banking and finance regulations, and commercial dispute resolution - as part of advising on the transaction. In the process, students will learn how Japanese law defines business relationships, allocates commercial risk, ensures compliance with public policy responsibilities, and generally regulates commercial conduct. By the end of the course, students will gain such practical legal skills as negotiating across cultural domains, drafting transnational documents and issue-spotting in international transactions.

LAWS4131
Tutorial in Japanese Law and Language
Faculty of Law
UOC8 HPW0

The growing number of lawyers with Japanese language skills highlights the need to prepare lawyers for the types of socio-linguistic challenges they will face in legal practice, business and policy settings. In this self-paced tutorial, students with at least 3 years tertiary-level Japanese language training (or equivalent) will gain the necessary skills in reading and interpreting a variety of Japanese legal documents, including cases, statutes, regulatory instruments, corporate documents and contracts. Students will learn the 'language of the law', incorporating not only the grammar and lexicon of law, but also legal translation theory, the sociology of legal language, and the legal/political/economic/cultural context of Japanese legal texts. Students will also acquire research skills necessary to find Japanese legal sources. Depending on linguistic ability, students may complete either a portfolio of language-related assessment (eg, a major translation and word bank) or a theory-based project (eg, a research essay on gendered language in Japan and Australia).Students will not be assessed on linguistic competence.

LAWS4132
Tutorial in Advanced Japanese Law
Faculty of Law
UOC8 HPW0

Students with a specialist interest in a particular area of Japanese law may, in conjunction with the course coordinator, develop their own specialist course. For example, students may elect to complete the subjects Japanese Law and Politics, Japanese Law and Society or Japanese Law and the Economy in a self-paced tutorial format if the relevant subject is not offered in that year. Alternatively, students may wish to co-develop a program in Japanese Labour Law, Gender and Japanese Law, Japanese Constitutionalism, Japanese Corporate Law and so on. This might be an especially effective way for students to investigate an area of law prior to completing a LLM, SJD or PhD thesis in the field.

LAWS4133
Tutorial in Advanced Asian and Comparative Law
Faculty of Law
UOC8 HPW0

Students with a specialist interest in a particular area of Asian and comparative law may, in conjunction with the course coordinator, develop their own specialist course. For example, students may elect to co-develop a program of study in Chinese law, Korean law or Indonesian law where an equivalent subject is not available in the regular curriculum. Alternatively, students may wish to co-develop a more thematic approach to Asian and comparative law, such as Law and Economic Development in Asian states, Asian Constitutionalism, Culture and the Law in Asia, and so on. This might be an especially effective way for students to investigate an area of law prior to completing a LLM, SJD or PhD thesis in the field.

LAWS4134
Chinese Law in Context
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740; or Plans CHINAF8225 or CHINAF5225.

Chinese Law in Context invites students to look inside Chinese law. The purpose of this course is to go beyond a mere description of the 'external' contours of the Chinese legal system and explore the 'internal' workings of the system. It also explores the inter-relationship between the legal systesm of PRC, Hong Kong and Taiwan. The course covers: the reasons for engaging with the Chinese legal system, including the economic, political and cultural rationales (the why); where to locate Japanese law, ie, as part of comparative law, the 'new' Asian law or Chinese studies (the where); the structure, institutions and classification of the legal system (the what); the various methodologies that may be adopted in analysing Chinese law (the how); Chinese legal history and historiography (the when); and the major theoretical positions on Chinese law and their advocates (the who). Special emphases are placed on dispute resolution, the rule of law in China, and human rights regulation in China.

LAWS4135
Chinese Law and Economy
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740; or Plans CHINAF8225 or CHINAF5225.

Chinese Law and the Economy takes a problem-based approach to examining how Chinese law regulates commercial transactions. Students will work on a hypothetical business deal between an Australian and Chinese party. Throughout the course, students will be exposed to a wide variety of commercial law topics - contract law, anti-trust, product liability, corporate law, intellectual property, banking and finance regulations, and commercial dispute resolution - as part of advising on the transaction. In the process, students will learn how Chinese law defines business relationships, allocates commercial risk, ensures compliance with public policy responsibilities, and generally regulates commercial conduct. By the end of the course, students will gain such practical legals skills as negotiating across cultural domains, drafting transnational documents and issue-spotting in international transactions.

LAWS4136
Tutorial in Advanced Chinese Law
Faculty of Law
UOC8 HPW0
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

Students with a special interest in a particular area of Chinese law may, in conjunction with the course coordinator, develop their own specialist course. For example, students may elect to complete the subjects Chinese Law in Context or Chinese Law and the Economy in a self-paced tutorial format if the relevant subject is not offered in that year. Alternatively, students may wish to co-develop a program in Chinese Labour Law, Gender and Chinese Law, Chinese Constitutionalism, Chinese Corporate Law and so on. This might be an especially effective way for students to investigate an area of law prior to completing a LLM, SJD or PhD thesis in the field.

LAWS4151
European Union: Institutions and Legal Systems
Faculty of Law
UOC8 HPW2

A comprehensive introduction to the constitutional history, institutional structure and legal system of the unique quasi-federation which is the European Union. Particular attention will be paid to the composition, powers and functions of the main legislative and executive organs (Council, Commission and European Parliament) and to the judicial organs (European Court of Justice and Court of First Instance). The course will then focus on the most important aspects of the legal system: supremacy and direct effect of Union law; general principles of law including fundamental rights; Union citizenship; the role of Union and national courts in enforcing and applying Union law.

LAWS4152
European Union: Economic & Trade Law
Faculty of Law
UOC8 HPW2

A comprehensive introduction to the substantive law of the European Union; the world's largest integrated market economy and a principal economic and trade partner for both Australia and the Asia-Pacific region. The Common Market and the Internal Market with particular reference to; the free movement of goods, persons, services and capital; the Common Commercial Policy towards non-EU countries; Introduction to EU competition law; Economic and Monetary Union; State Aids.

LAWS4156
Constitutionalism in the European Union
Faculty of Law
UOC8 HPW2
Prerequisite: LAWS4151

The European Union represents a peculiar type of polity. It is not a nation-state and not a federation as well as not an international organisation. The European integration process went outside the economic dimension and not it is possible to identify a clear distinctive body of constitutional law and public law of the European Union. Recent work of the European Convention prepared the draft of the constitutional treaty at present in the process of ratification. The aim of the course is to cover in depth the functional constituionalism of the European Union. Also its public law and external relations will be analysed and discussed.

LAWS4157
European Human Rights Law and Institutions
Faculty of Law
UOC8 HPW2

Europe enjoys the world's most advanced regional human rights system. The 1950 European Convention on Human Rights was the world's first

major human rights treaty, adopted by the Council of Europe after massive rights violations in the Second World War, and creating binding complaints procedures and judicial remedies. This course examines the origins of the Convention; which rights it protects; its institutional architecture (including post-1998 reform of the European Commission and European Court of Human Rights); and key jurisprudence of the Court. The course also covers the Convention's implementation in national law (such as the Human Rights Act 1998 UK); the relationship of the European system to international human rights law; and the interaction of the Convention with the 1961 European Social Charter and the European Union's human rights processes (especially the Charter of Fundamental Rights in the draft EU Constitution). Topics covered may vary from year to year.

LAWS4158
European Union: Business Law
Faculty of Law
UOC8 HPW2

"EU Business Law" provides an opportunity to become familiar with the legal and political dynamics of the rapidly changing law and business environment in Europe. European Union law today represents more than 60 per cent of the national legal systems of the 25 member states. The course enables the student to understanding the legislative process in the Union and the conflict-ridden ways Union law becomes part of the national systems. The course covers the "four fundamental freedoms" that enable Europeans and foreigners to do business and get employed in Europe. Case studies of telecommunications and anti-discrimination law will be used to put European legal development into context. Basics of EU competition law are also presented.

LAWS4181
Contemporary Issues in International Human Rights
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

A study of the fundamental legal principles and institutions of international human rights, through the medium of contemporary human rights concerns. The course focuses particularly on economic and social rights in the context of rapid economic globalisation. The course examines the impact on human rights of major international forces for change, including the rise of terrorism, trade and investment liberalisation and the expansion of multinational corporations. Special attention is also given to gross human rights violations and the responsibility of the international community to protect, refugees, indigenous rights and women's' rights.

LAWS4182
International Aspects of Social Justice
Faculty of Law
UOC8 HPW2
Exclusion: LAWS4183

This course examines ways in which intergovernmental agreements and other international processes can advance social justice. It includes global agreements, especially within the United Nations system, and also regional agreements within groupings such as the European Union and Association of South East Asian Nations (ASEAN). It will focus principally on agreements and processes which establish or closely affect economic and social rights, especially in the context of rapid economic and technological globalisation. Special attention is given to the role of non-governmental organisations in the processes by which such agreements and processes can be developed, monitored and enforced. The course will include expert guest speakers from within Australia and overseas as well as a "case study" research essay.

LAWS4183
Aspects of International Governance
Faculty of Law
UOC4 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.
Exclusion: LAWS4182

This course examines aspects of the structures, processes and consequences of international governance, especially in relation to social justice. It includes aspects of global governance, especially within the UN system, and also regional governance within groupings such as the European Union and the Association of South East Asian nations. Special attention is given to relevant international agreements at both global and regional levels, and to the role of civil society organisations in their development, monitoring and enforcement.

LAWS4187
International Trade Law: Environment and Development
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.
Exclusion: LAWS4188

This course examines the ways in which the law of the World Trade Organisation interacts with environmental protection and development. Students will become familiar with the relevant WTO agreements and will gain a solid understanding of the principles of WTO law. Disputes which have raised environmental and development issues before the WTO's Appellate Body are studied in detail. Special attention is given to areas where conflicts have arisen, including trade bans for environmental purposes; the application of the "precautionary principle" in WTO law; intellectual property protection and biodiversity; trade liberalisation, food security and poverty-reduction; and, the adequacy of the special treatment of developing countries under WTO law. Students will also explore the environment and labour rights protections under the WTO agreements and NAFTA.

LAWS4188
Environmental Issues in the World Trade Organization
Faculty of Law
UOC8 HPW2
Exclusion: LAWS4187 and LAWS9972

This course comprises the first half of course LAWS4187 International Trade Law: Environment and Development. This segment of the course is a stand alone half course.

LAWS4189
Transnational Business & Human Rights
Faculty of Law
UOC8 HPW2

This course equips students to navigate the legal principles and policies operating in the global economy and focuses on the relationship and interconnection between business activities and human rights obligations. It examines the basic principles of international human rights law, with particular emphasis on economic and social and cultural rights and uses this as a basis with which to examine current initiatives - in international human rights law, company and commercial law, tort law and trade practices law - for the regulation (and self-regulation) of transnational business both in Australia and internationally. Controversial issues will be explored, including the lending policies of the World Bank and the IMF and the human rights impacts of the law of the World Trade Organisation. The course will also examine the effectiveness of various self regulatory mechanisms to hold transnational business accountable for human rights and environmental obligations using mechanisms such as codes of conduct.

LAWS4190
Refugee Law
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

This course will provide an overview of Australian and International Refugee Law. After examining the international refugee regime, the course will consider the practice and politics of refugee law in Australia and examine current pressures in both Australia and internationally for refugee law reform. Students will be introduced to leading international refugee jurisprudence and to some key decisions of the Australian High Court and Federal Court. In addition, students will look at the day to day decision-making of Australian bureaucrats, and at the work of the Australian Refugee Review Tribunal. Students will participate in refugee decision making simulations.

LAWS4191
Feminist Perspectives on Law and Human Rights
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

Feminist analyses of law and human rights provide some of the most significant and challenging explanatory frameworks for understanding the practice and organisation of laws and legal institutions both at a national and international level. Part I of the course traces the 'evolution' of feminist theorising about law, including its early critiques of legal liberalism and its interactions with postmodernism and postcolonialism. There will be a particular emphasis on work that examines conceptions of equality,

rights based strategies for reform, the intersections between categories such as race, gender, disability, class and sexuality, and feminist analyses of international law regimes. Part 1 provides students with a background in a range of theoretical perspectives, with materials drawn from feminist legal and social theory, to apply in the analysis of the specific case studies relating to legal regulation, and the protection of human rights in Part 2 of the course. Case studies may include: the implementation of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the significance of gender and sexuality in claims for refugee protection, the role of public interest advocacy organisations, issues affecting Indigenous women in Australia and overseas, and the effectiveness of current anti-discrimination regimes.

LAWS4212
Native Title Law, Policy and Practice
Faculty of Law
UOC8 HPW2

Just over ten years ago the High Court shook Australia up with the recognition of common law native title. A whole new area of Australian law was born with the Mabo decision. This course takes students through the statutory and judge-made law on native title (the claims process, extinguishment, recognition, future acts etc). But native title law does not make sense unless one steps back and also looks at the policy and political debates which have surrounded it since 1992. As well as doing that, the course will offer insights into how native title has played out on the ground, within government and amongst practitioners, with the help of selected guest lecturers. The course will progress by both direct teaching and class discussion through this significant and controversial new area of Australian law. Students will develop their legal knowledge and a better understanding about an issue of fundamental social and political importance.

LAWS4271
Australian Legal System
Faculty of Law
UOC8 HPW4

This course provides a basic understanding of common law and the Australian legal system. It is intended for students whose legal background is in non-common law jurisdictions. It has a strong focus on techniques of common law legal reasoning, which are essential for the non-common law practitioner to understand when dealing with common law legal systems. It deals with the principal institutions of the legal system, particularly the courts; the legislature and the executive arms of government; the judiciary; the legal profession - its history, role, interrelationships, operation and techniques; the doctrine of precedent and statutory interpretation, practice and theory; sources of Australian law including the past and present status of Aboriginal customary laws; the origins of common law; the colonisation of Australia; classifications within the common law, and the jurisdiction of Australian courts.

LAWS4272
Australian Legal System and Process
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9220 or 5750

This course is designed to introduce non-law graduates to the principal institutions of the legal system in Australia, doctrines of precedent, statutory interpretation, historical influences on our law and also provides training in the tools required for reading cases and using legal material.

LAWS4273
Introduction to Property Law
Faculty of Law
UOC4 HPW2

The course aims to provide students with some of the basic building blocks essential to an understanding of property law. These key concepts are not only important to property law itself but also to understandings in related fields such as succession, taxation, water law, native title, trusts and equity, for example. The course explores the concept of the fragmentation of proprietary interests and discusses how interests may be divided spatially according to the doctrine of tenure, and temporarily, according to the doctrine of estates. The course also aims to provide students with an overview of the creation, transfer and acquisition of various types of property interests. Its primary focus is on real property but it also touches on personal and intellectual property.

LAWS4274
Introduction to Public Law
Faculty of Law
UOC4 HPW2

This course introduces the students to the study of public law, including its methods of reasoning, history and fundamental principles. It deals with introductory principles and theories of constitutional and administrative law and the essential features of our system of government. Topics include the Westminster System, Federation, Indigenous Peoples and the Question of Sovereignty, the Federal Parliament, the Separation of powers, Human Rights and Bills of Rights and Constitutional Change.

LAWS4290
Law, Constitutionalism and Cultural Difference
Faculty of Law
UOC8 HPW2

This serves as both a course in legal and political theory appropriate to culturally diverse societies (including the international arena) and a course in advanced constitutional law, international human rights law, indigenous rights, and other political and legal domains where cultural difference becomes relevant. We will discuss justifications and institutional options for cultural accommodation in law, legal interpretation, and constitutional structure. We will review theoretical arguments for and against cultural accommodation, and examine how those arguments might be translated into institutional form. Contexts considered include the constitutions of culturally diverse societies, indigenous self-government, separate schools, and the international protection of human rights.

LAWS4423
Research Thesis: 8 UOC
Faculty of Law
UOC8 HPW0

Enrolment in a Research Thesis shall be approved by the School of Law if: 1. A clearly defined project is proposed: the thesis topic must be approved at the outset but may be modified at a later stage; 2. The student has a sufficient academic background in legal study to enable the thesis to be completed in a satisfactory manner; 3. Adequate supervision is available - supervision may be conjoint but at least one supervisor should be a full-time member of the School of Law's academic staff.

Thesis: The thesis must be typed on A4 bond paper and two copies must be prepared in a cover (spring back folder or bound). References may appear at the foot of each page or at the end of each chapter. As a general rule the thesis shall be a maximum of 15,000.

Examination: Each thesis shall have two examiners, one of whom may be the supervisor or one of the supervisors. Unless the supervisor or supervisors otherwise agree, the final date for submission shall be the last day of the session in which the student is enrolled in the Research Thesis. Examiners may require a candidate or group of candidates to attend an oral examination on the subject matter of the thesis; examiners may require a thesis to be resubmitted under such conditions as the examiners may determine.

LAWS4425
Research Thesis: 4 UOC
Faculty of Law
UOC4 HPW0

Enrolment in a Research Thesis shall be approved by the School of Law if: 1. A clearly defined project is proposed: the thesis topic must be approved at the outset but may be modified at a later stage; 2. The student has a sufficient academic background in legal study to enable the thesis to be completed in a satisfactory manner; 3. Adequate supervision is available - supervision may be conjoint but at least one supervisor should be a full-time member of the School of Law's academic staff.

Thesis: The thesis must be typed on A4 bond paper and two copies must be prepared in a cover (spring back folder or bound). References may appear at the foot of each page or at the end of each chapter. As a general rule the thesis shall be a maximum of 7,500 words.

Examination: Each thesis shall have one examiner who will, ordinarily, be the supervisor or one of the supervisors. Unless the supervisor or supervisors otherwise agree, the final date for submission shall be the last day of the session in which the student is enrolled in the Research Thesis. Examiners may require a candidate or group of candidates to attend an oral examination on the subject matter of the thesis; examiners may require a thesis to be resubmitted under such conditions as the examiners may determine.

LAWS4430
Research and Writing in a Legal Environment
Faculty of Law
UOC4 HPW2
Prerequisite: Academic Program must be either 9220 or 5750

This course is designed to introduce non-law graduates to legal texts, and to legal research skills and techniques. It introduces students to the many types of legal text which they will encounter during their MLS studies, and helps them to understand and appreciate the differences between them. The course also teaches students relevant legal research methods, and includes practical classes in researching case law, statute law, and secondary material.

LAWS7001
Internationalisation of Financial and Commercial Law
Faculty of Law
UOC8 HPW2

What does legal globalisation refers to the ever increasing sources of modern commercial and financial law in an environment of liberalisation deregulation and privatisation. Major issues concern the place of domestic and international legal orders and the role of comparative law in an environment where common law and civil law are both relevant. Topics will include issues relating to contracts, international payments, banking matters, financial services provision, ownership of goods, leasing and sale of chattels and intangible property.

LAWS7003
Global Issues in Competition Policy
Faculty of Law
UOC8 HPW2

An in-depth comparative study of the legal and economic concepts which underpin competition enforcement in the United States, Australia, New Zealand and the European Union and the mechanisms for extending or rejecting antitrust jurisdiction across jurisdictional boundaries. The course aims to develop in students an understanding of the different approaches to competition law in the jurisdictions selected so that they may utilise the jurisprudence from these jurisdictions more effectively when acting or advising in competition matters whether in Australia or elsewhere. The course proceeds concept by concept rather than country by country. No prior study of trade practices is required.

LAWS7004
International Child Law
Faculty of Law
UOC8 HPW2
Pre-requisite/Co-requisite: LAWS4080

Over the past ten years the concept of children's rights has received a greater amount of attention in legal discourse. Internationally, incidents of child labour, child sexual exploitation and child abductions appear to be increasing at an exponential rate. In many nations of the Western world, high suicide rates amongst teens, the growth of the child prostitution industry, and a higher number of young offenders accused of violent crimes have impacted all our communities. In the South and in many countries in transition the use of child soldiers, a high child mortality rate and the widespread trafficking of young people seem to continuously expanding their reach. Jurisprudence developing from the decisions of domestic courts, administrative tribunals and within international fora have provided insights into policy issues while at the same time offering contradictory messages on the legal responsibility and status of children. Because of this, there is a need to better understand the current status of the law and what your role may be - as lawyers, advocates or concerned members of civil society - in ensuring that the rights of all citizens are respected, regardless of their age. It is often said that the phrase "children's rights" is a slogan in search of a definition. This course will attempt to find its meaning by surveying the history and legal development of children's rights internationally.

LAWS9119
International Environmental Law
Faculty of Law
UOC8 HPW2
Pre-requisite/Co-requisite: LAWS4080

The first part of the course will provide students with an overview of the historical context, political processes and international institutions which are shaping the development of international environmental law. It will examine the role of UN institutions, regional negotiating blocs and the non-governmental community. An introduction to the incorporation of international environmental law in Australia and the management of the political processes in Australia will focus these concerns in the "here and now". In the second part, systemic concerns will be explored through case studies of the major sectoral issues current today. Lectures will examine the existing and emerging laws in each sector and view these as examples of the application of international environmental law principles. The challenges and possible solutions which may be adopted in each sector will be explored. The third part will return to the systemic concerns raised earlier and consider the ways ahead. Study will focus on some of the many aspects of regime design and the trade and environment interface. These include the use of dispute resolution, compliance mechanisms, trade sanctions, eco-taxes, environmental standards and ecolabels in international trade, and the roles of institutions such as the WTO, UNCTAD and APEC. The increasing use of economic instruments in the international context, such as prior informed consent, polluter pays, liability and tradeable emissions quotas, will be considered. The course will conclude with discussion on the future challenges and directions facing international environmental law.

LAWS9194
Animal Law
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210, 9220, 5740 or 5750

Animal law may be briefly defined as the statutory and case law in which the nature - legal, social or biological - of nonhuman animals is an important factor. After examining a current high profile animal issue, the live export of animals from Australia, the course looks at the context for animal law: modern and past ethics and jurisprudence on the way that humans think of and treat animals.

The course looks at the major topics in black letter law: animals as property and the implications of treating them as property; standing to represent the interests of animals; protection from cruelty; companion animal law; the liabilty of owners and keepers of animals; laws relating to agriculture; ethics, ethical guidelines and law of using animals for research; wild animals, wildlife animal and threatened species law, and game and hunting law; and the regulation of veterinarians.

LAWS9800
Law for Psychologists 1
Faculty of Law
UOC6 HPW2

Note: Service course not offered to postgraduate law students

This course will provide an introduction to certain aspects of law relevant to forensic psychologists. Topics to be covered will include an overview of the Australian legal system, civil obligations (tort and contract) and family law.

LAWS9810
Law for Psychologists 2
Faculty of Law
UOC6 HPW2

Note: Service course not offered to postgraduate law students

This course will consider legal issues for forensic psychologists. Topics to be covered will include relevant areas of children and the law, and a range of issues arising in the fields of criminal law and procedure and the laws of evidence.

LAWS9972
International Trade Law
Faculty of Law
UOC8 HPW0
Must be enrolled in Prog 9200, 9210 or 5740. Excluded LAWS2084
Pre-requisite/Co-requisite: LAWS4080

This course is an introduction to the legal order of international trade in a broad sense, i.e. including trade in goods, in services, the regulation of foreign direct investment and international sales transactions. It starts with providing a conceptual framework of international economic law, its main actors and institutions. In particular, the limits of the jurisdiction of states, i.e. their power to regulate transborder commercial activities, will be discussed. The emphasis will be on the principal obligations of the WTO/GATT system (National Treatment, Most-Favoured-Nation Principle, Technical Barriers, provisions on quantitative restrictions, developing countries and government procurement; General Agreement on Trade in Services; Trade-Related Intellectual Property Rights). The course will also address issues raised by the dispute settlement procedures of the WTO as well as by unilateral trade remedies (anti-dumping, countervailing duties, safeguards, etc.) according to national laws.

LAWS9980
Principled (Interest Based) Negotiation
Faculty of Law
UOC8 HPW2

Parties to a negotiation often have poorly developed understanding of what might be an appropriate preparation process and how success may be measured. Significant benefit can be obtained from having the opportunity to identify, practise and review a process by which their negotiation performance can be enhanced and evaluated. This program will provide participants with the opportunity to:-

- identify the elements of a good outcome to a negotiation
- apply the elements in the preparation for and conduct of negotiation
- identify the steps to be taken, prior and during negotiation, to develop and enhance existing working relationships
- identify and apply evaluation procedures for reviewing a completed negotiation so as to enhance future performance
- practise these processes in a safe, encouraging environment
- apply these principles in a personal setting and within the procedural framework and culture of their business environment.

LAWS9987
Managing Knowledge in Legal Services
Faculty of Law
UOC8 HPW2

Please view course outline online at http://www.law.unsw.edu.au/course/postgraduate.asp

LAWS9991
International Criminal Law
Faculty of Law
UOC8 HPW2
Pre-requisite: LAWS4080

This course will endeavour to systematically analyse the most current state of international criminal law and its place in the modern international legal system in light of: (a) the entry into force of the Rome Statute of the International Criminal Court in July 2002; (b) a series of judgments on the substantive criminal law rendered by the International Criminal Tribunal for the Former Yugoslavia and that for Rwanda; and (c) other recent developments, such as the proceedings against General Augusto Pinochet in England, and the attempt to bring the members of the Khmer Rouge to justice. While the focus of the course will be on the substantive law, important procedural aspects will also be considered. Inevitably, emphasis will be placed on the present and future prospect of international criminal law in the hands of the International Criminal Court (ICC) set up by the Rome Statute. At the same time, the possibility of domestic courts or ad hoc international tribunals applying international criminal law alongside the permanent international criminal court must be reckoned with. The course will proceed with the examination of relevant international legal concepts, general principles of international criminal law, and the functioning of ad hoc international tribunals and their comparison with the ICC. Particular international crimes (genocide, crimes against humanity, war crimes, aggression, and other international crimes), modes of participation in the commission of such crimes, and defences will then be analysed. The course will conclude by dealing with procedural aspects as well as the present and future implementations of international criminal law.

LAWS9993
International Business Transactions
Faculty of Law
UOC8 HPW2

This course examines the legal framework of the international business transaction by focussing on trade terms, the Vienna Convention on the International Sale of Goods and the structure and finance of international trade. The course covers a wide range of topics, including the commercial terms of the sales agreement, shipping contracts, financing arrangements (letters of credit, electronic transfers, etc.), insurance and customs documentation. The course also examines the foreign direct investment transaction, international franchise and distribution agreements and contracts for the transfer of technology. International business regulation is also reviewed with particular attention focussed on the World Trade Organization Agreements and regional trade agreements. Finally, dispute resolution is considered with emphasis on choice of law and forum, arbitration and enforcement of arbitral awards and foreign judgments.

LAWS9994
Commercial Fraud
Faculty of Law
UOC8 HPW2
Prerequisite: Academic Program must be either 9200, 9210 or 5740.

This course examines the criminal law in NSW dealing with theft and fraud. It traces the development of the common law concepts of larceny and the legislative initiatives of false pretences through to more modern offences of forgery, obtaining by dishonesty, defrauding and computer-related offences. Emphasis is given to difficulties of applying the existing law to modern developments, in particular the use of the corporate vehicle in business and the problems of the meaning of property in electronic environments. The course is based on two streams of topics. The first provides a detailed analysis of the elements of current and proposed property and dishonesty offences. The second stream of topics examines definitions of fraud, the causes and motivations behind fraudulent activity, and particular forms of fraud that are currently prevalent.

LEGT5411
Legal Strategies for Knowledge Protection
School of Business Law and Tax
UOC6 HPW3

While it is imperative to promote knowledge flows within a business, it is just as imperative to quarantine that knowledge from the outside world. A business' profitability and long-term viability depend on the cultivation and exploitation of distinct and protected knowledge stores. Such knowledge can be protected by the use of available bodies of law, including those commonly labelled intellectual property and theft laws.

This course examines the various legal frameworks that have been developed to protect information and knowledge and analyses the extent to which these laws can either promote or inhibit the flows of knowledge within a business or organisation. The course highlights why businesses promoting knowledge flows need to be aware of how their ability to do so is underpinned by a supportive legal framework and, just as importantly, how deficiencies in those laws require sophisticated and vigilant strategies to protect a business' knowledge stores.

LEGT5421
E-Business and the Law
School of Business Law and Tax
UOC6 HPW3
Excluded: LEGT5563

Electronic commerce relies on the new wave of technologies associated with the internet. It raises significant legal and regulatory issues. This course reviews the existing legal and regulatory regimes applying to E-business and critically examines the need, and proposals, for reform. Topics covered will focus on three primary areas of legal regulation, transactional regulation including contract law and consumer protection; digital and internet related regulatory issues including privacy, internet content and intellectural property protection; and industry sector specific regulation such as banking, securities, gaming and software technology.

LEGT5511
Legal Foundations of Business
School of Business Law and Tax
UOC6 HPW3

Law is an increasingly significant factor in business. In any business decision fundamental legal questions may arise about the potential liabilities of the parties, the rights that the parties have and how the business or transaction should be organised. This subject introduces the Australian legal system; outlines alternative forms of business organisation; discusses the legal framework of business regulation; and examines areas of law particularly relevant to business including the law of contract and torts, the laws relating to specialised commercial transactions, the regulation of restrictive trade practices and sales promotion, and intellectual property.

LEGT5512
Legal Foundations for Accountants
School of Business Law and Tax
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8409

In presenting and analysis financial data and in the financial management of enterprises accountants need to be aware of the legal responsibilities and risks that arise in business. This course begins by outlining the framework of the Australian legal system and the sources and nature of Australian law. It then introduces the student to areas of law particularly relevant to accountants including: the law of contract; consumer protection law; real and personal property; intellectual property; securities over property interests; torts (such as negligent mistatement); crimes (such as fraud and other 'white collar' crimes); payment systems; and competition law.

This course is offered only for students in the Master of Professional Accounting program.

LEGT5522
Special Topic in Business Law
School of Business Law and Tax
UOC6
Prerequisite: Approval required from Head of School.

A specially assigned project, program or set of readings relating to research in business law.

LEGT5523
Special Topic in Taxation
School of Business Law and Tax
UOC6
Prerequisite: Approval required from Head of School.

A specially assigned project or set of readings relating to research in taxation.

LEGT5531
Competition and Consumer Law
School of Business Law and Tax
UOC6 HPW3
Prerequisite: LEGT5511

Trade practices and fair trading laws have assumed fundamental importance in the Australian marketplace. This subject examines the regulation of restrictive trade practices under the Trade Practices Act 1974 (Commonwealth) and the Competition Code with particular reference to collusive activity, distribution methods, pricing arrangements, abuse of market power, mergers and access to essential facilities. This subject also examines major fair trading initiatives under the Trade Practices Act, and State and Territory Fair Trading legislation, with particular reference to misleading or deceptive conduct, unconscionable conduct, advertising and marketing strategies and product liability. Aspects of the protection of intellectual property are also examined.

LEGT5541
Corporations and Business Associations Law
School of Business Law and Tax
UOC6 HPW3
Prerequisite or Corequisite: LEGT5511 or LEGT5512

The course begins by comparing the key legal features of different forms of business organisation (such as companies, partnerships and trusts) in relation to considerations such as liability, ownership of assets, transfer of onwership and termination. It then examines corporations law in detail. Topics dealt with include: the process and legal effects of incorporation; dealings between the corporation and outsiders; the raising of corporate finance; corporate distributions; legal aspects of corporate governance (including director's duties, members' remedies, and accounts and audit provisions); and the external administration of corporations

LEGT5542
Law of Corporate Governance
School of Business Law and Tax
UOC6 HPW3
Prerequisite: LEGT5541.

The corporate structure dominates both Australian and global commerce. This course examines the operation of the modern corporation from the perspective of corporate governance issues. Topics include the changing character of the corporation, the respective roles of shareholders, management and directors, the position of institutional shareholders, performance and conformance aspects of the board's function and international standards of corporate governance. The course will incorporate case studies based on contemporary examples and practices.

LEGT5551
Taxation Law
School of Business Law and Tax
UOC6 HPW3
Prerequisite or Corequisite: LEGT5511 or LEGT5512

The complexity and comprehensiveness of the Australian tax system mean that tax considerations are now of major importance in most business decisions. After outlining tax policy, tax mix and tax reform considerations, this subject concentrates on income taxation in Australia. Topics include: concepts of income; allowable deductions; tax accounting; taxation of partnerships; trusts and corporations; anti-avoidance provisions; tax administration; capital gains tax; and fringe benefits tax.

LEGT5561
Legal Aspects of Finance
School of Business Law and Tax
UOC6 HPW3

The size and complexity of modern capital markets requires a comprehensive understanding of essential legal concepts involved. Topics include commercial structures including companies, joint ventures, partnerships and trusts; procedures for equity and debt financing of entrepreneurial schemes with special reference to both law and practice; the regulation of the securities market; corporate restructuring and take-overs, mergers and reconstructions; the law of company charges; aspects of the taxation of commercial financing.

LEGT5562
Business Law in a Global Economy
School of Business Law and Tax
UOC6 HPW3

Developments in technology, telecommunications and deregulation which have taken place in the latter part of this century have led to the creation of a global economy. This subject addresses the legal environment of this economy and aspects of its operation. Topics include GATT and the World Trade Organisation; the laws and practices relating to international sales and financing agreements; arrangements for conducting international business, including franchising, licensing, joint ventures and technology transfer; the resolution of international disputes and the protection of intellectual property.

LEGT5563
Technology, Information and the Law
School of Business Law and Tax
UOC6 HPW3

The rapidly evolving developments in computers and information technology pose particular challenges for society and the law. This subject examines those areas of law which have a major regulatory impact on the hardware, software, and networked communications which make up information technology. Topics include the intellectual property regime (in particular copyright, patents and confidential information); technology crimes; tortious and contractual issues in relation to the supply of goods and services; data protection and privacy; regulation of the Internet; and other current issues.

LEGT5564
Regulation of Government Agencies
School of Business Law and Tax
UOC6 HPW3

The executive arm of government possesses wide regulatory and administrative powers. This course examines the law controlling the bureaucracy in the exercise of these powers. It covers delegated legislation, the control and review of administrative action and discretionary powers, and freedom of information. The roles, powers and functions of the major regulatory agencies with particular reference to the Australian Competition and Consumer Commission, the Australian Securities Commission and the Australian Taxation Office are also examined.

LEGT5565
Contemporary Issues in IT Law
School of Business Law and Tax
UOC6 HPW3
Prerequisite: must be enrolled in program 8407

This course presents an in depth consideration of contemporary legal issues pertinent to Information Technology managers. It is intended that the specific content of course will be student driven and will reflect the range of legal issues of contemporary concern to the IT manager. Issues which may typically be covered are: teh effect of utilising electronic communication media, including the internet, on the formation and terms of contracts in particular the use of click wrap, shrink-wrap and browse wrap terms and licences; the impact of Australian and overseas privacy legislation on data collection, usage and storage; intellectual property creation, protection and exploitation with particular focus on copyright, patent and trademark laws; regulation of teh internet, including content regulation, domain name dispute resolution and cyber squatting regulation in Australia and overseas; the position of and regulation of cyptography in data protection, digital signatures and e-commerce; the exposure to defamation, negligent misrepresentation and/or other tortious liability in networked communications; the regulation of unsoclicited email or spam; the regulation of electronic surveillance measures in the workplace, with particular reference to surveillance of email and internet usage;

the position of cybercrime and anti-terrorist legislation in the context of network security; and the effect of Australia's constitutional structure on the regulation of IT commerce. In addition, some pervasive considerations such jurisdictional and ethical issues will recur throughout the course.

The course assumes a level of basic legal knowledge regarding Australia's legal system including how laws are made, contract law, tort law and property law. Students who do not possess such knowledge will be given self guided readings to all them to achieve the assumed level of knowledge.

LEGT5571
Franchising
School of Business Law and Tax
UOC6 HPW3

Franchising is becoming the dominant force in the distribution of goods and services. This subject examines the nature, development and significance of franchising in the Australian and international economies and addresses relevant legal and commercial issues. The legal nature and commercial implications of other distribution strategies - technology transfers, trademark licensing, character and personality merchandising - are also examined.

LEGT5575
Corporate Fraud and Crime
School of Business Law and Tax
UOC6 HPW3
Prerequisite: LEGT5511.

Corporate fraud costs Australian business tens of billions of dollars every year. This course examines aspects of fraud and corporate crime in their legal and commercial contexts. Topics include analysis of the various laws relating to theft, fraud, conspiracy and other 'white collar' crimes; the detection and investigation of fraud; and associated issues including the powers of employers and law enforcement agencies, surveillance and privacy issues and strategies for minimising legal exposure to fraud.

LEGT5581
Taxation Policy, Principles and Planning
School of Business Law and Tax
UOC6 HPW3
Prerequisite: LEGT5551.

Taxation is a necessary component of any modern economy. In Australia the dominant form of taxation is income taxation. Any country imposing an income tax will face several fundamental policy options. Responsible businesses in any country with an income tax will endeavour to legitimately minimise their tax liability. In this subject Australian income tax law is examined in the context of the policy principles influencing Parliament and of planning opportunities that currently exist in Australia.

LEGT5582
Taxation of Business Entities
School of Business Law and Tax
UOC6 HPW3
Prerequisite: LEGT5551.

Australia currently taxes the different types of business entities in ways that are consistent with their legal form. It follows that some economically equivalent business structures are treated quite differently from each other for tax purposes. Issues relating to the choice of a particular type of business entity and its operation produce tax planning opportunities and tax policy challenges. This subject examines tax issues relevant to the creation, operation and termination of partnerships, trusts and companies. It places particular emphasis on a detailed examination of the dividend imputation system and on issues arising when dividend income moves through a partnership, a trust or an interposed company. It also examines tax issues relevant to other selected business entities such as joint ventures, cooperatives, and superannuation funds.

LEGT5583
International Business Taxation
School of Business Law and Tax
UOC6 HPW3
Prerequisite: LEGT5551.

In the world economy, barriers to international investments are rapidly falling. Of the remaining barriers some of the most significant are differences in tax systems, and the inadequate coordination of different tax systems. This course discusses the principles relevant to international taxation and uses the Australian international tax rules to highlight possible international tax policy choices and problems. Prospects for the improved coordination of international tax rules through harmonisation and through bi-lateral and multi-lateral treaty networks are examined. Special emphasis is given to practical tax issues associated with international direct investments.

LEGT5586
Corporate Law, Tax and Strategy
School of Business Law and Tax
UOC6 HPW3
Prerequisite: LEGT5551, LEGT5541.

What are the legal and tax implications of the different financing alternatives available to corporations? Are all the different methods of profit distribution from a company equally tax effective? What are the different strategies available to a takeover bidder and when should they be used? How should a corporate reorganisation be structured? This subject will examine these and similar questions, relating to the interaction between legal and tax questions in corporate governance, through a series of case studies and simulations.

LEGT5589
Capital Gains Tax
School of Business Law and Tax
UOC6 HPW3
Prerequisite: LEGT5551.

Capital Gains Tax in Australia potentially applies to an exceptionally wide range of transactions. The disposal of assets, the creation of rights, the granting of leases and options, and the forfeiture and surrender of rights all involve Capital Gains Tax issues. This course examines the basic structural features of Capital Gains Tax in Australia. Issues concerning the scope of Capital Gains Tax and the boundaries between Capital Gains Tax and ordinary income are then examined through a series of business related case studies. The Australian approach to taxing capital gains is compared with the approach taken by some of our major trading partners and reform options are discussed.

LEGT5998
Research Seminar in Commercial Law
School of Business Law and Tax
UOC6
Prerequisite: Approval required from Head of School.

LEGT5999
MCom(Hons) Project Report
School of Business Law and Tax
UOC12

LING5000
Special Project in Applied Linguistics
Linguistics
UOC8 HPW2

A major project (8,000 words) involving the design of a language course, or some other form of applied linguistic research (eg application of translation theory, language acquisition study, text or discourse analysis, LOTE-related project, devising a CALL program, contrastive language study, sociolinguistic study).

Note: Not advised for those in their first semester of study. Normally requires a Distinction average.

LING5001
Second Language Acquisition
Linguistics
UOC8 HPW2

Current research and theory in second language acquisition and their implications for language teaching.

LING5002
Language Teaching Methodology
Linguistics
UOC8 HPW2

Overview of the range of methodological approaches to the teaching of spoken and written language skills in relation to historical and sociocultural contexts and to theoretical considerations with a special focus on TESOL. Analyses and reflects on aspects of classroom practice, including teacher and learner roles, the use of teaching materials and language teaching technology. Draws on the collective knowledge and experience of the class.

LING5003
Testing and Evaluation
Linguistics
UOC8 HPW2

The principles and practice of language testing and assessment and of language teaching program evaluation with a special focus on TESOL. Includes practical work in the construction of tests and other assessment instruments and in the design of evaluation tools.

LING5004
Curriculum Design
Linguistics
UOC8 HPW2

Critical survey of different approaches to the language teaching curriculum with a special focus on TESOL. Themes: the difference between methodology, syllabus, and curriculum; the relationship between views of language and principles of curriculum design, the cultural, social and institutional context of the curriculum; the role of needs analysis; content specification and organisation, managing curricular innovation; and evaluation of the curriculum.

LING5005
The Structure of English
Linguistics
UOC8 HPW2
Excluded: ENGL5502, LING2604, LING2800

A step-by-step account of English grammar covering the most important and central constructions and categories. Reference is made to both the latest theoretical advances in linguistics and to significant departures that are made from traditional grammar. Samples from present-day English are analysed and discussed.

LING5007
Translation: Theory and Practice
Linguistics
UOC8 HPW2
Excluded: MODL5106

Considers the impact of modern linguistics on the theoretical and practical aspects of interlingual translation and/or interpretation. Issues and debates will be discussed, along with the theoretical frameworks behind some major programs.

LING5011
Functional Grammar
Linguistics
UOC8 HPW2
Excluded: ENGL2503, LING2400

An introduction to Systemic Functional Grammar. Provides a model of grammar which analyses authentic texts in their social context, and which has had a significant impact on education in mother tongue and second/foreign language situations. We develop a set of tools which focus on the lexical and grammatical patterns of a variety of texts from different genres and registers.

LING5012
Language and Mind
Linguistics
UOC8 HPW2
Excluded: ENGL2552

An introduction to issues in current linguistic theory, with particular attention to generative models, their historical development, methodology and philosophical and psychological implications.

LING5015
Functional Discourse Analysis
Linguistics
UOC8 HPW2

Develops tools for analysing discourse, examining patterns in text which contribute to cohesion and coherence, develop a system of knowledge, create an identity, and achieve social purposes. Systemic-functional descriptions and critical discourse perspectives will be central. A wide variety of texts will be examined, focussing in particular on written genres, but spoken genres and multi-modal texts will also be considered.

LING5020
Adult Language Learning and Teaching
Linguistics
UOC8 HPW2

Focuses on the pedagogical strategies of teaching adults English as a second and/or foreign language. Examines language use and discourse in the classroom, models of language, teaching methodology, development of curricula, syllabus design and use of teaching resources and technology. Includes a practicum in a classroom environment with hands-on experience, putting theory into practice.

LING5021
Language for Specific Purposes
Linguistics
UOC8 HPW2

Covers the origins of LSP and its relationship to foreign and second language teaching; the branches of LSP including Language for Business, Science and Technology, Academic, and Vocational Purposes; curriculum issues such as linguistic description and language needs, needs analysis and situation analysis, and teacher and learner characteristics; methodology, materials; assessment and evaluation. Uses case studies and research studies of LSP courses.

LING5023
Analysing Spoken Discourse
Linguistics
UOC8 HPW2

Explores conversation and other forms of talk-in-interaction, with a focus on the structures and organisation of the discourse, and further, on how participants interactively construct meanings and activities through the talk. Special focus is on the ways speakers distribute their turns at talk, how turns are sequenced into series of actions, and ways of dealing with disagreement and with misunderstandings and breakdowns. Students are required to transcribe and analyse a short conversation, and analyse some conversational data.

LING5050
Special Project in TESOL
Linguistics
UOC8 HPW2

A major project (8,000 words) involving the design of an ESL/EFL language course, a project in testing/evaluation or in classroom practices in TESOL, a CALL program in TESOL or another TESOL-related topic.

Note: Not advised for those in their first semester of study. Normally requires a Distinction average.

MANF8340
Factory Automation
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MANF9340

Elements of factory automation such as Flexible Manufacturing Cells and Systems, material handling and warehousing, assembly systems, automated quality control systems, sensors and data acquisition. Cellular manufacturing techniques and layout planning. Simulation and intelligence in manufacturing. Communication networks in a factory environment. Strategies for factory automation.

MANF8420
Managing Manufacturing Operations
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MANF9420

Managing manufacturing operations as a competitive weapon, strategic linkage of operations through quality, value added management, strategic quality management approach, International Human Resource Management, Technology Transfer, Strategic Management of Technology, Variation and its Causes, improvement strategies, productivity and its measurement, Taguchi techniques.

MANF8471
Manufacturing Strategy
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MANF9471.

Relation of manufacturing strategy to business strategy, financial strategy and marketing strategy. Technology and process choice; process positioning. Capacity and location decisions: long term capacity strategies, international capacity planning; planning facilities with a region. Global manufacturing and the virtual corporation. Focused manufacturing; continuous improvement and the experience curve. Strategic management of human resources; strategy implementation and change management; linking operational performance to manufacturing strategy.

MANF8472
Production Planning and Control
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MANF9472

Industry dynamics; Porters Model; bases for competition and implications for Production Planning and Control. Dynamics of materials flow; role of inventory; effect of bottlenecks and process variability on materials flow. Planning levels and timescales; forecasting; aggregate planning; the Master Production Schedule. Manufacturing Resources planning and its limitations. Optimised Production Technology and synchronised manufacturing; Just in Time production; Kan Ban systems; mixed model production; evolution towards JIT. Maintenance management; preventive and predictive maintenance; Total Productive Maintenance. Role of Information Technology in Production Planning and Control; decision support and expert systems as applied to planning and scheduling.

MANF8544
Concurrent Product and Process Design
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MANF9544

Concurrent Engineering approach to the design of products, processes and manufacturing systems. The product development process and the Concurrent Engineering team. Customer focussed design and Quality Function Deployment. Design for Manufacture, Design and Planning for Assembly, Rapid Prototyping. Implementation, organisation and management of Concurrent Engineering.

(only available for distance learning)

MANF8560
Computer Integrated Manufacture
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MANF9560

Systems analysis, design and implementation of Computer Integrated Manufacturing (CIM). Components of CIM including Production Planning and Control, CAD in CIM, Computer-Aided Process Planning, integrated maintenance, material handling. Shared CIM and AI in CIM will also be discussed.

MANF9010
Project Manufacturing Engineering and Management
School of Mechanical and Manufacturing Engineering
UOC12

Note: The project must be completed in no more than two sessions. A seminar presentation on the project topic is compulsory.

MANF9340
Factory Automation
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MANF8340

Elements of factory automation such as Flexible Manufacturing Cells and Systems, material handling and warehousing, assembly systems, automated quality control systems, sensors and data acquisition. Cellular manufacturing techniques and layout planning. Simulation and intelligent manufacturing. Communication networks in a factory environment. Strategies for factory automation.

MANF9400
Industrial Management
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

Evolution of management thought, the planning process; nature of managerial decision making, organisational structures; managing organisational change, motivation, performance, satisfaction, interpersonal and organisational communication, use of management information systems.

MANF9410
Total Quality Management
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

Quality control systems, quality assurance, planning for quality, total quality management (TQM) philosophy, implementation of TQM in service and manufacturing industries, national and international standards.

MANF9420
Managing Manufacturing Operations
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MANF8420

Managing manufacturing operations as a competitive weapon, strategic linkage of operations through quality, value added management, strategic quality management approach, International Human Resource Management, Technology Transfer, Strategic Management of Technology, Variation and its Causes, improvement strategies, productivity and its measurement, Taguchi techniques.

MANF9471
Manufacturing Strategy
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MANF8471

Relation of manufacturing strategy to business strategy, financial strategy and marketing strategy. Technology and process choice; process positioning. Capacity and location decisions: long term capacity strategies, international capacity planning; planning facilities with a region. Global manufacturing and the virtual corporation. Focused manufacturing; continuous improvement and the experience curve. Strategic management of human resources; strategy implementation and change management; linking operational performance to manufacturing strategy.

MANF9472
Production Planning and Control
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MANF8472

Industry dynamics; Porters Model; bases for competition and implications for Production Planning and Control. Dynamics of materials flow; role of inventory; effect of bottlenecks and process variability on materials flow. Planning levels and timescales; forecasting; aggregate planning; the Master Production Schedule. Manufacturing Resources planning and its limitations. Optimized Production Technology and synchronized manufacturing; Just in Time production; Kan Ban systems; mixed model production; evolution towards JIT. Maintenance management; preventive and predictive maintenance; Total Productive Maintenance. Role of Information Technology in Production Planning and Control; decision support and expert systems as applied to planning and scheduling.

MANF9491
Special Topic in Manufacturing Engineering
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

MANF9492
Advanced Topic in Manufacturing Engineering
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

MANF9543
Computer Aided Design/Computer Aided Manufacture
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: AERO9543

Topics to be covered include: manufacturing systems; elements of CAM; computer process monitoring and control; production systems at the plant and operation levels; principles underlying the intergration between a CAD/CAM package such as CATIA and a Manufacturing Management System such as Fourth Shift; applications to design and engineering processes.

Note: Enrolments are limited due to computer availability. Preference will be given to CIM Program Students. Students must contact the Lecturer one week after enrolment to confirm enrolment.

MANF9544
Concurrent Product and Process Design
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MANF8544

Concurrent Engineering approach to the design of products, processes and manufacturing systems. The product development process and the Concurrent Engineering team. Customer focussed design and Quality Function Deployment. Design for Manufacture, Design and Planning for Assembly, Rapid Prototyping. Implementation, organisation and management of Concurrent Engineering.

MANF9560
Computer Integrated Manufacturing
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Prerequisite: MANF9543 Excluded: MANF8560

Systems analysis and design of computer integrated manufacturing, including flexible manufacturing systems and automated factories. Communication protocols.

MANF9601
Economic Decisions in Industrial Management
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

Concept of economic analyses. Cost concepts; interest and interest formulae. Methods for economy studies; present worth, annual worth, payback period and rate of return; comparing alternative investments; depreciation methods, effect of income taxes, inflation; replacement analysis; capital budgeting; break-even and sensitivity analyses; economic decision making under risk and uncertainty; evaluation of projects in public sector.

MARK5800
Customer and Market Analysis
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: COMM5002 or enrolment in program 8415.

To make viable marketing decisions an organization needs to understand its customers and potential customers and the markets in which it currently operates or might enter. Market analysis assesses product demand, characteristics of current and prospective buyers and users, the behaviour and profitability of market segments, as well as the competitive, social, and technological environment. Students who complete this course will have a good understanding of how and why consumers and business buyers purchase products and the forces that can affect the performance of market offerings. They will also have a good understanding of key concepts and procedures for the planning and management of customer audits and market analysis. This course should be completed towards the beginning of the program.

Exclusions: MARK5930, MARK5942

MARK5801
Marketing Management
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: COMM5002 or enrolment in program 8415.

This course covers integrated marketing mix planning and control in the context of marketing strategy formulation. The course considers marketing strategy as a link between corporate strategy, business unit strategy, and marketing mix management. It does so by developing and assessing thematic marketing strategies as sources of sales from the standpoints of growth, share, and profitability. The course considers customer-oriented and alternative approaches to market definition, target market selection, positioning, and segmentation decisions using a range of conceptual, formal modelling, and case analysis methods. This course should be completed towards the end of the program and after MARK5800 Customer and Market Analysis.

Exclusion: MARK5950

MARK5810
Marketing Communication & Promotion
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: MARK5800 or MARK5801

This course introduces participants to the process of developing and managing effective marketing communications. Organizations need to interact with consumers, stakeholders and other organizations. A company can tell the marketplace about itself and its products in many ways. It is important to understand the nature and dynamics of the various means of communication so that they can be managed efficiently and effectively. This course examines the tools available to marketing communication planners and provides guidelines as to their application. It builds on core marketing subjects by extending the issues relating to communication. It takes an integrated approach to communication management and covers the full spectrum of marketing communication, including advertising, direct marketing, promotion, personal selling, public relations, sponsorship, and internet communication.

Exclusion: MARK5946

MARK5811
Applied Marketing Research
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: MARK5800 or MARK5801

This course offers an overview of the varied forms of marketing research that are used by practicing marketing managers to make informed decisions. Topics include: problem definition and research design, questionnaire design, sampling, interviewing, data analysis, interpretation, and reporting. The course considers quantitative and qualitative tools and techniques as well as mixed methods. It reviews research data in the context of applied marketing problems by including, for example, studies of market segmentation, price and promotion response, market attractiveness and entry, and media selection.

Exclusion: MARK5932

MARK5812
Distribution, Retail Channels & Logistics
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: MARK5800 or MARK5801

This course presents an integrated approach to distribution strategy, retail channel management, and related aspects of logistics. Distribution involves the creation of product and service availability through marketing channels, retailing involves the management and marketing of assortments of merchandise for direct sale to the consumer, and logistics involves the creation of targeted levels of customer service through the distribution system. Students will examine a) distribution activities involved in getting consumer and business goods and services to market, b) the unique characteristics associated with retail marketing of merchandise assortments, and c) the strategic aspects of logistics as a marketing tool. In marketing management, quality products and good promotion efforts are not enough. Product and service assortments and availability levels must competitively match the wants of target market customers. Logistics decisions in marketing concern setting and managing appropriate levels and allocations of stock, levels of delivery service, and levels of associated physical distribution services to achieve marketing and distribution objectives.

MARK5813
New Product & Service Development
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: MARK5800 or MARK5801

The lifeblood of most market-driven organisations is the development and commercialisation of new products and services. However, many of these developments fail. The purpose of this course is to minimise the chances of failure by having a better understanding of the development process. The course covers all issues involved in developing and bringing to market new products and services: opportunity identification, idea generation, design, consumer research, forecasting, market testing, branding and communications, launch and post-launch monitoring, as well as project management and appraisal. The latest techniques and analysis procedures are used within a practical managerial framework.

MARK5814
e-Marketing
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: MARK5800 or MARK5801

Marketers make considerable use of interactive electronic technologies: the Internet, interactive TV, SMS communications, electronic kiosks, etc. They do so to achieve a variety of goals: information provision, advertising and promotion, building customer profiles, direct and interactive communications, placing goods with customers through virtual stores, and working with customers to develop innovative new products and services. These activities present management with exciting opportunities, reveal new sources of competition, and also demand a re-evaluation of core competencies. Topics include: integrating e-marketing with traditional forms of marketing (such as the use of the Internet alongside radio, magazine and television media), customer service and fulfilment challenges, global connectivity, adaptive and accountable marketing planning, and specific implications for intermediaries and business-to-business marketers.

Exclusion: MARK5947

MARK5815
International Marketing in Asia
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: MARK5800 or MARK5801

As markets globalise firms are increasingly looking beyond their domestic market for growth opportunities. This course highlights the conceptual, descriptive and strategic issues involved in identifying and capturing international marketing opportunities. This includes the various environments that have an impact on international marketing (economic, technological, socio-cultural, political-legal and corporate), and the implications these have on marketing strategy. The regional focus of this course is Asia, with attention given to such issues as market entry strategies, product adaptation, business-to-business negotiations and the influence of culture on consumer behaviour in the region. Guest lecturers and case studies are used to highlight key points.

Exclusion: MARK5945

MARK5816
Services Marketing
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: MARK5800 or MARK5801

This course focuses on the distinctive characteristics and problems of marketing in service organizations and for any organization developing and marketing services as part of its business portfolio. It demonstrates why and how services require a distinctive approach to marketing strategy-both in its development and in its execution. This course examines cases from commercial and not-for-profit organizations including banking, transportation, hotels, tourism, hospitals, education and professional services such as accountancy, engineering, and management consultancy. Anyone working in a service industry or for an organization with a strong commitment to customer service will find this course relevant.

Exclusion: MARK5941

MARK5817
Contemporary Issues in Marketing
School of Marketing
UOC6 HPW3
Prerequisite or Corequisite: MARK5800 or MARK5801

Marketing as a discipline and practice is always in transition. Although knowledge, skills and practices of the past are still relevant, technical, environmental and social change affect them. The key features of this course are a critical examination of the theoretical basis of marketing and recent developments in marketing theory and practice and their relevance to contemporary business. On completion of the course, students should have identified and examined a range of emerging, topical and contentious issues within marketing and be able to articulate a range of views about the nature of marketing thought. They should also understand the different social, cultural and ideological perspectives and norms that underpin current marketing theory and practice. This course is best studied towards the end of the program.

MARK5991
Introduction to the Media Sales Environment
School of Marketing
UOC6 HPW3
Prerequisite:Admission to Media Sales Program

Media Sales executives are employed by Australia's media companies (News Ltd, PBL, Austereo) to write the $4bn in annual advertising revenue that finances the industry. Media Sales executives must therefore have an understanding of the industry and the regulatory environment in which their employers operate and compete. This course will cover the structure, organisations, revenue base and regulatory environment of Australian media.

MARK5992
Media Audience Research
School of Marketing
UOC6 HPW3
Prerequisite: Admission to Media Sales Program

This course will cover the purpose, methodology, application and management by media companies and advertising/media agencies of audience research for the selling and buying of media space and time for television, radio, newspapers, magazines and other media. Substantial class time will be dedicated to both the theory (statistical sampling, data collection and analysis methodology) and practice (use of syndicated and proprietary software programs) of media research.

MARK5993
Principles of Media Planning, Buying and Selling
School of Marketing
UOC6 HPW3
Prerequisite: Admission to Media Sales Program

This course will cover the progression of a communication strategy into a media strategy and then implementation through the media planning and buying process to post campaign delivery evaluation. It will examine the role and practices of all the stakeholders in the media buying and selling process: clients, advertising and media agencies, media sales companies, media companies. Impacts on the media buying decision such as media planning theories and direct client experiences will be addressed. It will examine current industry selling practices through bulk media agency deals, clients deals, cross media deals and the structure and application of media rate cards.

MARK5994
Media Customer Relationships
School of Marketing
UOC6 HPW3
Prerequisite: Admission to Media Sales Program

This course will provide a background on the theory of business to business sales techniques and customer relationship building and management within a sales environment. It will then demonstrate how this is applied in the Media Sales industry by a range of different companies. It will look at a range of presentation methods and tools for persuasive and effective selling and how these are currently utilised. And it will cover the techniques required for negotiations within multiple and long term client relationship sales environments. Students will be given the opportunity to practice these skills within a learning environment that is objective and focussed toward skills development

MARK6000
Contemporary Perspectives in Marketing
School of Marketing
UOC6 HPW3
Prerequisite: must be enrolled in program 8414

This course prepares students for the Master of Marketing program by providing knowledge of marketing in contemporary business organizations. The marketing concept is explored and what it means to be a truly customer-focused and market-led organisation. Building on recent research, theory and practice, the course addresses such issues as: What is meant by market orientation? How can an organisation become customer-focused? What is the role of marketing in the modern organisation and what is its relationship with other business activities? How can relationship marketing and service management be used effectively? The objective of this course is to go beyond traditional views of marketing. Students are exposed to a variety of different perspectives and encouraged to think critically about these perspectives. Views vary depending on whether the focus is exchange, relationships, alliances or networks, and depending on the level of analysis (extending from value creation for individual customers through to societal and macro-marketing themes and issues of sustainability). The course will make use of a combination of teaching methods, including lectures, cases, exercises and projects.

Exclusions: MARK5900, MARK5981

MARK6001
Business Skills for Marketers
School of Marketing
UOC6 HPW3
Prerequisite: must be enrolled in program 8414

Participants are equipped with the business skills and techniques necessary to operate in marketing. There are three modules to the course: (a) Market opportunity analysis. Considered are basic types of quantitative and qualitative data for assisting in marketing analysis, environmental scanning, opportunity analysis, forecasting and decision-making. (b) Marketing due diligence. Dealt with in this module are brand assets, trademarks, intangibles, intellectual property, trade practices, compliance and ethics. (c) Marketing performance analysis. Themes include: customer costs and profitability analysis, measuring marketing assets (brand equity, customer satisfaction), measuring ROI of marketing programs (eg "real time" metrics for mid-program corrections versus detailed "report cards" at the end of the program), measuring promotion and advertising effectiveness. For managers to assess and demonstrate the impact of investments in marketing, they need accurate measurement tools and systems that link non-financial measures (such as customer satisfaction, brand equity, market orientation, and market share) to the financial measures used by CEOs and CFOs.

Exclusion: MARK5932

MARK6002
Creativity, Innovation & Change in Marketing
School of Marketing
UOC6 HPW3
Prerequisite: must be enrolled in program 8414

A synthesis is presented of analytical approaches to strategy development and marketing decision-making. In addition to reviewing the traditional areas of marketing strategy, planning, implementation and control, this course will also focus on the marketing aspects of strategic innovation and change. Specifically, it will cover areas such as leveraging technological innovation and new product development (NPD), organising and managing a marketing organization, working across functional boundaries (such as sales and marketing), working with external partners (suppliers, agents, co-branders), operating in competitive and dynamic environments, thinking creatively about new products, new services and marketing communications, and engaging in creative destruction and lateral marketing. In so doing students will be required to consider the future direction of marketing. The course will make use of cases and exercises.

MARK6003
Practicum in Marketing
School of Marketing
UOC6 HPW3
Prerequisite: must be enrolled in program 8414

This course is designed as a company/industry-based consulting project, giving students an opportunity to examine specific themes from the program in a company/industry context. Students are expected to address specific marketing issues and problems that are of practical relevance to individual companies/industries, and that explicitly elaborate on themes from the core courses and electives. Students are required to examine themes in the context of the problems and challenges facing the company/industry, undertake thorough analysis of appropriate data, and then suggest solutions or options that might assist the company/industry in moving forward. In the process academic and business best practices are examined. This is an intensive, supervised exercise that will be evaluated entirely on the basis of continual assessment and a final management report.

Exclusion: MARK5960

MARK6004
Business-to-Business Marketing
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

Considerable marketing effort is devoted to reaching and servicing business markets, either because of their own inherent value or as a route through to mass consumer markets. Business marketing management is the process of understanding, creating, and delivering value to targeted business-to-business markets and customers. Presented in this course are the specific elements of marketing knowledge and planning that relate to business, industrial and technology markets. These include assessing market opportunities and examining the business environment (to generate primary demand, selective demand and product range options), and managing the functional aspects of marketing in an organisational setting (integrated and independent market systems, e-marketplaces and e-procurement, sales forces and sales branches, channel structures, agents and wholesalers, dedicated EDI-systems). Participants gain an understanding of organisational buying behaviour and develop decision-making capabilities in the field of business-to-business marketing, including negotiation skills in a group decision-making process.

Exclusion: MARK5957

MARK6006
Customer Relationship Management
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

Customer relationship management is an enterprise-wide customer-centric approach to maximising customer value. It is aimed at creating long-lasting and profitable relationships with individual customers - in both B2B and B2C contexts. To be effective it requires the creation and maintenance of a direct link between the organisation and its customers. Developments in technology have allowed organizations to look at their customers as individuals and to gather, store and analyse customer-based information. An outcome is an increase in the use of direct marketing techniques such as those for designing and managing consumer databases and customer service centres. Topics include: creating a conducive organisational structure, creating and using databases, managing loyalty programs, the strategic use of consumer data, managing direct distribution and direct communication (electronic and surface mail), consumer databases and privacy, ethics and regulation. Participants will be exposed to a range of relationship-building strategies and techniques, as well as software and eCRM technologies.

Exclusion: MARK5985

MARK6007
Managing Marketing Relationships, Alliances & Networks
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

Developing and managing relations between marketing and other functions within the firm and with external organizations such as suppliers, distributors, government and business customers plays an important role in the identification, creation and delivery of value to customers. These networks of relations are the means by which key resources and competences are accessed and developed. The increased importance of relationship management is reflected in the growth of relationship marketing concepts and in the development of interaction and network approaches in business and international marketing. This course examines the nature and role of internal and external relations in developing and implementing marketing strategy, their impact on a firm's marketing performance and how they are managed. It includes consideration of issues such as relationship management and evaluation, relationship portfolios, economic and behavioural theories of relations, internal management upwards to CEOs and CFOs and sideways to production and sales, collaboration and partnering/alliance strategies, interaction and network approaches to marketing and their application to specific types of relationship and network contexts such as those involving suppliers, distributors, business customers, key accounts, technology partners and cross-functional relations.

Exclusion: MARK5956

MARK6013
Advances in Consumer Analysis
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

The basics of consumer behaviour are reviewed. This is followed by an advanced-level treatment of the subject, with themes such as: the historical antecedents of consumer behaviour, the culture of consumption, the social psychology of consumption, and the ecology of learning and perception. Also considered is the impact of these influences on marketing strategy, such as the development and proliferation of product formulations and the uses and limitations of mass communications. Students are exposed to research methods, especially sociological, qualitative, ethnographic and interpretive approaches.

Exclusion: MARK5955

MARK6018
Decision-Support Models for Marketers
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

The challenge for every customer-oriented organization consists of identifying potential customers This innovative course provides an understanding of the role that analytical techniques and models can play to enhance marketing decision-making. Though designed for students with some background in quantitative methods, the course is non-mathematical. The focus is on computer-based models, and emphasis is on application. The most popular and useful techniques found in marketing today are studied, including: choice models for customer targeting, conjoint analysis for product design, cluster/discriminant analysis for market segmentation, portfolio models for project selection/prioritisation, perceptual mapping for product positioning, new product forecasting for better product planning, and resource allocation for better ways to develop and defend marketing budgets. These are illustrated with cases based on real situations in which organizations must make tough practical decisions. Students who complete this course will be conversant with modern methods of analysis and decision-support, understand and be able to use the computer tools in the Marketing Engineering toolkit in a variety of business decision situations, and be in a position to make better use of existing data when making business decisions. Students are expected to have access to a computer.

Exclusion: MARK5983

MARK6019
Data-Mining & Information Systems for Marketing Decisions
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

Technological advancements over recent years have led to voluminous quantities of data being collected in virtually all areas of business, and particularly in marketing (e.g., sales data, customer records, membership records). Sorting the data into information has always been a challenging

task for analysts. Data-mining tools, involving automatic or semi-automatic exploratory analyses, have become popular in helping to transform data into information. This course introduces basic concepts of data mining, discusses major data mining techniques, looks at data integration, presents applications and discusses some commercial data mining tools. Specific applications are considered using innovative case-study material, including the use of data-mining and geographic information systems for market segmentation, customer relationship management, and retail network planning and demand modelling. By participating on this course students are expected to gain new insight into their own databases.

MARK6020
Product & Brand Management
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

This course is designed to give participants a good working knowledge of the many aspects of product and brand management across consumer and industrial markets. The separation of product from the brand, changes to trademark and brand registration laws and the focus on building and maintaining brand equity has created a need for marketers to understand the complex relationship between products and brands and to develop brand strategies. The material covered in the course includes: the relationship between products and brands; the history of brands; product audits and brand architecture decisions; brand selection, registration, naming and design; legal requirements; brand performance measurement; creating, maintaining and measuring brand equity.

Exclusion: MARK5984

MARK6021
Integrated Marketing Communication
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

Integrated Marketing Communications introduces course participants to the process of effective marketing communication planning. Organisations need to interact with a variety of audiences, including consumers, stakeholders, policy-makers and other organisations. There are many ways in which a company can inform the marketplace about itself and its products. It is important to understand the nature and dynamics of the tools available so that they can be applied efficiently and effectively. This course examines the tools currently available to marketing communication planners and provides guidelines as to their application. An overview of currently available communication tools such as advertising, promotion, direct marketing, digital media, personal selling, public relations, one-to-one communications, direct selling, sponsorship and internet based communication is presented.

MARK6022
Advertising & Sales Promotion Implementation
School of Marketing
UOC3 HPW1.5
Prerequisite: must be enrolled in program 8414

Advertising and Sales Promotion Implementation gives participants practical skills in developing and managing advertising and sales promotions programs, media planning, and client-agency relations. Topics include: advertising and sales promotion, planning and strategy; selection of media, media delivery planning, understanding the consumption of media; developing messages for different media, including television, radio, print and websites; design and management aspects; the selection of trade and consumer promotions; monitoring and evaluating programs. Commercial partnerships and ROI issues are considered in the context of managing client-agency relations, with use being made of cases, role-play exercises and research studies.

MATH5009
Computational Coursework Thesis FT
School of Mathematics
UOC12

MATH5010
Computational Coursework Thesis PT
School of Mathematics
UOC6

MATH5165
Optimization
School of Mathematics
UOC6 HPW3

Analysis, solution and application of optimization problems where the variables change continuously. Topics selected from: nonlinear programming, convex optimization, nonsmooth analysis and optimization, variational inequalities and complementarity problems, infinite dimensional optimization, stochastic optimization, and numerical optimization.

Note: Course not offered every year - contact School for more information.

MATH5175
Special Topics in Applied Mathematics A
School of Mathematics
UOC6 HPW3

A selection of topics from: differential equation models, systems of differential equations and HIV modelling.

Note: Course not offered every year - contact School for more information.

MATH5185
Special Topics in Applied Mathematics B
School of Mathematics
UOC6 HPW3

A selection of topics from optimization, optimal control and numerical analysis.

Note: Course not offered every year - contact School for more information.

MATH5215
Special Topics in Applied Mathematics C
School of Mathematics
UOC6 HPW3

A selection of topics from: bifurcation theory, Hamiltonian systems, perturbation methods, the theory of solitons and chaotic systems.

Note: Course not offered every year - contact School for more information.

MATH5285
Fluids, Oceans and Climate
School of Mathematics
UOC6 HPW3

Analytical and numerical modelling of ocean dynamics, and their interpretation. The course examines aspects of modelling of oceanic circulation using analytical and numerical modeling techniques. Theoretical analyses of the primitive equations is used to identify individual physical processes such as surface Ekman layers, stratified flow over topography and wind-forced coastal currents under idealised conditions. A general numerical ocean model is used to illustrate these results by comparison with the idealised analytical work, and by extension to more complex cases. Theoretical and practical aspects of model implementation are considered, including numerical stability, open boundary conditions, surface and convective mixed layer algorithms, as well as interpretation in the light of observations.

Note: Course not offered every year - contact School for more information.

MATH5295
Special Topics in Applied Mathematics D
School of Mathematics
UOC6 HPW3

Atmospheric dynamics and their simulation using numerical models. This course combines atmospheric dynamics and numerical modelling. It covers the following topics: derivation and interpretation of the equations governing the motion of the earth s atmosphere from the surface to just above the stratopause, the important types of wave motions supported by the governing equations, the use of scaling analysis to develop several distinct kinds of atmospheric models and the application of a range of numerical techniques to solving the equations governing these models.

The last section forms the major part of the course, and examines the various numerical algorithms in terms of accuracy, stability, consistency and efficiency. The choice of lateral boundary conditions is also discussed in detail. During the course, computer laboratory sessions are held and course participants put together a working numerical model of their choice, from one of those introduced in the course. This model will be realistic in the sense that it will produce 24 hour predictions of the state of the atmosphere using real (observed) data as initial and boundary conditions.

Note: Course not offered every year - contact School for more information.

MATH5305
Computational Mathematics
School of Mathematics
UOC6 HPW3

MATH5335
Computational Methods for Finance
School of Mathematics
UOC6 HPW3

In the end finance is concerned with making definite numerical recommendations that frequently can only be obtained by analysing sophisticated models using high-speed computers. This course studies the design, implementation and use of computer programs to solve practical mathematical problems of relevance to finance, insurance and risk management.

It includes a review of MATLAB, floating point numbers, rounding error and computational complexity, and a selection of topics from: approximation and parameter estimation, Fourier series and the FFT, finite difference approximations, partial differential equations (Black-Scholes PDE), sparse linear systems, nonlinear algebraic equations, trees, Monte Carlo methods and simulation, random numbers and variance reduction, numerical integration.

MATH5515
Special Topics in Pure Mathematics A
School of Mathematics
UOC6 HPW3

Note: Course not offered every year - contact School for more information.

MATH5615
Banach and Operator Algebras
School of Mathematics
UOC6 HPW2

Note: Course not offered every year - contact School for more information.

MATH5645
Number Theory
School of Mathematics
UOC6 HPW2

Topics from: elementary number theory, prime numbers, number theoretic functions, Dirichlet series, prime number theorem, continued fractions, diophantine approximation, quadratic reciprocity, algebraic number theory, class number theorem.

Note: Course not offered every year - contact School for more information. Excluded: MATH3740.

MATH5665
Algebraic Topology
School of Mathematics
UOC6 HPW2

Topics from: functors and natural transformations, homotopy of maps, homotopy groups, covering spaces, simplicial and singular homology and cohomology, homological algebra.

Note: Course not offered every year - contact School for more information.

MATH5685
Complex Analysis
School of Mathematics
UOC6 HPW2

Topics in advanced complex function theory chosen from the following: conformal mappings, analytic continuation, entire and meromorphic functions, elliptic functions, asymptotic methods, integral formulae, harmonic functions, Riemann surfaces.

Note: Course not offered every year - contact School for more information. Excluded: MATH3680.

MATH5705
Analysis
School of Mathematics
UOC6 HPW3

Topics from: Fourier series and integrals for Tn and Rn, locally compact abelian groups, Pontrjagin duality, Plancherel Theory.

Note: Course not offered every year - contact School for more information.

MATH5735
Modules and Representation Theory
School of Mathematics
UOC6 HPW2

Note: Course not offered every year - contact School for more information.

MATH5806
Applied Regression Analysis
School of Mathematics
UOC6 HPW2

Generalised linear models. Ridge regression. Analysis of residuals. Nonlinear regression.

Note: Course not offered every year - contact School for more information.

MATH5816
Continuous Time Financial Modelling
School of Mathematics
UOC6 HPW3

More advanced applications of stochastic calculus to security markets.

MATH5825
Measure, Probability and Convergence
School of Mathematics
UOC6 HPW2

Measurable spaces, measures and probability measures, product spaces, random variables and their distributions, absolutely continuous and singular distributions, expected values as abstract Lebesgue integrals, modes of convergence of random variables, Borel-Cantelli Lemma and the Strong Law of Large Numbers, uniform integrability, some important inequalities, multivariate and conditional distributions, conditional expectations, characteristic functions, Central Limit Theorem.

MATH5835
Stochastic Processes
School of Mathematics
UOC6 HPW2

Random Walk and Exponential Random Walk: interpretation in Mathematical Finance, martingales. Wiener Processs: calculation of functionals and distributions related to the Wiener process, reflection principle and barrier problem. Stochastic integration: Ito formula, calculations based on the Ito formula. Linear and bilinear stochastic differential equations: interpretation in Mathematical Finance, connections with partial differential equations, pricing of simple options. The Girsanov Theorem: linear barrier problem, examples of exotic options.

MATH5836
Data Mining and its Business Applications
School of Mathematics
UOC6 HPW2

Increasingly, organisations need to analyse enormous data sets to determine useful structure in them. In response to this, a range of statistical methods and tools have been developed in recent times to allow accurate and quick analysis of these sets.

Topics include: choosing the right data mining tool for your data, linear methods (logistic regression and generalized linear models) and data mining, clustering methods, decision trees, multivariate adaptive regression splines, wavelet smoothing, hybrid models, neural networks, support vector machines, bagging and boosting methods. Case studies of industry-based data mining projects feature prominently. The most recent data mining software is used to illustrate the methods.

MATH5846
Introduction to Probability and Stochastic Processes
School of Mathematics
UOC6 HPW2

Probabilistic concepts are necessary to study various complex phenomena arising in Engineering, Biology, Medicine and Economics. The aim of this course is to introduce basic concepts which are needed to analyze such phenomena. In particular we discuss the concepts of random event,

random variable, structures of dependence, computation of probabilities using the Central Limit Theorem, simple Markov chains and a Poisson process.

MATH5855
Multivariate Analysis
School of Mathematics
UOC6 HPW2

Likelihood ratio tests for means, variances and structure. Discriminant, principal component, canonical and factor analysis. Computing will feature prominently.

Note: Course not offered every year - contact School for more information.

MATH5856
Introduction to Statistics and Statistical Computations
School of Mathematics
UOC6 HPW2
Corequisite: MATH5846

The aim of this course is to learn about the basic principles of statistical reasoning and the most important methods to estimate unknown parameters of the observed system, to take decisions without complete information and to use statistical packages. In particular, we discuss methods to visualise the data, to simulate some random phenomena using random numbers generators, to estimate parameters using Maximum Likelihood and Least Squares Estimators and to test hypotheses. The general linear models are studied in more detail using SAS and SPLUS.

MATH5905
Statistical Inference
School of Mathematics
UOC6 HPW2

Topics include decision theory; general theory of estimation and hypothesis testing; robustness of the statistical procedures; introduction to the bootstrap.

MATH5915
Medical Statistics
School of Mathematics
UOC6 HPW2

Bioassay, generalised linear models, analysis of multivariate discrete data including loglinear model analysis of contingency tables, survival analysis, competing risks, hazard models for point processes.

Note: Course not offered every year - contact School for more information.

MATH5925
Project
School of Mathematics
UOC12

A thorough study of a set of statistical papers or some workplace problem of the student s choice.

MATH5935
Statistical Consultancy
School of Mathematics
UOC6

This is a practical course which introduces students to the general framework of statistical consulting and gives students experience in solving statistical problems arising in practice.

MATH5960
Bayesian Inference and Computation
School of Mathematics
UOC6 HPW2

MATH5965
Discrete Time Financial Modelling
School of Mathematics
UOC6 HPW3

Topics include derivative securities, forward and futures contracts, swaps; option pricing using Black Scholes and binomial approaches; stochastic models for asset dynamics, term structure of volatilities and interest rates; introduction to Ito calculus, diffusion processes and stochastic differential equations.

MATH5975
Introduction to Stochastic Analysis
School of Mathematics
UOC6 HPW2

MATH5985
Term Structure Modelling
School of Mathematics
UOC6 HPW3

1. Fixed-income securities: zero-coupon bonds, yield-to-maturity, yield curve, forward rates, LIBOR and caps, swaps and swaptions.

2. Interest rates: short-term interest rate, spot and forward martingale measure, Merton's model, Vasicek model, CIR model, affine term structure models, HJM methodology, Gaussian HJM model, lognormal model of LIBORs, Jamshidian model of forward swap rates.

3. Valuation and hedging of interest rate derivatives: bond options, options on futures, caps, swaptions.

MATS6605
Professional Communication and Presentation
School of Materials Science and Engineering
UOC3 HPW2
Corequisite: MATS6695

Presentation skills: public speaking, presentation techniques and problems, visual aids, library usage; Re MATS6695 Materials Project (corequisite): guidelines for project preparation and two oral presentations; Job search skills: curriculum vitae and resume preparation, cover letters, interview skills, nonverbal communication, questionnaires and examinations.

MATS6615
Materials Design
School of Materials Science and Engineering
UOC6 HPW4

Selected topics in ceramics, composites, metals, and/or polymers involving the inter-relationships between materials properties, design, production, and performance. Materials selection, specifications, and standards.

MATS6625
Materials Processing
School of Materials Science and Engineering
UOC6 HPW4

Selected topics in ceramics, composites, metals, and/or polymers involving the processing of raw materials to their finished condition as precursors, stock shapes, or specific components. Mass and energy balances, engineering calculations, and unit operations.

MATS6635
Materials Properties & Behaviour
School of Materials Science and Engineering
UOC6 HPW4

Selected topics in ceramics, composites, metals, and/or polymers involving the principal properties of materials: physical, chemical, thermal, mechanical, thermomechanical, electrical, magnetic and optical.

MATS6645
Materials Characterisation
School of Materials Science and Engineering
UOC6 HPW4

Selected topics in ceramics, composites, metals, and/or polymers involving the structural, microstructural, and chemical analyses of materials: X-ray diffraction (XRD), scanning electron microscopy (SEM), transmission electron microscopy (TEM), energy dispersive spectroscopy (EDS), electron probe microanalysis (EPMA), atomic force microscopy (AFM).

MATS6655
Advanced Materials Characterisation
School of Materials Science and Engineering
UOC6 HPW4

Selected topics in ceramics, composites, metals, and/or polymers involving the structural, microstructural, and chemical analyses of materials: secondary ion mass spectroscopy (SIMS), X-ray photoelectron spectroscopy (XPS), Auger electron spectroscopy (AES), and laser Raman microscopy.

MATS6665
Materials Applications & Performance
School of Materials Science and Engineering
UOC6 HPW4

Selected topics in ceramics, composites, metals, and/or polymers involving the inter-relationships between the structure and microstructure of materials, their resultant properties, expected and actual performance, and current and potential applications.

MATS6675
Materials Modelling
School of Materials Science and Engineering
UOC6 HPW4

Selected topics in ceramics, composites, metals, and/or polymers involving numerical and analytical techniques, such as finite element modelling (FEM), applied to materials and processes in terms of design and performance, particularly thermal and mechanical stress analyses. Software packages and design of computer programs.

MATS6685
Management
School of Materials Science and Engineering
UOC6 HPW4

Selected topics in management involving basic economic principles, cost-benefit analyses, basic accounting, legal and contractual issues, products and services liability, human resources, industrial relations and conflict, leadership, decision-making, operations and project management, quality assurance and management, organisational design and development, market research and strategy, marketing and sales.

MATS6695
Materials Project
School of Materials Science and Engineering
UOC6 HPW8
Corequisite: MATS6605

A project report on ceramics, composites, metals, and/or polymers in the form of a thesis, including literature review; experimental, theoretical, or design investigation; and discussion of the results. Serves as the basis for the oral presentations in MATS6605 Professional Communication and Presentation.

MECH8310
Advanced Vibration Analysis
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MECH9310

Introduction to experimental vibration analysis using Fast Fourier Transform (FFT) techniques. Typical sources of vibration in machines. Analysis of continuous systems via classical and finite element techniques. Experimental modal analysis. Torsional vibrations, including gearedshaft systems.

MECH8311
Fundamentals of Vibration
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MECH9311

Single-degree of freedom vibrating systems: free/forced, undamped/damped, response/transmissibility. Whirling of shafts. Harmonic analysis. Vibration measuring instruments. Linear vibrations of multi-degree-of-freedom systems: normal modes. Introduction to the analysis of continuous systems.

MECH8312
Fundamentals of Noise and Vibration Measurment
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MECH9312

Fourier coefficients of periodic signals. Power spectral density. Time windows and spectral analysis. Simple sound pressure measurements. Measurement of special descriptors of sound. Measurement of reverberation time and calculation of absorption coefficients. Measurements of the sound power level of a sound source by the direct and the comparison method. Measurements of the sound power levels of a sound source by the intensity method. Tape recording of noise and vibration signals. Using accelerometers.

MECH8323
Environmental Noise
School of Mechanical and Manufacturing Engineering
UOC6

Prediction of source strengths of transport and construction noise. Noise propagation models including atmospheric and topological effects. Propagation in urban and rural areas. Attenuation by barriers. Strategies for controlling environmental noise. Prediction models. Environmental noise exposure concepts.

MECH8324
Building Acoustics
School of Mechanical and Manufacturing Engineering
UOC6

Room acoustics viewed from modal and energy aspects. Absorption and transmission performance of building elements such as carpets, windows and walls. Relationship between laboratory and field performance measurements. Noise problems associated with building services.

MECH8325
Fundamentals of Noise
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MECH9325

Development of the acoustic plane wave equation, introduction of concepts of acoustic impedance, characteristic impedance, acoustic energy density, acoustic intensity and acoustic power. Measurement of sound pressure. Decibel scales. Standing waves. The effect of noise on people. Wave propagation in porous media. Transmission phenomena including transmission of plane waves between different media, through walls and along pipes. The analysis of expansion chamber mufflers and pipe side-branches. Basic energy approach to room acoustics.

MECH8326
Advanced Noise
School of Mechanical and Manufacturing Engineering
UOC6
Prerequisite: MECH8325 or MECH9325 Excluded: MECH9326

The Helmholtz resonator. Transmission line formulae for one dimensional plane wave calculations. Development of the three dimensional acoustic wave equation. Applications of the three dimensional form of the acoustic wave equation in rectangular coordinates, including transmission of plane waves at oblique incidence between media, waves in rectangular ducts, standing waves in enclosures. Applications of the three dimensional wave equation in cylindrical and spherical coordinates. Basic structural-acoustic interaction.

MECH8620
Computational Fluid Dynamics
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

Incompressible flow: primitive equations, stream function, vorticity equations. The conservative property. Stability analysis. Explicit, implicit methods. Upwind differences. SOR methods. Fourier series methods. Pressure, temperature solutions. Solving the primitive equations.

MECH8751
Refrigeration and Air Conditioning 1
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4751, MECH8751

Review of thermodynamic principles; evaluation of thermodynamic properties of real fluids. Refrigerants, their properties and applications. Gas cycle refrigeration. Steam-jet refrigeration. Vapour compression refrigeration; analysis and performance characteristics of the complete cycle; analysis and performance of multipressure systems. Analysis of the performance of compressors, condensers, evaporators and expansion devices. Thermo-electric refrigeration.

MECH8752
Refrigeration and Air Conditioning 2
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Prerequisite: MECH8751 or MECH9751

Psychrometrics; application to air conditioning design. Direct contact heat and mass transfer; application to the design of cooling towers and air washers. Cooling and dehumidifying coils. Properties of homogeneous binary solutions; steady flow processes with binary mixtures. Rectification of a binary mixture. Analysis of absorption systems. Production of low temperatures. Liquefaction and rectification of gases. Magnetic cooling.

MECH9010
Project Mechanical Engineering
School of Mechanical and Manufacturing Engineering
UOC12

Note: The project must be completed in no more than two sessions.

MECH9142
Land Transport Vehicle Engineering
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

This course outlines the context of the task for land transport vehicles, develops its technical mechanical engineering aspects and enables students to explore in depth an area of their choice (decided in consultation with the lecturer in charge). Topics covered include: The land transport task; local/global. Modes of land transportation; guided/non-guided, passenger/freight, private/public, practical/fun. Analysis of land transport systems covering; infrastructure, types of vehicles, power systems, structure, vehicle dynamics, manufacture, reliability, economics, safety, sustainability. Recreational land vehicles.

MECH9310
Advanced Vibration Analysis
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4310, MECH8310

Introduction to experimental vibration analysis using Fast Fourier Transform (FFT) techniques. Typical sources of vibration in machines. Analysis of continuous systems via classical and finite element techniques. Experimental modal analysis. Torsional vibrations, including geared shaft systems.

MECH9311
Fundamentals of Vibration
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH3310, MECH3330, MECH8311

Single-degree of freedom vibrating systems: free/forced, undamped/damped, response/transmissibility. Whirling of shafts. Harmonic analysis. Vibration measuring instruments. Linear vibrations of multi-degree-of-freedom systems: normal modes. Introduction to the analysis of continuous systems.

MECH9325
Fundamentals of Noise
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4321, MECH8325

Development of the acoustic plane wave equation, introduction of concepts of acoustic impedance, characteristic impedance, acoustic energy density, acoustic intensity and acoustic power. Measurement of sound pressure. Decibel scales. Standing waves. The effect of noise on people. Wave propagation in porous media. Transmission phenomena including transmission of plane waves between different media, through walls and along pipes. The analysis of expansion chamber mufflers and pipe side-branches. Basic energy approach to room acoustics.

MECH9361
Lubrication Theory and Design
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4361

Types of hydrodynamic bearings and bearing operation; properties of lubricants; theory of steady state hydrodynamic lubrication; hydrostatic and squeeze film lubrication applied to slider and journal bearings; bearing design with side leakage; thermal balance. Journal bearing dynamics; instability analysis. Elastohydrodynamic lubrication. Bearing materials; friction and wear. Grease lubrication.

MECH9400
Mechanics of Fracture and Fatigue
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4400

Theories of fracture; failure modes. Ductile, brittle fracture. Mechanics of crack propagation, arrest. Measurement of static fracture properties. Fatigue crack initiation, propagation. Engineering aspects of fatigue.

MECH9410
Finite Element Applications
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: AERO4401, AERO9415, MECH4410, NAVL4401

Introduction to finite element and associated graphics packages. Principles of mesh design and validation. Specification of boundary conditions including use of symmetry. Estimation of the cost of solution. Interpretation of results. Assessment of the accuracy of the results. Convergence to the exact solution. Selection of applications from linear and non-linear elasticity: three dimensional solids, plates and shells, plasticity, buckling and post-buckling behaviour, thermal stresses, dynamics including natural and forced vibration.

MECH9620
Computational Fluid Dynamics
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Prerequisite: MECH2612, MECH2712

Incompressible flow: primitive equations, stream function, vorticity equations. The conservative property. Stability analysis. Explicit, implicit methods. Upwind differences. SOR methods. Fourier series methods. Pressure, temperature solutions. Solving the primitive equations.

MECH9720
Solar Thermal Energy Design
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Prerequisite: MECH2612, MECH2712

Characteristics of solar radiation and solar collectors. Collector efficiency evaluation and prediction of long term performance. System modelling, energy storage; computer simulation and modelling of performance and economic worth.

MECH9730
Two Phase Flow and Heat Transfer
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4730

Nature of multiphase flow. Flow regime maps. Two-phase flow in vertical, horizontal and inclined pipes. Modelling of two-phase flow: homogenous model; drift flux model; drift velocity model; separated model. Annular and stratified flows. Flow in adiabatic pipes. Flow in heated pipes. The critical flow of a two-phase mixture. Pressure drop and heat transfer correlations in pipes. Subcooled, nucleate, pool and film boiling. Critical heat fluxes in boiling. Mechanisms of heat transfer in boiling. Nucleation, bubble dynamics and bubble parameters. Film and dropwise condensation on flat plates. Condensation on horizontal tubes and tube banks. Condensation inside tubes. Two-phase heat exchangers. Laboratory experiments.

MECH9740
Power Plant Engineering
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4740

Energy sources, power plant thermodynamics. Fuel, combustion processes and equipment. Boilers, turbines and condensers. Heat exchangers, pumps, water supply and treatment systems. Air circulating and heating systems. Station operation and performance. Economics of electrical power production. Environmental impacts of power plants. Alternate sources of energy. Power station field trip.

MECH9751
Refrigeration and Air Conditioning 1
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4751, MECH8751

Review of thermodynamic principles; evaluation of thermodynamic properties of real fluids. Refrigerants, their properties and applications. Gas cycle refrigeration. Steam-jet refrigeration. Vapour compression refrigeration; analysis and performance characteristics of the complete cycle; analysis and performance of multipressure systems. Analysis of the performance of compressors, condensers, evaporators and expansion devices. Thermo-electric refrigeration.

MECH9758
Air Conditioning Design
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Prerequisite: MECH2612, MECH2712

Pipe and duct design, air conditioning systems, plant room design, cooling towers and evaporative condensers, heat and mass transfer equipment, load calculations, building thermal simulation, life cycle cost minimisation.

MECH9761
Internal Combustion Engines 1
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4700

Thermodynamic cycles. Combustion, reaction kinetics. Real engine cycles. Chart, computer analysis. Spark ignition engines. Flame physics. Combustion chamber design. Charging, discharging; heat transfer; friction. Emissions, fuels, computer modelling: efficiency, performance, emissions. Testing. Laboratory.

MECH9790
Special Thermodynamics Elective
School of Mechanical and Manufacturing Engineering
UOC6 HPW3

This course is variable in content in order to allow the presentation of material of particular interest and merit by a visiting expert in a field not otherwise covered.

MEFT5100
Teaching Media: Word and Image
School of Media, Film and Theatre
UOC8 HPW2
Prerequisite: Enrolment in plan MEFTES8225 or MEFTES5225

Introduces functional semiotics as a means of analysing a variety of audio-visual 'texts' and 'genres' (including display and TV advertisments). Considers issues of representation of gender, class and race, 'stereotyping' and the construction of social 'knowledge' in the popular media, focussing on examples such as those considered in the current secondary and primary school curricula.

MEFT5103
Computer Media and Education
School of Media, Film and Theatre
UOC8 HPW3
Prerequisite: Enrolment in plan MEFTES8225 or MEFTES5225

Develops practical skills in designing multimedia applications for the classroom and in teaching using these media forms, including the internet. Students research and design a web-site or other digital media work for use in an educational context. Current multimedia educational resources are surveyed and their use in the classroom considered.

MEFT5202
Video Production in Education
School of Media, Film and Theatre
UOC8 HPW4
Prerequisite: Enrolment in plan MEFTES8225 or MEFTES5225

Teaches elementary skills in script construction, videography and editing in the context of their utilisation in the classroom. Knowledge of current video pre- and post-production. Emphasises that relatively low levels of technology can provide rich classroom resources if used creatively by the teacher.

MEFT5203
Teaching Cinema: History and Aesthetics
School of Media, Film and Theatre
UOC8 HPW4
Prerequisite: Enrolment in plan MEFTES8225 or MEFTES5225

Studies popular film, including action genres and animation in relation to students' experience of 'movies' as entertainment. Examines approaches to analysing and interpreting films by focussing on questions of fantasy and 'realism'. Considers the visual and aural qualities of the cinema, while literary models of film 'appreciation' are also evaluated.

Note: A screening program of twenty historically important narrative films is part of the course. Includes many films in the current HSC syllabus.

MEFT5300
Teaching Drama: Forms, Conventions, Styles and Contexts
School of Media, Film and Theatre
UOC8 HPW2
Prerequisite: Enrolment in plan MEFTES8225 or MEFTES5225

Studies ideas of form, convention, style and context in theatre and performance. Explores different dramaturgical and theatrical approaches to form. Investigates the ways in which established theatrical conventions influence and/or are challenged by the individually innovative and culturally determined styles and working techniques of selected writers, directors and performance makers, and the social, political, historical and philosophical contexts in which they work.

MEFT5302
Making Performance
School of Media, Film and Theatre
UOC8 HPW2
Prerequisite: Enrolment in plan MEFTES8225 or MEFTES5225

Explores experientially techniques for the making of solo and/or group performances in the context of current critical and theoretical debates. Explores performer/artist-generated work and the making of performances that neither derive from a traditional dramatic script nor have the creation of a play as their end product.

MEFT5400
Approaches to Teaching Dance
School of Media, Film and Theatre
UOC8 HPW2
Prerequisite: Enrolment in plan MEFTES8225 or MEFTES5225

Focuses on teaching dance as an art form, encompassing historical and contemporary practices in teaching dance. Examines the philosophical rationale for dance in education and recent revisions to curriculum content. Investigates varying approaches to dance teaching, within the context of most recent knowledge and theory about pedagogy and assessment.

MEFT5401
Dance Performance: Genres in Context
School of Media, Film and Theatre
UOC8 HPW2
Prerequisite: MEFT5400

Examines the practice of performing in relation to the NSW dance syllabuses. Studies the value of teaching particular dance genres and styles within historical and theoretical contexts, which includes applied anatomy and kinesiology.

MFIN6201
Empirical Techniques & Applications in Finance
School of Banking and Finance
UOC6 HPW3
Prerequisite: enrolment in program 8406

Reviews probability and statistical techniques commonly used in quantitative finance. Topics include common univariate and multivariate continuous distributions, parametric and non-parametric estimation techniques. Advanced topics include: unobserved components and their applications to non-Markov processes, estimation techniques based on Expectation Maximising Algorithm. Applications of these tools include rational stochastic asset price bubble and the measurement of financial market risk premia. Introduced to appropriate software for such exercises.

MFIN6205
Financial Risk Management for Financial Institutions
School of Banking and Finance
UOC6 HPW3
Prerequisite: enrolment in program 8406

This course is an advanced course in the management of financial service firms and the development of risk management systems. It will deal with advanced methods of measuring financial risk within financial institutions including risk measures, value at risk and CreditMetrics. Methodologies for dealing with these risks will also be investigated, including regulatory controls, capital management, risk rating of loans, securitisation and methods of dealing with credit products.

MFIN6210
Empirical Studies in Finance
School of Banking and Finance
UOC6 HPW3
Prerequisite: enrolment in program 8406

Aims to provide an accessible introduction to empirical studies in financial economics including initial public offers, seasoned equity issues, dividends, capital structure, corporate takeovers, and other forms of corporate restructuring and governance. Special attention will be given to anomalies. It provides a concise synthesis of the recent available literature on empirical studies in corporate finance within a logical, analytical structure.

MFIN6211
Structured Finance Law
School of Business Law and Tax
UOC6 HPW3
Prerequisite: enrolment in program 8406

This course examines the legal environment of banking and finance with particular emphasis on a legal risk management approach to financial transactions. The general legal framework governing finance law is discussed. Topics include the law relating to lending transactions including syndicated lending, project finance and infrastructure, securitization, guarantees, and letters of comfort. Insolvency issues in banking and finance and directors' duties to creditors are highlighted. An important feature of this course is the extensive use of case studies, designed to identify complex legal issues and assist financiers and borrowers in understanding the legal basis for selected structured finance transactions.

MFIN6212
Taxation of Financial Arrangements
School of Business Law and Tax
UOC6 HPW3
Prerequisite: enrolment in program 8406

Deals with the tax treatment of financial arrangements. Examines the current classification of financial instruments for tax purposes and the tax consequences of those classifications. Discussion of general tax framework governing inbound and outbound direct and portfolio investment. Fundamental principals are then applied in the context of case studies. Specialised tax rules relevant to case study topics are highlighted. Case study topics: initial public offers; foreign exchange gains and losses; innovative financial products; structured finance for infrastructure and privatisations; securitisation; lease financing; funds management; venture capital; capital restructuring; takeovers, mergers and demergers. Effects of the proposed changes in the taxation of financial arrangements on the tax results in the case studies are noted.

MFIN6213
Research Project
School of Banking and Finance
UOC6 HPW3
Prerequisite: enrolment in program 8406

The purpose of this course is to ensure that students are able to apply finance theories to real financial issues and gain practical financial experience. Students, in consultation with their supervisor, should choose a topic for research in finance which may well be related to their work environment with a focus on areas such as the following: Banking, Corporate Finance, Funds Management, Investments, International Finance, Risk and Insurance and Quantitative Finance. The project should demonstrate the student's ability to analyse and grasp the implications of the research in the context of the national and international financial markets.

MFIN6214
Financial Theory and Policy
School of Banking and Finance
UOC6 HPW3
Prerequisite: enrolment in program 8406

Gives an advanced treatment of the main theoretical foundations of finance, including investment decision making, utility theory, portfolio theory, asset pricing and option pricing theory, real options, capital market efficiency, agency theory, cost of capital and capital structure, dividend policy and corporate governance. Special treatment is given to unsolved problems or anomalies in finance. Provides a treatment of the main developments in finance theory over the past 40 years, and provides the theoretical foundations for subsequent finance study within the Master of Finance degree.

MGMT5601
Global Business and Multinational Enterprise
School of Organisation and Management
UOC6 HPW3

The globalisation of business and the challenge of dynamic political, economic, social and technological environments. The impact of cultural differences on international business transactions and international management. The evolution and development of the multinational enterprise and alternative contractual modes including exporting, licensing, franchising and manufacturing, international acquisitions, joint ventures and strategic alliances. Theories of the internationalisation process and foreign direct investment by multinational enterprises. The relationship of multinationals with governments and issues of political risk.

MGMT5602
Cross-Cultural Management
School of Organisation and Management
UOC6 HPW3

Understanding cultural differences, and effectively managing these differences are critical to working, communicating and transferring knowledge in multi-cultural and international business environments. The aims of this course are to provide conceptual and theoretical frameworks for developing an understanding of the ways in which cultures differ, how these cultural differences impact on organisations and how they constrain communication and knowledge transfer. The course also considers strategies for managing and valuing the diversity within organisations. Topics include the nature and dimensions of culture, challenges in managing cultural differences, issues relating to cross-cultural problem solving, the dynamics of multi-cultural teams, leadership across cultures, cross-cultural perspectives to motivation and decision making, the nature and management of knowledge within different cultures and across cultures, and global approaches to managing conflict and conducting business negotiations. Further topics include human resource development across cultures and issues unique to global management including cross-cultural entry and re-entry transitions, problems relating to expatriation and the challenges of managing global careers.

MGMT5603
Global Business Strategy and Management
School of Organisation and Management
UOC6 HPW3
Prerequisite or Corequisite: IBUS5601 or MGMT 5601

Formulation of global business strategies including objective setting processes and internationalisation of decision-making. Country location decisions. International market entry mode decisions. Exporting and importing decisions. Investment evaluation of foreign projects. International joint venture and alliance strategies. International acquisition strategies. Managing international business negotiations. Organising operations and managing human resources across borders. Measuring and evaluating international business performance. The study of international business cases is a special feature of this course.

MGMT5604
Asia-Pacific Business and Management
School of Organisation and Management
UOC6 HPW3
Prerequisite or Corequisite: IBUS5601 or MGMT 5601

This course provides an in-depth analysis of business development of Asian enterprises in a dynamic institutional context. It considers the business activities of multinational enterprises in the Asia Pacific Region including those from Japan, Korea, China, India, Taiwan, hong Kong and Singapore. Topics include: the policy context of competitive advantage, dynamic learning and innovation in Asian businesses; state guided capitalism; the role of networks, market and non-market institutions; foreign direct investment and export promotion; comparative analysis of business and management systems in East, South East and South Asia.

MGMT5606
Chinese Business and Management
School of Organisation and Management
UOC6 HPW3

A business and management perspective on the People's Republic of China. The macroeconomic, legal and operational environment of Chinese business enterprises; analysis of business procedures and management in China, and an overview of Australian-Chinese business relations. Topics include enterprise reform, enterprise finance and stock markets, accounting and taxation, foreign trade and internationalisation, enterprise management and Australian trade and investment links with China. Special attention will be given to problems of enterprise reform, the continuing role of the state, Chinese business practices, including "guangxi" and business negotiations, and the management of foreign investment enterprises in China.

MGMT5607
International Entrepreneurship and New Venture Management
School of Organisation and Management
UOC6 HPW3
Prerequisite: IBUS5601 or MGMT5601; Corequisite: IBUS5603 or MGMT5603; Excluded: MARK5958.

This course explores entrepreneurship (and intrapreneurship) in both large and small firms, recognising the increasing crucial role of the international dimension. Key questions addressed include: What is an entrepreneur? What opportunities and challenges do entrepreneurs face (or create) in the international arena? How can these opportunities and challenges be managed creatively and effectively? These questions

are addressed from both economic and behavioural perspectives. An emphasis is placed on: the processes of innovation and entrepreneurship; identifying opportunities; planning for and managing a growing venture in the international marketplace from a variety of functional perspectives; and developing an entrepreneurial mindset. Central to this course is the integration of theory and oractice, building on previous courses, Student participation through case analyses, experiential exercises and workshops, project work, symposiums with industry practitioners, and reflective learning underpins the course.

MGMT5608
Corporate Strategy in East Asia
School of Organisation and Management
UOC6 HPW3

An indepth analysis of comparative business systems and corporate strategy in Japan, Korea, and China. Topics include: comparative analysis of business systems and government-business relations in Japanese Keiretsu, Korean Chaebol and Chinese family business and State enterprises in China; corporate governance and human resource management practices; globalisation of firms, headquarter-subsidiary relations and foreign direct investment; impact of culture on management style and decision making; comparative analysis of competition strategy; organisational structures including sub-contracting and buyer-supplier networks, just-in-time management and quality control.

MGMT5609
Geopolitical Risk Management
School of Organisation and Management
UOC6 HPW3

This course introduces students to the mechanisms by which firms are challenged to account for the social, as well as economic, consequences of their activities. In complex international environments, firms must manage conflicting stakeholder interests. The course sets out theoretical and conceptual frameworks for analysing the choices confronting firms, including issues of corruption, diversity management and the environment.

MGMT5700
Management Work and Organisation
School of Organisation and Management
UOC6 HPW3

Provides a multi-disciplinary introduction to the concepts, processes, practices, issues and debates associated with the management of people in paid employment and the organisation, institutional and market place contexts within which employment relations are played out. Topics covered include the changing nature of work and work organisations, the development of labour management theory and practice, the meaning and purpose of the Human Resource Management approach, current trends and debates in management thinking and methods, the industrial relations context, the role of the state, unions and management strategy, workplace conflict, the nature of managerial work, leadership, gender and work, organisational culture, and employee motivation, remuneration and performance management.

MGMT5701
Employment and Industrial Relations
School of Organisation and Management
UOC6 HPW3

Concepts and issues in Australian industrial relations at the macro or systems level, with overseas comparisons where appropriate. Labour movements and the evolution of employee-employer relations in the context of industrialisation and change; origins and operations of industrial tribunals at the national and state levels; their instrumentalities; nature of industrial conflict and procedures for conflict resolution such as arbitration and bargaining; national wage policy.

MGMT5711
Employment and Industrial Law
School of Organisation and Management
UOC6 HPW3
Prerequisite or corequisite: IROB5700 or MGMT5700

Nature and purposes of the legal system and industrial law, the law concerning the contract of employment. Trade union law. Industrial law powers of governments. The Commonwealth and New South Wales conciliation and arbitration systems. Awards. Penal sanctions for industrial law. Industrial torts. Topics and issues of importance in the employment and industrial law field.

MGMT5712
Negotiation Skills
School of Organisation and Management
UOC6 HPW3

This course provides a set of generic concepts and skills for negotiation and resolving interpersonal and inter-group conflicts. Students gain the opportunity to work with theory, skills and processes of negotiation relevant to a wide range of contexts: commercial; organisational; community; political and public policy; legal; and industrial relations. This course will provide an analytical understanding of negotiations, including negotiation planning, strategy and tactics, as well as the development of the practical skills necessary for implementation of this knowledge. Students will gain these practical skills through participation in negotiation seminars. The seminar programme is made up of negotiation role play exercises which develop in complexity as the course progresses.

MGMT5800
Technology, Management and Innovation
School of Organisation and Management
UOC6 HPW3

This course examines the interaction between the development of innovative capabilities (i.e. technology sourcing, corporate innovation, corporate entrepreneurship, and internal corporate venturing) and the enactment of technology strategy (i.e. new product development, learning cycles, design-build-test cycles), particularly from the manager's perspective. Integrates the roles of innovation strategy and technology strategy into a strategic management perspective. The subject is organised around five (5) major themes: 1) integrating technology and strategy; 2) design and evolution of technology strategy; 3) developing the firm's innovative capacities; 4) creating and implementing a development strategy; and 5) innovation challenges in established firms.

MGMT5801
Strategic Management of Technology and Innovation
School of Organisation and Management
UOC6 HPW3
Prerequisite: IROB5800 or MGMT5800

This course aims to provide an understanding of the strategic role that effective management of technological innovation plays in the success of the organisation or autonomous business unit. Because mission-critical technology is a key resource for each organisation, it must be strategically managed for comparative advantage. To do so necessitates first an understanding of the fundamentals of strategic management, then an understanding of how the technology strategy of the firm is aligned with the overall strategy of the firm. To that end, the concepts, techniques, tools, and processes of strategic management are explored, with an emphasis on linking the development of innovative capabilities and technological innovations with strategic outcomes. Topics covered include integrating technology and strategy, assessing technological capabilities, technological evolution and forecasting, technological entrepreneurship, designing and managing systems for corporate innovation, creating and implementing a development strategy, and management through systems, style and shared values. Special emphasis will be placed on the integration of technology practices with other functional practices (i.e. finance, marketing, operations management, human resource management, etc.). These topics are investigated through a critical examination of relevant literature, documented case studies and contemporary business practices.

MGMT5901
Organisational Behaviour
School of Organisation and Management
UOC6 HPW3

This subject seeks to explain human behaviour within organisations. It draws predominantly from the behavioural science disciplines of psychology and social psychology. Its foci are the individual, the group, and the behavioural processes involved in organisation integration, change and development. Topics covered include personality, attitudes and values, motivation and learning, interpersonal behaviour, group dynamics, leadership and teamwork, decision-making, power and control.

MGMT5904
Organisational Transformations at the Speed of E
School of Organisation and Management
UOC6 HPW3

This course examines the human implications of change and transformation in New Economy companies. Topics include: types of organisational change vs. velocity of change; organisational change systems and

methodologies; individual and organisational renewal; learning at the speed of E; the organisational psychology of the E culture. Emphasis will be placed on organisational behaviour processes, e.g. learning, innovation, leading, communication, as well as on human resource programs and practices that will need to be transformed in order to more effectively support ongoing organisational processes.

MGMT5908
Strategic Human Resource Management
School of Organisation and Management
UOC6 HPW3
Prerequisite or Corequisite: IROB5700 or MGMT5700, or IROB5901 or MGMT5901, or IROB5800 or MGMT5800

This course deals with the ways in which strategic thinking can be applied to Human Resource Management in organisations. It aims to provide students with opportunities to synthesise managerial strategy issues with HRM processes, in a considered and reflective manner. Strategic Human Resource Management considers questions such as: What does it mean to be a HR professional? How can we integrate HR concerns into organisational decisions and strategies? How can strategic thinking underpin HRM activities?

The course focuses on the way strategies can be formed and enacted in organisations, and on the internal and external environmental contexts from which human resource strategies emerge. It also deals with a range of contemporary issues in human resource management, and aims to introduce strategic human resource management as a new way of thinking about organisations and their stakeholders. Students are given the opportunity to enhance their skills in organisational analysis, issue selling and strategic thinking - through fieldwork, case studies and seminars.

MGMT5910
Towards Corporate Sustainability: Effective Human Resources and Organisations
School of Organisation and Management
UOC6 HPW3
Prerequisite or corequisite: COMM5001, COMM5002 and MGMT5700

This course aims to examine the ways in which organisational change can be sustained within the complexity of changing human and organisational systems. It examines the effects of environmental change on organisations and organisational systems. Emphasis is placed on sustaining change by building organisational capability involving human resource and organisational practices and processes which have the potential to sustain the organisation's ability to achieve continuous adaptation. The course will also emphasize a number of emerging corporate competencies required to sustain change and how these can be embedded in every organisation, in every group and every individual by learning, adapting innovating, and interacting with other systems and the environment. A key concern is an on-going organisational response to demands for structural and operational flexibility and change. The course also examines tools of analysis, design, implementation and maintenance of system sustainability, integration, and coordination. Topics include, strategic interventions, approaches to systems, system analysis and design, implementation techniques, monitoring, complementary human assets, contextual relations and linkages. Specific examples are drawn from industry experience and models.

MGMT5920
Managing Equity, Diversity and Disability
School of Organisation and Management
UOC6 HPW3

This subject presents a multi-disciplinary overview of the issues and problems raised by the increasing diversity of the workforce and it evaluates organizational challenges and opportunities created by the need to attract, develop, and retain employees and managers from a diverse range of backgrounds and/or abilities. It introduces students to concepts and theoretical constructs that enhance understanding of difference and diversity, such as gender, identity, ethnicity and disability. It examines strategies required to more effectively deal with prejudice, stereotyping, discrimination, inter-group conflict, cultural clash, structural integration and organizational change. In this way the course relates the management of equity and diversity to changes in work organization, human resource management and industrial relations, as these involve issues of power and politics, legislative intervention and regulation, labour market segmentation, organisational power and politics, Equal Employment Opportunities, the merit principle, and organisational culture.

MGMT5947
Remuneration and Performance Management
School of Organisation and Management
UOC6 HPW3
Prerequisite or corequisite: IROB5700 or MGMT5700

Examines theories, practices and debates in contemporary remuneration and performance management, with special reference to the trend away from traditional pay-for-position to performance-related remuneration at individual, work group and organisational level. Themes covered include: the concept of the New Pay , theories of employee motivation, competing perspectives on procedural and distributive justice, the ethics and effectiveness of performance-related pay, job-based pay and job evaluation, broadbanding, developing assessing and rewarding individual merit, recognition awards, gainsharing and team-based pay, profit-sharing and employee ownership plane, executive pay, and the development of comprehensive pay and performance management systems. Adopts a critical and multi-disciplinary perspective embracing Human Resource Management, Organisational Studies, Industrial Relations, Sociology, Labour Economics, Psychology and Ethics.

MGMT5948
Human Resource Recruitment, Selection and Development
School of Organisation and Management
UOC6 HPW3
Prerequisite or corequisite: IROB5700 or MGMT5700

Examines the recruitment, selection, training and development of people in organisations. Issues addressed include: staff recruitment procedures, selection practices and procedures, human resource planning, the analysis of skill, competency and training needs, learning systems, training program development, internal and external training policy, career planning and internal labour market and management development.

MGMT5949
International Human Resource Management
School of Organisation and Management
UOC6 HPW3
Prerequisite or corequisite: IROB5700 or MGMT5700, or IBUS5601 or MGMT5601

Examines the impact of culture on the process of managing the human resources in multinational or global corporations. Topics examined include: the conceptual and methodological challenges in international HRM research; the role of culture in shaping managerial perceptions and actions; HRM systems as cultural artefacts; conflict between indigenous HRM frameworks; and the problems of transferring HRM systems across cultural boundaries. Issues such as expatriation versus local management, selecting and preparing for international assignments, intercultural competence, cultural adaptations at the individual and system level, the management of host country nationals and joint venture partnerships, and the influence of globalisation on future HRM practices are also examined. The course also examines the global uniformity/differentiation policy debate and its implications for global organisations.

MGMT5980
Managing the Human Side of Technological Innovation
School of Organisation and Management
UOC6 HPW3
Prerequisite: must be enrolled in program 8407

This course examines the management of human resources within the process of technological change and innovation. The course draws from the behavioural science disciplines of psychology and social psychology, and focuses on the individual, the group, and the behavioural processes involved in organisation integration, change and development. Topics covered include personality, attitudes and values, motivation and learning, interpersonal behaviour, group dynamics, leadership and teamwork, decision-making, power and control. Strategies for the successful management of people within new technology implementation are also highlighted.

MICR5033
Graduate Diploma (Microbiology)
School of Biotechnology and Biomolecular Science
UOC18

The structure of the program is decided after discussions with students, taking into account their particular background, interests and career goals. Usually students attend one or more of the advanced third year courses in either microbial genetics, microbial physiology, environmental microbiology, immunology, medical bacteriology or virology. The rest of

the year is spent carrying out a research project supervised by a member of academic staff.

MINE5010
Fundamentals of rock behaviour for underground mining
School of Mining Engineering
UOC6 HPW3

Introduction to mining rock mechanics and the rock mechanics context within new and operating underground mines. Basic physical principles applied to rock mechanics and geotechnical engineering in an underground mining environment. Elasticity and stress; rock properties and methods of determination; rock response to load; failure modes; time-dependency; stiffness; energy release; rock mass characterisation; geological environment and structure; stress environment and methods of determination; hydro-geological environment; soft rock/soil mechanics considerations.

MINE5020
Geotechnical assessment for underground mining
School of Mining Engineering
UOC6 HPW3

Geotechnical components of exploration programs - requirements, technologies, integration, management. Geotechnical assessment and logging; geophysical methods for geotechnical determinations, in both exploration and operating mine environments; integration of geotechnical data; rock mass characterisation; geotechnical hazard/ condition mapping.

MINE5030
Mining excavations in rock
School of Mining Engineering
UOC6 HPW3

Stress in rock and the effect of depth on pre-mining stress state; other factors influencing stress in rock; mining-induced stress and the rock mass response to excavation process; stress distributions around different excavation shapes and sizes - elastic and inelastic rock materials; excavation stability and potential failure modes; interaction between different excavations (horizontal and vertical interaction); regional stability considerations; effect of time on rock behaviour around excavations.

MINE5040
Coal mining methods, mine planning and applied geomechanics
School of Mining Engineering
UOC6 HPW3

Range of mining methods used in underground coal mining and the core geotechnical parameters and criteria that effect the choice or application of the methods. Mine entry systems (drifts, shafts etc); pillar mechanics and design procedures; geomechanics of longwall mining; caving mechanics, periodic weighting, windblasts; outbursts and rock bursts/bumps; pillar extraction; highwall mining; mine subsidence mechanics and design; geotechnical equipment considerations; mine planning considerations; geotechnical design methodologies (methods, excavations, pillars etc). A range of case studies will supplement this course content.

MINE5050
Ground control principles and practice in underground coal mining
School of Mining Engineering
UOC6 HPW3

Principles of rock reinforcement; active/passive support; support requirements for different excavation types and mining methods; ground reaction curves; load and displacement controlled support response; types of ground support/reinforcement hardware and related systems; design of support systems; interaction of mining method, layout and reinforcement systems; ground support installation and quality assurance; time effects on ground support systems and remedial options.

MINE5060
Operational geotechnical management (underground coal mining)
School of Mining Engineering
UOC6 HPW3

Risk assessment methodologies and core geotechnical risks in underground coal mining; geotechnical risk management strategies; preparation of strata control management plans; geotechnical hazard mapping; geotechnical instrumentation; role and design of geotechnical measurement and monitoring systems; underground data collection; rock fall recovery techniques; geotechnical audits, quality assurance; geotechnical variability and dealing with non-compliance; geotechnical training; safe operating procedures; use of specialist consultants; geotechnical reporting and management interaction; professional responsibilities and accountabilities.

MINE8110
Mining Processes and Systems
School of Mining Engineering
UOC6

All generic mining methods will be reviewed and analysed to identify the fundamental drivers which influence the performance of a mining operation based on each method. Mining operations are made up of a complex and inter-related number of key processes and systems. Appropriate and efficient mine design, planning and operations is dependent on understanding and optimising these processes and systems. Components of a generic mining operation to be considered will include: rock breakage, materials transport, grade/quality control and economic sensitivity, ground stability, mine environment and environmental impact. In each component, process and/or system, the critical economic sensitivities will be identified, together with the safety implications and management strategies.

MINE8120
Hazard Identification, Risk and Safety Management in Mining
School of Mining Engineering
UOC6

The course includes the following: safety management; hazard and risk analyses, safety hazard identification, management techniques, safety audits; statistics; HAZOP management and maintenance of change risk analysis; cost benefit analysis; attitudes to safety in mining; effective training; accident and injury report/recovery; ergonomics and safety engineering; prevention of traumatic injury; work stress; environmental factors; monitoring and protection; personal protective equipment; safety policies and programs; action plans. A generic approach to loss control within mining operations will be reviewed together with identification of management strategies to deal with such losses. This will extend from simple hazard control management to full catastrophic management planning. The course will draw on experience and techniques applied in non-mining industries in addition to a practical focus on mining risk management taught by specialist safety management personnel.

MINE8130
Technology Management in Mining
School of Mining Engineering
UOC6

The course addresses the role of technology in the mining process. Sensitivity of the mine profitability and performance is addressed with respect to different levels of technology in each stage of the mining operation. Appropriate specification of technology; capital justification and cost benefit analyses; performance monitoring; technology audits; training requirements and effectiveness; occupational health and safety implications of technology changes relative to skill levels.

MINE8140
Mining Geomechanics
School of Mining Engineering
UOC6

The course will provide an introduction to the full range of potential geomechanics issues which form part of, or impact on a mining operation, from resource evaluation, mine design to daily operations. This will cover both coal and metalliferous operations. The course content will include the following components: site investigation, rock mass classification, rock fragmentation, caving prediction and control, slope stability, diggability and rippability, role and application of reinforcement systems, geotechnical instrumentation, stress analysis and stability evaluation around complex excavations, ground control management and environmental geomechanics.

MINE8210
Management Systems - Projects, Processes, Contracts, Contractors
School of Mining Engineering
UOC6

Different aspects of mining operations require different management approaches. This course provides applied management theory and practices in each area of project, process, contracts and contractor management. In each case, examples and case studies are linked to mining operations. The course works through a typical mining system to identify the embedded sub-projects and processes which are inherent to

the mining system and demonstrates the role and benefits of applying different management techniques. Managing contracts, including on-going contractor management both at the construction and ongoing operational stage of a mine is addressed in the course.

MINE8220
Mine Feasibility, Planning and Project Evaluation
School of Mining Engineering
UOC6

This course addresses the process of mine feasibility planning and project evaluation commencing from the resource assessment stage. It includes a brief introduction to in situ resource estimation methods, the use of geostatistical techniques in grade interpretation, ore body block modelling and reserves estimation. The implications of the Australasian Code for Reporting of Mineral Resources and Ore Reserves for quality control of these processes will be discussed. Other topics include the feasibility study process, mine planning methodologies and scheduling techniques, mine cost structures and cost estimation. The project evaluation component includes financial theory in relation to project evaluation, evaluation techniques, project financing, cost of capital, revenue assumptions, cost assumptions, risk and sensitivity analysis, institutional and corporate perspectives on project evaluation, introduction to financial modelling, practical exercises in financial modelling, intra-project evaluation, and financial modelling case studies.

MINE8230
Mine Sampling, Grade Control and Reserves Definition
School of Mining Engineering
UOC6

This course will provide a full coverage of the theory and practice of sampling solid and particulate materials, based on Pierre Gy's theoretical research as modified by Francis Pitard and Francois Bongarcon. It will cover subsampling and sample preparation for laboratory analysis, as well as the need for and means of establishing and monitoring a quality assurance/quality control program for laboratory analytical techniques. The geostatistics coverage will include variography, grade interpolation and average grade determination and will lead into cut-off grade determination, reserves definition and ore body modelling. The interaction of mining method and reserves definition will be reviewed. Case histories will illustrate grade control and reserves definition problems and practices. Management topics will include maintaining the integrity of the database and involving and motivating the workforce.

MINE8710
Mine Slope Stability
School of Mining Engineering
UOC6

This course will deal with the major topics of engineering geology and groundwater controls on surface mining slope stability in the form of discontinuities, variable materials and pore pressures; effect of excavation method and scheduling in pit stability; the fundamental basis of stability analysis; advantages and disadvantages of a range of mathematical models; remedial measures that can be taken to stabilise slopes; pit slope design in the context of overall mine planning. In addition to dealing with the underlying principles, the course may involve workshops and field inspections so that the participants gain hands-on experience of practical cases.

MINE8720
Advanced Rock Mechanics
School of Mining Engineering
UOC6

This subject will expand on components of the MINE8140 Mining Geomechanics subject to providing a more comprehensive and theoretical understanding of the engineering principles involved, together with practical mining industry application. Specific areas covered in this course include: stress analysis, advanced computational methods, rock mass behaviour and failure criteria, time-dependent rock characteristics under load, ground support - rock mass interaction, support systems, foundation engineering and geotechnical instrumentation.

MINE8730
Mechanised Excavation Engineering
School of Mining Engineering
UOC6

The course will address a range of rock cutting and mechanised rock excavation techniques applied in the mining industry. Fundamental engineering excavation mechanics will include: principles of coal and rock cutting mechanics; the performance of picks and free rolling cutters; cutting tool interaction; the design of cutting arrays for machine mining and tunnelling; impact breakage of rock; drill bit design and breakage mechanics; cutting tool materials and the effects of wear; methods of assessing rock cuttability; water jet cutting and water jet assisted drilling and cutting. Applications including full face and partial mining machines, drilling technologies and tunnel boring machines will be reviewed.

MINE8740
Blasting and Rock Fragmentation
School of Mining Engineering
UOC6

The course will address the mechanics and practical applications and current technologies in rock fragmentation; theories of rock breakage and fragmentation; rock mass properties; structure and discontinuities and their impact on blast behaviour. Blasting theories and types of explosives and blast initiation procedures; blast designs for both underground and surface mining applications; blast hazard management; blast vibration and impact on structures and mining excavations; state-of-the-art blasting practices and technologies; and alternatives to conventional blasting for rock fragmentation.

MINE8750
Advanced Soil Mechanics and Mine Fill Technology
School of Mining Engineering
UOC6

Geotechnical properties of soil and unconsolidated materials and weak rocks for mining applications. Issues covered include: assessment of the stability, design and stabilisation of soil slopes and the influence of geology and groundwater, use of soils and weak materials for mine pavements, foundation design, soil dynamics and design for dynamic loading, consolidation, laboratory and site investigation techniques and soil liquefaction. Mine fill technology as an integral part of mining methods - fill properties, use of cemented and rock fill, paste fill technology, rock-fill interaction, fill transport and placement, fill economics, post-mining underground stowage.

MINE8760
Mine Geology and Geophysics for Mining Operations
School of Mining Engineering
UOC6

This course addresses the essential interaction between the disciplines of geology and mining engineering in the geotechnical field, embracing engineering geology, structural geology and applied geophysics. The impact of engineering geological rock mass properties and structural features on mining operations is evaluated, together with likely variability of these parameters and the degree and confidence with which they can be predicted and projected ahead of the mining process. Modern geophysical techniques including 2D and 3D seismic, microseismics, tomography, electromagnetic imaging techniques, radar and down-hole survey methods are reviewed in the context of their ability to provide reliable information to assist with mine planning and operational decision-making. Effective communication systems for the geologist - engineering interface are also addressed, together with the integral role of such geological information in the planning and operations of a modern efficient mining operation.

MINE8770
Mining Law
School of Mining Engineering
UOC6

This course will explore all aspects of modern mining legislation and its impacts on the mining industry and its stakeholders both in Australia and the Asia-Pacific region. Topics to be covered include in broad terms mine health and safety, mining and the environment, exploration and mining, and miscellaneous issues. Concepts to be covered include duty of care, enabling legislation, safety management systems, the role of risk management, the role of the regulator, mining laws in developing countries, industrial law and other issues. The course is designed for mining industry personnel and/or those involved with the industry who need to be updated in this rapidly changing discipline. An emphasis will be on case studies. The course will be delivered by experienced practitioners from government, legal firms and UNSW.

MINE8780
Environmental Management for the Mining Industry
School of Mining Engineering
UOC6

Participants should gain an appreciation of:

- Global treaties, international environmental law and the role of the UN and World Bank - the big picture
- Sustainability
- Corporate responsibility
- Environmental management tools including EIA and EMS
- Best practice
- The most significant environmental management issues on mine sites
- Management of these issues.

Topics addressed are: International Perspective, Sustainable Development, Corporate Responsibility, Legislation & Regulatory Framework, Risk Management, Environmental Impact Assessment, Environmental Management Systems & ISO 14001, EMS Case Study, Company Initiatives - corporate reporting/code for environmental management/case studies, Environmental Auditing, Mine Planning/Feasibility Studies/Documentation to Avoid Environmental Impact, Best Practice Environmental Management - an introduction, Environmental issues in mining, Management of Mine Wastes, Mine Tailings Disposal and Storage, Environmental issues in tailings management, Tailings dam incidents, Cyanide Management, Water pollution/Acid Mine Drainage and its remediation, Environmental Monitoring and sampling, Air Quality, Mineral Exploration, Quarries/ extractives/industrial minerals, Small scale & placer mining, Uranium mining, Mining in developing countries - a case study, Social impact, Rehabilitation and closure.

MINE8790
Advanced Mineral Economics and Commodity Marketing
School of Mining Engineering
UOC6

Review of general mineral economics theory and more detailed review of mining industry economics, leading to commercial evaluation of the market opportunities and problems of mining projects. Commodities: supply and demand; business cycles; exchange rates; metal and coal markets and hedging; long-term contracts and the spot market; commodity pricing and mine revenue calculation. Sources and types of market-related information; particular international market characteristics; trade barriers; cartels, regional and sub-regional economic groups; factors related to particular mineral commodities. The recognition of export opportunities; stages in the development of a market strategy; value added mineral products and export marketing. Case histories; in-course evaluation of market impact on a specific mining project.

MINE9901
Ventilation and Mine Services
School of Mining Engineering
UOC6

This course module covers laws and relationships required to describe the behavious of mine or ducted ventilation systems. These relate to fluid flow, friction losses, fans and network analysis. Use of ventilation surveys to provide design parameters or reconciliation with predictive models is also covered.

MINE9902
Environmental Contaminants
School of Mining Engineering
UOC6

This course module deals with the occurrence, effects and control of atmospheric contaminants in underground mine environments. These include toxic and or flammable gasses and dusts originating from strata, mine equipment or the mining process. The causes, effects and control of mine fires is also considered.

MINE9903
Heat in Underground Mines
School of Mining Engineering
UOC6

This course module deals with the issues of heat in underground mines. The module topics are psychrometry, heat transfer, sources of heat and heat stress management. The module provides the means to analyse a mine's ventilation circuit to determine the magnitude of heat management controls required, such as refrigeration. The topic of refrigeration is taken further in module MINE9907.

MINE9904
Ventilation System Management
School of Mining Engineering
UOC6

This course module covers the risk management approach to control of hazards and development of safety management plans pertinent to mine ventilation. In addition, the issue of project economics relating to capital and operating costs in ventilation systems is covered.

MINE9905
Coal Mine Hazards and Control
School of Mining Engineering
UOC6

This course module describes hazards and controls specific to underground coal mines, such as seam gas emission, outbursts and spontaneous combustion. The module includes methods of quantifying or predicting management requirements based on properties of the working section and adjacent seam gas reservoirs.

MINE9906
Coal Mine Ventilation
School of Mining Engineering
UOC6

This course module covers legislative requirements, pertinent to mine ventilation systems, in underground Australian coal mines, together with current industry practice.

MINE9907
Metalliferous Mine Hazards and Control
School of Mining Engineering
UOC6

This course module describes two issues encountered mainly in Australia metaliferous mines, namely refrigeration practice and the occurrence of ionising radiation. Although this module is taken as a metalliferous elective, the underpinning knowledge and design principles may also be applied to coal mines if required.

MINE9908
Metalliferous Mine Ventilation
School of Mining Engineering
UOC6

This course module covers legislative requirements, pertinent to mine ventilation systems, in underground metalliferous mines together with current industry practice.

MINE9910
Mine Ventilation
School of Mining Engineering
UOC6

This course will provide an understanding of the basic principles of mine ventilation and environmental control. The emphasis will be on the practical aspects of ventilation and involve both classroom and underground sessions. Course participants should be able to apply their knowledge to solve their practical problems at their individual mine sites. Individual access to a mine site is a requirement of this course.

This course will be held on an Australian minesite. Additional travel/ accommodation costs to be incurred by student.

MNNG5010
Fundamentals of rock behaviour for underground mining
School of Mining Engineering
UOC6 HPW3

Introduction to mining rock mechanics and the rock mechanics context within new and operating underground mines. Basic physical principles applied to rock mechanics and geotechnical engineering in an underground mining environment. Elasticity and stress; rock properties and methods of determination; rock response to load; failure modes; time-dependency; stiffness; energy release; rock mass characterisation; geological environment and structure; stress environment and methods of determination; hydro-geological environment; soft rock/soil mechanics considerations.

MNNG5020
Geotechnical assessment for underground mining
School of Mining Engineering
UOC6 HPW3

Geotechnical components of exploration programs - requirements, technologies, integration, management. Geotechnical assessment and logging; geophysical methods for geotechnical determinations, in both exploration and operating mine environments; integration of geotechnical data; rock mass characterisation; geotechnical hazard/ condition mapping.

MNNG5030
Mining excavations in rock
School of Mining Engineering
UOC6 HPW3

Stress in rock and the effect of depth on pre-mining stress state; other factors influencing stress in rock; mining-induced stress and the rock mass response to excavation process; stress distributions around different excavation shapes and sizes - elastic and inelastic rock materials; excavation stability and potential failure modes; interaction between different excavations (horizontal and vertical interaction); regional stability considerations; effect of time on rock behaviour around excavations.

MNNG5040
Coal mining methods, mine planning and applied geomechanics
School of Mining Engineering
UOC6 HPW3

Range of mining methods used in underground coal mining and the core geotechnical parameters and criteria that effect the choice or application of the methods. Mine entry systems (drifts, shafts etc); pillar mechanics and design procedures; geomechanics of longwall mining; caving mechanics, periodic weighting, windblasts; outbursts and rock bursts/bumps; pillar extraction; highwall mining; mine subsidence mechanics and design; geotechnical equipment considerations; mine planning considerations; geotechnical design methodologies (methods, excavations, pillars etc). A range of case studies will supplement this course content.

MNNG5050
Ground control principles and practice in underground coal mining
School of Mining Engineering
UOC6 HPW3

Principles of rock reinforcement; active/passive support; support requirements for different excavation types and mining methods; ground reaction curves; load and displacement controlled support response; types of ground support/reinforcement hardware and related systems; design of support systems; interaction of mining method, layout and reinforcement systems; ground support installation and quality assurance; time effects on ground support systems and remedial options.

MNNG5060
Operational geotechnical management (underground coal mining)
School of Mining Engineering
UOC6 HPW3

Risk assessment methodologies and core geotechnical risks in underground coal mining; geotechnical risk management strategies; preparation of strata control management plans; geotechnical hazard mapping; geotechnical instrumentation; role and design of geotechnical measurement and monitoring systems; underground data collection; rock fall recovery techniques; geotechnical audits, quality assurance; geotechnical variability and dealing with non-compliance; geotechnical training; safe operating procedures; use of specialist consultants; geotechnical reporting and management interaction; professional responsibilities and accountabilities.

MNNG9901
Ventilation and Mine Services
School of Mining Engineering
UOC6

This course module covers laws and relationships required to describe the behavious of mine or ducted ventilation systems. These relate to fluid flow, friction losses, fans and network analysis. Use of ventilation surveys to provide design parameters or reconciliation with predictive models is also covered.

MNNG9902
Environmental Contaminants
School of Mining Engineering
UOC6

This course module deals with the occurrence, effects and control of atmospheric contaminants in underground mine environments. These include toxic and or flammable gasses and dusts originating from strata, mine equipment or the mining process. The causes, effects and control of mine fires is also considered.

MNNG9904
Ventilation System Management
School of Mining Engineering
UOC6

This course module covers the risk management approach to control of hazards and development of safety management plans pertinent to mine ventilation. In addition, the issue of project economics relating to capital and operating costs in ventilation systems is covered.

MNNG9905
Coal Mine Hazards and Control
School of Mining Engineering
UOC6

This course module describes hazards and controls specific to underground coal mines, such as seam gas emission, outbursts and spontaneous combustion. The module includes methods of quantifying or predicting management requirements based on properties of the working section and adjacent seam gas reservoirs.

MNNG9906
Coal Mine Ventilation
School of Mining Engineering
UOC6

This course module covers legislative requirements, pertinent to mine ventilation systems, in underground Australian coal mines, together with current industry practice.

MNNG9907
Metalliferous Mine Hazards and Control
School of Mining Engineering
UOC6

This course module describes two issues encountered mainly in Australia metaliferous mines, namely refrigeration practice and the occurrence of ionising radiation. Although this module is taken as a metalliferous elective, the underpinning knowledge and design principles may also be applied to coal mines if required.

MNNG9908
Metalliferous Mine Ventilation
School of Mining Engineering
UOC6

This course module covers legislative requirements, pertinent to mine ventilation systems, in underground metalliferous mines together with current industry practice.

MODL5100
Foundations and Principles of Translation & Interpreting
School of Modern Language Studies
UOC8 HPW2

Provides theoretical foundations for the translation/interpreting studies and professional practice. Focuses on techniques and skills necessary for translation/interpreting practice, includes selected aspects of translation theory, cross-cultural linguistics and cross-cultural communication relevant to translation/interpreting, interpreters' and translators' professional ethics and code of conduct and the history of the profession.

MODL5101
Translation 1
School of Modern Language Studies
UOC8 HPW2

Aims to develop and consolidate students' translation skills and familiarity with topics relevant to the Australian and international translation market. Topics include non-specialist economics and finance, hospitality and tourism, social welfare and housing, scientific, medical and legal. Students will practice analytical skills, including comprehension and pre-translation analysis, develop translation techniques, learn to research translation topics, consult reference materials and create thematic glossaries.

MODL5102
Consecutive Interpreting 1
School of Modern Language Studies
UOC8 HPW2

Aims to develop and consolidate interpreting skills. Students will practice short-term memory exercises, short consecutive (dialogue interpreting) interpretation, sight translation and consecutive interpreting of longer passages with note-taking. Topics include community interpreting areas, such as hospitality, social welfare, education, medical and legal. Pre-translation analysis includes active listening/comprehension, rephrasing and reformulation of the text, discussion of text type and genres, communication patterns. Students learn to research areas relevant to their interpreting topics, use reference materials, build thematic glossaries and discuss interpreters' professional ethics.

MODL5103
Translation 2
School of Modern Language Studies
UOC8 HPW2

Involves English-LOTE two-directional translation practice in French, German, Indonesian, Japanese, Korean, Russian and Spanish in the following areas: non-specialist economics and finance, hospitality and tourism, social welfare and housing, scientific, medical and legal. Topics may be determined by the demand in the respective language areas and, wherever possible, the demand in the country of the given language. Students will work on individual projects on selected topics of preference.

Note: Recommended in conjunction with MODL5101 for MAITS students.

MODL5104
Consecutive Interpreting 2
School of Modern Language Studies
UOC8 HPW2

Interpreting practice involving bilingual interpreting of dialogues and passages with note taking in the following languages: French, German, Indonesian, Japanese, Korean, Russian and Spanish. Includes the development of bilingual proficiency in the relevant areas, such as public speaking; work on language-specific glossaries. Students implement research and use reference materials relevant to their interpreting topic.

Note: Recommended in conjunction with MODL5102 for MAITS students.

MODL5105
Conference Interpreting
School of Modern Language Studies
UOC8 HPW2
Corequisite: MODL5102

An introduction to the practice of simultaneous interpreting in both conference setting with the use of electronic equipment (conference interpreting) and without (eg. chuchotage, or 'whispering technique' used during round-table negotiations and in court). Techniques of simultaneous interpreting, such as reformulation, condensation, anticipation etc., will be taught. Topics include those common in international conferences and international organisations. Students will interpret into their A language (mother tongue).

MODL5106
Research Project
School of Modern Language Studies
UOC8 HPW2
Excluded: LING5007

A 10,000 word research project on an agreed subject.

Note: This project may only be undertaken with the permission of the Program Coordinator.

MODL5107
Professional Practice in Interpreting and Translating
School of Modern Language Studies
UOC8 HPW2

Prepares students for professional interpreting and translating practice in the community, conference and other professional settings. Explores linguistic and extra-linguistic aspects of the profession, professional ethics and professional conduct. During the practicum students will observe professional practice of other interpreters and translators and/or be placed in government and non-government professional agencies.

MSCI5004
Oceanographic Processes
School of Mathematics
UOC6 HPW4

Studies the physical, biological and geological processes of the marine environment; the dynamics of ocean currents including surface waves, geostrophy, tides, upwelling subduction, basin scale gyres, El Nino: biological processes including primary formation of particulate matter, secondary production, biological cycles; geological processes.

MSCI5005
Topics in Marine Science
School of Biological, Earth and Environmental Sciences
UOC6 HPW8

Session1

Examines marine pelagic and estuarine habitats and the practical application of theory to the ocean environment and its effect on the life of marine organisms. Emphasis is placed on the biology of phytoplankton, zooplankton and fish, together with the study of fisheries. Also looks at management, marine technology, computer simulations, conservation, other marine vertebrates, aquaculture and environmental concerns, and technical skills, taxonomy and sampling design.

Note: A field trip may be held during the mid-session break and personal costs may be incurred.

Session 2

Studies the ecology of marine and freshwater systems, emphasising benthic communities; population and community dynamics of these systems; evolution of life histories in the light of the constraints of aquatic systems. Emphasis is on experimental approaches to aquatic ecology. Special topics considered include chemical ecology, plant/herbivore ecology, and applied aspects of the topic such as mariculture, and there is a section on the biology and taxonomy of marine algae (seaweeds).

Note: Fieldwork is an important component of the course and personal costs may be incurred.

MTRN8223
Machine Condition Monitoring
School of Mechanical and Manufacturing Engineering
UOC6
Excluded: MECH4223, MTRN9223

Sensors and transducer interfacing to computers. Vibration signatures of faults in rotating and reciprocating machines; detection and diagnosis of faults; characterisation of signatures; prediction of service life and maintenance procedures. Project on measuring a parameter indicating possible failure.

MTRN9010
Project Mechatronic Engineering
School of Mechanical and Manufacturing Engineering
UOC12

Note: The project must be completed in no more than two sessions.

MTRN9201
Digital Logic Fundamentals for Mechanical Engineers
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH9201, MTRN3201

Introduction. Review of number theory. Symbolic logic. An introduction to TTL compatible devices. Formulation and implementation of problems in logic. Microprocessor architecture. Components of a microprocessor based system. Memory maps. Input/Output devices. Dedicated and special purpose computers. Principal features of a microprocessor based system. Laboratory complement to lectures.

MTRN9202
Microprocessor Fundamentals for Mechanical Engineers
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Prerequisite: MECH9201 or MTRN9201 Excluded: COMP9221, ELEC4432, ELEC9406, ELEC4351, MECH3202, MTRN3202

Introduction to microprocessor programming. Machine code programming. Instruction sets. Program branching and condition codes. Addressing modes. Interrupts. Address decoding and memory interface. Input/Output interfacing techniques. Programmable peripheral devices. Serial and parallel interfaces. Microprocessor control of electromechanical devices. Laboratory complement to lectures.

MTRN9211
Modelling and Control of Mechatronic Systems 1
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH9211

Development of modelling technique and design of controllers using digital computers, with special emphasis on digital control systems for motion control. Typical examples of mechatronic systems.

MTRN9221
Industrial Robotics
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4221, MECH9221, MTRN4221

Applications survey. System structure, hardware, software, handling. Linkage kinematic structure; power transmission. Linkage structural design. Actuator choice. Interface hardware. Feedback. Function programming philosophies. Control algorithms. Problem specification; solution preparation. Writing, storage, implementation of computer algorithms.

MTRN9222
Artificially Intelligent Machines
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4222, MECH9222

The principles of operation of machines into which limited powers of decision making have been delegated. The grouping of intelligent machines. Cognition; sensor technology; parsing; information representation; convolutions; software and hardware environments.

MTRN9223
Machine Condition Monitoring
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Excluded: MECH4223, MTRN8223

Sensors and transducer interfacing to computers. Vibration signatures of faults in rotating and reciprocating machines; detection and diagnosis of faults; characterisation of signatures; prediction of service life and maintenance procedures. Project on measuring a parameter indicating possible failure.

MTRN9224
Robot Design
School of Mechanical and Manufacturing Engineering
UOC6 HPW3
Prerequisite: MTRN3212

The course is aimed at developing skills on how to design and build a robot from scratch. The course primarily contains the following contents: Introduction to robot design. Mechanisms and dynamics of animals. Mechanical design of wheeled, legged and manipulator robots. Calculation of torques and selection of motors. Environment and selection of sensors. Integration of mechatronic systems. Motion planning and control. Design of a robot using CAD. Simulation of a robot using MATLAB/C/C++.

MUSC5120
Psychology of Music Teaching and Learning
School of Music and Music Education
UOC8 HPW2

Reviews research in music psychology over the last fifteen years and examines current conflicts, controversies and issues in order to develop informed approaches to music instruction, administration, supervision and evaluation.

MUSC5122
Research in Music Education
School of Music and Music Education
UOC8 HPW2

Covers the main approaches and methodologies for undertaking research in music education. Includes conceptual framework for undertaking research as well as research modes and techniques. Introduces qualitative, philosophical, historical, descriptive and experimental methodologies and includes critical evaluation and interpretation of prominent research studies in music education.

MUSC5132
Musical Beliefs: Contemporary and Ancient
School of Music and Music Education
UOC8 HPW2

Examines Western Music as a cultural invention and its long history which has traditionally been linked to science and human perception of the natural world. Contemporary research shows how western beliefs about music have shaped our attitudes to music and to music education, often blinding us to their essential cultural foundation and to the worth of music in other cultures. From Pythagoras and Boethius to J-P Rameau and Helmholtz, various composers have argued for and against the premise that musical activity in the West has been held up as part of the natural order of things. Finally, the 20th century marks the end of the domination of Pythagoras and Plato on western musical sensibilities. The various ramifications of all this for contemporary music education are examined.

MUSC5135
J.S. Bach and the Baroque: Context and Performance
School of Music and Music Education
UOC8 HPW2

Provides in depth study of Bach's compositions in their socio-historical context. Besides exploring Bach's cultural milieu and its impact on his style and output, the course focuses on how such knowledge have been used in performance. Through this the characteristics of 300 years of Bach-reception are also investigated.

MUSC5136
Music, Musicology and the Imperial Encounter
School of Music and Music Education
UOC8 HPW2

Examines the parallel documentation and imagining of non-Western music cultures both in works of European concert music and in the discipline of musicology (particularly in its sub-discipline of ethnomusicology). Looks at the rise of exoticism in European music and its grounding in the imperial encounter. Links the nineteenth and early twentieth century fascination with the exotic to the developing discipline of ethnomusicology, examining early accounts, both journalistic and academic, of traditional musics. Examines the 'presence' of Australian Aboriginal music and of Asian music in the work of some contemporary Australian composers.

MUSC5137
Western Art Musics and Popular Musics
School of Music and Music Education
UOC8 HPW2

Examines the ways in which Western art music and popular music, including jazz, have interacted throughout the twentieth century. Explores various twentieth century compositional procedures and how these have been adopted or adapted by some musicians working in the area of popular music. Similarly, the effects of popular music styles on the compositional procedures of various twentieth century art music composers will also be studied.

OPTM7103
Behavioural Optometry 1
School of Optometry and Vision Science
UOC6 HPW4
Restricted to students enrolled in the following programs 8760, 5665 and 7435

Behavioural Optometry is one of the fastest developing clinical areas in optometry. It embodies a broad clinical approach to the practice of optometry by considering vision in the context of other sensory motor systems. This course covers the scientific and theoretical background to behavioural optometry, the neuroscience of visual function, developmental vision, the development of myopia, the clinical recognition and evaluation of efficient visual function, strabismus & amblyopia, and the optometric management of learning disabilities. Assignments require the clinical application of behavioural concepts to simple and complex cases, so all participants must have access to a variety of optometric patients, including children. Overseas students must arrange this with the course controller prior to enrolment. Together with OPTM7203 Behavioural Optometry 2, this course forms the foundation program for candidates for a Fellowship of the Australian College of Behavioural Optometrists.

OPTM7104
Advanced Contact Lens Studies 1
School of Optometry and Vision Science
UOC6 HPW4
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course provides lectures, seminars and practical workshops on topics underlying an advanced knowledge of contact lens practice and research. Topics covered in the course may include: research concepts and opportunities in private clinical practice; accessing the contact lens literature and other relevant databases; use of clinical grading scales; update on corneal physiology and biochemistry; tear film assessment; advanced clinical and research instrumentation; visual considerations with different contact lens designs and modalities; corneal topographic analysis; advanced rigid contact lens design and fitting; rigid and soft toric lens fitting; rigid lens parameter measurement and lens modification; contact lens material properties. The course is conducted over 4 weekend sessions. The specific topics covered in the course will vary from year to year depending on the availability of expert lecturers.

OPTM7106
Occupational Optometry 1
School of Optometry and Vision Science
UOC6 HPW4
Restricted to students enrolled in the following programs 8760, 5665 and 7435

The course covers visual and general ergonomics; illuminating engineering; human factors engineering; anthropometry; task analysis; physical and chemical hazards; radiation effects and hazard analysis; risk engineering; workplace design and modification; ocular and visual factors on specific tasks; visual fitness; vision screening; legal aspects; issues in common visually based activities.

The course matter is considered at a higher level than in the undergraduate course, in seminar format.

OPTM7108
Small Research Project
School of Optometry and Vision Science
UOC6
Excluded: OPTM7308 and restricted to students in programs 8760, 5665 and 7435

A research investigation into a topic in Optometry or Visual Science. May be carried out either on campus or within the student's professional practice with supervision from the University. Involving less time commitment than OPTM7308 Research Project

OPTM7110
Public Health Optometry
School of Optometry and Vision Science
UOC6
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course provides an understanding of the issues of public health as they relate to Optometry at an advanced level. Topics covered include: structure of the Australian health care system; comparative study of health care systems; Optometry in a multi-disciplinary health care system; quality assurance in health care; demography and epidemiology of occupational eye disease and injuries; social issues and optometric involvement; occupational eye disease management; law and ethics.

Note: Distance Education mode

OPTM7111
Pathophysiology of Ocular Disease 1
School of Optometry and Vision Science
UOC3
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course gives students a background in basic sciences and increases their understanding of the pathology of ocular disease. This knowledge is necessary in understanding the processes involved in the pathophysiology of commonly encountered ocular diseases seen in optometric practice.

Topics covered include cell and molecular biology, biochemistry, immunology, and inflammation.

Note: Distance Education mode

OPTM7112
Pathophysiology of Ocular Disease 2
School of Optometry and Vision Science
UOC3
Corequisite: OPTM7111 and restricted to programs 8760, 5665 and 7435

Increasingly Optometry is playing a role as the primary provider in eyecare diagnosis, and referral for secondary and tertiary care. Concomitant with this is the duty to enhance our knowledge of the pathophysiological processes associated with ocular disease.

This short course covers three types of eye disease commonly encountered in optometric practice: diabetes, glaucoma and dry eye disease. The course discusses the underlying pathophysiology of each disease, allowing the student to better understand and manage these conditions.

Note: Distance Education mode

OPTM7113
Human Visual Development
School of Optometry and Vision Science
UOC6 HPW4
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course aims to increase the student's understanding of visual sensitivity to colour, motion and form in human infants and young children. Specifically, topics will include: methods of infant visual function assessment; limitations of currently available techniques, including visual evoked potentials, forced-choice preferential looking and optokinetic nystagmus; anatomical and functional development of the human visual system: differential neural pathway development; visual development under normal and abnormal conditions: the effects of oculo-visual abnormality on development of different visual functions.

Note: Distance Education mode

OPTM7114
Rehabilitation of the Partially Sighted
School of Optometry and Vision Science
UOC6
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course will survey issues involved in the visual rehabilitation of the partially sighted person. Topics covered include epidemiology of visual impairment, pathophysiology of the major ocular disease processes, models of adaptation to loss, assessment of visual impairment, provision of optical and non-optical visual aids, new developments in adaptive technology, professional interactions and referrals and support structures.

OPTM7115
Visual Neuroscience
School of Optometry and Vision Science
UOC6
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course provides understanding of the issues of visual functioning which will also be related to clinical assessment issues. Topics covered include: processing of visual information in mammals, repair in the nervous system of vertebrates, objective assessment of visual pathway, review of brainstem and brainstem anatomy, review of amino acid chemistry related to brain neurochemistry, glutamate and neurotoxicity in glaucoma, visual attention and arousal systems, brainstem mechanisms in the control of eye movements, visually directed activities - reading, parietal factors in vision, frontal factors in vision, after effects and inter-ovular transfers.

Note: Distance learning

OPTM7203
Behavioural Optometry 2
School of Optometry and Vision Science
UOC6 HPW4
Prerequisite: OPTM7103. Program enrolment in 8760, 5665, or 7435

This course utilises the principles of behavioural optometry introduced in OPTM7103 Behavioural Optometry 1, with an emphasis on treatment options, vision training, and practice management issues. Consideration is also given to the assessment and management of special needs patients including those with genetic conditions, developmental disabilities and traumatic brain injury. Assignments require the clinical application of behavioural concepts to simple and complex cases, so all participants must have access to a variety of optometric patients, including children. Overseas students must arrange this with the course controller prior to enrolment. Together with OPTM7103 Behavioural Optometry 1, this course forms the foundation program for candidates for a Fellowship of the Australian College of Behavioural Optometrists.

OPTM7204
Advanced Contact Lens Studies 2
School of Optometry and Vision Science
UOC6 HPW4
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course provides lectures, seminars and practical workshops on topics underlying an advanced knowledge of contact lens practice and research, and builds on topics covered in OPTM7104 Advanced Contact Lens Studies 1. Topics covered in the course may include: contact lenses for keratoconus, PMMA and RGP haptic contact lenses; fitting contact lenses after corneal refractive surgery and keratoplasty; contact lenses for children and teenagers; therapeutic contact lenses; research and clinical aspects of orthokeratology; contact lenses for colour vision deficiency; contact

lens-related ocular microbiology and immunology; future directions in the contact lens field; contact lens education; current market issues. The course is conducted over 4 weekend sessions. The specific topics covered in the course will vary from year to year depending on the availability of expert lecturers.

OPTM7211
Pathophysiology of Ocular Disease 3
School of Optometry and Vision Science
UOC3
Prerequisite: OPTM7111

Increasingly Optometry is playing a role as the primary provider in eyecare diagnosing and referring for secondary and tertiary care/ surgery. Concomitant with this is the duty to enhance our knowledge of the processes associated with ocular disease and the techniques/effects of surgery popular in modern day eyecare. The course discusses the underlying pathophysiology of anterior eye disease along with techniques/ outcomes of various surgical techniques used in corneal refractive surgery and the treatment of cataract.

Note: Distance learning

OPTM7212
Pathophysiology of Ocular Disease 4
School of Optometry and Vision Science
UOC3
Prerequisite: OPTM7111

Posterior eye disease, especially age related maculopathy, is becoming more prevalent with our aging population. In this course we will discuss the pathophysiology of commonly encountered posterior eye diseases of the optic nerve, vitreous, retina and the visual pathway.

Note: Distance learning

OPTM7301
Advanced Clinical Optometry
School of Optometry and Vision Science
UOC12
Prerequisite OPTM7309,must be enrolled in Program 8760, or 5665 or 7435

This course comprises clinical work on selected patients with special emphasis on advanced techniques and new developments. Optometric examination procedures include: gonioscopy, slit lamp fundoscopy, binocular indirect ophthalmoscopy and scleral depression; ultrasonography; corneal topography; ocular photography; computerised visual field analysis; visual functions; low vision; optometric co-management; evaluation of binocular functions; geriatric and paediatric optometry; the clinical application of electrophysiological techniques. Assessments of new instruments, methods and treatments.

The course is offered as an overseas posting at the LV Prasad Eye Institute in Hyderabad, India subject to the ability of the location to host the candidate in the time requested. This posting is for a 4-week period, with travel and accommodation costs to be met by the candidate.

Note: Short course format - overseas posting.

Candidates must have successfully completed the Ocular Therapy component to be eligible for the posting. Candidates who have not completed this course can lodge an application at the School Office. Each application will then be reviewed and assessed on merit.

OPTM7307
Clinical Imaging
School of Optometry and Vision Science
UOC6 HPW4
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course will provide candidates with a broad view of the scope of clinical imaging and working knowledge of clinical photography of the ocular adnexa, anterior eye and posterior eye using both film and digitally-based still and video photography. Topics will include: ethical and legal issues relating to clinical imaging and electronic archiving of clinical records, the unique lighting requirements for ocular photography, interfacing ophthalmic instruments with image capture devices, image database applications, image analysis versus image processing, video editing using tape and digitised facilities, comparison of the relative advantages of the various clinical imaging modalities, use of clinical imaging in patient management, patient education and communication with other practitioners.

OPTM7308
Research Project
School of Optometry and Vision Science
UOC12
Excluded: OPTM7108 and restriscted to programs 8760, 5665 and 7435

A research investigation into a topic in Optometry or Visual Science with a duration of one year. May be carried out either on campus or within the student's professional practice with supervision from the University.

OPTM7309
Ocular Therapy
School of Optometry and Vision Science
UOC12
Restricted to students enrolled in the following programs 8760, 5665 and 7435

This course provides an introduction to the basic and clinical sciences related to the use of therapeutic substances in primary care optometry. The focus is on the practical clinical needs of the student. In the basic sciences, there is a review of biochemistry with emphasis on topical issues related to common systemci drugs which affect cellular communication. This is reinforced with a review of common cardiovascular, respiratory and immunological disease, AIDS and hepatitis, and their implications for practice hygiene. The epidemiology of systemic drug use in Australia is reviewed, along with the ocular and visual side-effects associated with common systemic therapies. Anterior eye microbiology is reviewed with a strong emphasis on contact-lens-related infection and inflammation. A pharmacist explains drug law in Australia, pharmaceutics with special reference to the eye, and relevant professional relationships with pharmacy. Topics of direct relevance to ocular therapeutics and their use in primary care optometry include - Diagnosis, management and therapy of anterior ocular surface disease (infection and inflammation of the conjunctiva, cornea, eyelids), inflammatory disease of the anterior uvea, diseases of the lacrimal system, congenital and acquired retinal disease, diabetic rettinopathy, age-related maculopathy and glaucoma. The topic of co-management with an opthalmologist is covered in relation to glaucoma and surgery for cataract and refractive errors. Other topics include ocular emergencies, ocular trauma, and neuro-ophthalmic disorders.

PAED8104
The Effect of Social Adversity in Childhood
School of Women's and Children's Health
UOC4 HPW2

Family structure and dynamics, poverty, single parent, drug addicted parents, housing and sanitation, homeless children, teenage parents, migrant families, Aboriginal health, working mothers and childcare.

PAED8203
Infant Feeding and Nutrition 1
School of Women's and Children's Health
UOC4 HPW2

Lactation, breast feeding. Nutritional requirements. Feeding of infants and children. Infant formulas.

PAED8204
Infant Feeding and Nutrition 2
School of Women's and Children's Health
UOC4 HPW2
Prerequisite: PAED8203

Nutritional disorders in children. Childhood origin of adult diseases. Health and organic foods. Developing nutritional guidelines for children in care. The effect of social, cultural and food advertising on children's nutrition.

PAED9111
General Paediatrics and Child Health 1
School of Women's and Children's Health
UOC6

Growth and development. Systemic diseases in childhood. Prevention and early detection. Community services available for the care of children with various disorders. Exmphasis is placed on the understanding of principles especially physiological principles. Prenatal development and prenatal experiences, which affect the growing foetus and infant. Necessary professional supervised experience is obtained by clinical attachment to appropriate hospitals. Candidates are given increasing professional responsibility. There are lectures, seminars, discussion groups and demonstrations on manikins. Family dynamics and family interactions

in the causation of developmental, behavioural and emotional problems in children. Students without adequate clinical experience have a clinical attachment in paediatric psychiatry during the first two years of training. There are lectures, seminars, case conferences and assignments.

PAED9112
General Paediatrics and Child Health 2
School of Women's and Children's Health
UOC6

Growth and development. Systemic diseases in childhood. Prevention and early detection. Community services available for the care of children with various disorders. Exmphasis is placed on the understanding of principles especially physiological principles. Prenatal development and prenatal experiences, which affect the growing foetus and infant. Necessary professional supervised experience is obtained by clinical attachment to appropriate hospitals. Candidates are given increasing professional responsibility. There are lectures, seminars, discussion groups and demonstrations on manikins. Family dynamics and family interactions in the causation of developmental, behavioural and emotional problems in children. Students without adequate clinical experience have a clinical attachment in paediatric psychiatry during the first two years of training. There are lectures, seminars, case conferences and assignments.

PAED9116
Clinical and Technical Skills 1
School of Women's and Children's Health
UOC3

Students will refine history taking, physical examination, communication and procedural skills in clinical settings.

PAED9117
Clinical and Technical Skills 2
School of Women's and Children's Health
UOC3

Students will refine history taking, physical examination, communication and procedural skills in clinical settings.

PAED9118
Clinical Paediatric Experience 1
School of Women's and Children's Health
UOC3

It is a requirement of the course that 12 months clinical experience is gained before sitting for the diploma exam.

PAED9119
Clinical Paediatric Experience 2
School of Women's and Children's Health
UOC3

It is a requirement of the course that 12 months clinical experience is gained before sitting for the diploma exam.

PHCM9010
Community Development
School of Public Health and Community Medicine
UOC4

This course explores the meaning and conceptual frameworks of community development as an approach to improving the health of individuals and the broader community. It also facilitates exploration of the fundamental components of community development, such as needs assessment, empowerment, and evaluation. Case examples are extensively used to explore theories and models in practice and to highlight and reflect on the issues and dilemmas faced in community development work. This Course is useful for community workers, researchers, policy officers/managers, health service administrators/managers, educators or clinicians. For those with field experience, this course will provide a strong theoretical basis and will hopefully introduce some new practice tools. For those with little or no field experience, it provides a good mix of theories, models, practical examples and tools to introduce this exciting approach to improving health.

Note: Normally, this course is offered in either distance mode or in workshop mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9011
Statistics and Epidemiology
School of Public Health and Community Medicine
UOC6 HPW3

Collection, collation and analysis of data and the interpretation of statistical information for the purposes of health services management. The use of computers for these purposes. Measurement of disease rates and interpretation and identification of health status. These statistical methods and measures will assist in planning, operation and evaluation of interventions in health service management.

Note: This course is only available for students enrolled in the Graduate Certificate in Health Services Management (Hospital Epidemiology)

PHCM9012
Health Promotion
School of Public Health and Community Medicine
UOC4 HPW2

Explores the meaning of health promotion and its role in the field of public health, and provides a forum for discussion on preventive approaches in health care. Students study a variety of approaches to promoting health and consider the benefits and disadvantages of each of these within an integrated framework.

Note: Normally, this course is offered in either distance mode or internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9015
Health Services Development and Implementation
School of Public Health and Community Medicine
UOC6 HPW3

This course addresses institutional strengthening and capacity building in health services. The focus is on development and change. Particular attention is given to organisational culture and learning within the organisation, leadership, change management and communication. The complexities of cross cultural communication in health services in different international settings is explored.

Note: Normally, this course is offered internally with weekly classes for students studying at Kensington campus. This course is offered as a distance course with a workshop for students enrolled in the Hong Kong Program. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9041
Health Care Systems
School of Public Health and Community Medicine
UOC6 HPW2

The first part of this course is concerned with the principles and practice of health system analysis and comparison, the sources and utilization of information relating to the development, organisation and operation of health services, and frameworks for assessing their performance. This leads to a close examination of the Australian health care system - its organisation and management, Australian health law, the range of personal, community and environmental health service activities, their outputs and outcomes, financial, personnel and other inputs and the health information system. The strengths and weaknesses of this system are reviewed and proposals for its adjustment considered. Some comparisons are drawn between the features of the Australian health care system and those operating in other affluent countries.

Note: Normally, this course is offered in either distance mode or internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9071
Health Care Financial Management 1
School of Public Health and Community Medicine
UOC6 HPW2

This course introduces students to the three main accounting statements - the balance sheet, profit and loss statement and cash flow statement. The emphasis is on how to analyse and interpret these statements rather than

being able to construct them. The difference between accrual and cash based accounting systems is explained and students will be shown how to develop and use budgets. Capital budgeting, analysis of budgets and costing products and services are also discussed.

Note: Normally, this course is offered in either distance mode or internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9081
Health Care Financial Management 2
School of Public Health and Community Medicine
UOC4
Prerequisite: PHCM9071 or HEAL9071

The aim of this course is to construct a "business plan" that relates to some aspect of the health care industry. A business plan outlines the financial implications of either starting up a new business or expanding or contracting an existing service. This is not a theoretical course - you are required to write your business plan. Most students develop their plan from their own work experience. Offered both in Hong Kong and externally in Australia. A workshop is conducted for external students during residential week.

Note: Normally, this course is offered in distance mode. Please see timetables for attendance details or any online components.

PHCM9100
Academic Skills
School of Public Health and Community Medicine
UOC4 HPW2

These are student based workshops designed to provide support in academic skills needed to successfully complete the assignments in postgraduate studies in the School. Students will be expected to bring reading and writing material that pertain to their studies in other courses.

Each week, skills topics will be presented and they will be linked with the materials that students deal with in their other courses. Participants will engage in critical activities on materials used in their studies ie reviewing articles, assignments etc. There will be opportunity to discuss issues and field questions from colleagues to develop skills in defending a particular viewpoint or position.

Note: This course is offered internally with weekly classes. Please see timetables for attendance details.

PHCM9102
Independent Study (4uoc)
School of Public Health and Community Medicine
UOC4

Independent studies are designed to provide opportunities for candidates to pursue interests and areas of study not addressed in existing courses. They are recommended particularly for candidates who wish to explore specific health or education related problems within their own discipline or area. Students wishing to take an independent study must obtain approval from their program coordinator and the unit of credit value can vary between 2 to 8 uoc depending on the size of the Independent Study. The correct course code will be advised on enrolment.

PHCM9108
Program Evaluation and Planned Change
School of Public Health and Community Medicine
UOC4 HPW2

This course focuses on the design of evaluation of health programs and services. The role of evaluation in decision making, development and innovation is explored with due attention to organisational and political sensitivities and constraints. A step-by-step approach is introduced and applied. The role of internal and external evaluators in clarifying the need for evaluation, in determining the issues that should be addressed, and the methods of obtaining and interpreting information, is considered in some detail.

Note: Normally, this course is offered in either distance mode or internally with weekly classes for students studying at Kensington campus. This course is offered as a distance course with a workshop for students enrolled in the Hong Kong Program. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9111
Quality and Clinical Practice Improvement
School of Public Health and Community Medicine
UOC4

This course aims to empower and equip frontline health care professionals to lead and achieve real improvements in the delivery and outcomes of clinical care. This is a practical course that is supported by a robust academic background which will allow participants to develop a practical understanding of quality in health care and to harness both individual and teams skills to achieve sustainable learning.

Note: Normally, this course is offered in distance mode with a workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9120
Qualitative Research Methods
School of Public Health and Community Medicine
UOC4 HPW2

Explores a range of qualitative research methods and techniques, including participant observation, in-depth interviews and focus groups and their application to public health and health promotion. The course aims to provide students with skills for documenting and understanding how people interpret health and illness and the contexts in which they occur. Recommended for students wishing to undertake their projects using qualitative methods.

Note: Normally, this course is offered in either workshop mode or internally with weekly classes. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9121
Measurement of Quality of Life and Patient Satisfaction
School of Public Health and Community Medicine
UOC4 HPW2

Quality of Life, Functional Health Status, and Patient Satisfaction, are primary measures of outcome for health programs, becoming routine in the assessment of the effects of disease and health care interventions. These patient-centred global measures aim to comprehensively assess an individual's health state or health-related experience, and characteristically investigate a broad range of aspects of perceived importance to the individual. Health outcomes research and evaluation is increasingly centred on the application of such measures to improve healthcare services.

The course introduces the skills needed for patient-centred health outcomes measurement, where health state as perceived by the patient is assessed as well as physiological or clinician-based measures (ie. the Harvard School of Public Health sense of the term). The course aims to equip participants with the ability to evaluate and select tests for use in their own workplace.

Note: Normally, this course is offered in workshop mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9122
Primary Health Care: Policies, Programs & Perspectives
School of Public Health and Community Medicine
UOC4 HPW2

The course examines the determinants of health, and how these relate to the application of health care services, particularly in the underdeveloped world. It focuses on the development of the primary health care model and examines the implementation of primary health care programs in different settings. It looks at the strengths and weaknesses of this model of health care and whether it still has relevance in the world today.

Note: Normally, this course is offered in internally with weekly classes. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9125
Designing Short Courses and Workshops
School of Public Health and Community Medicine
UOC4

This course is designed to provide the knowledge and skills needed to design and run a (really good) short course or workshop. This includes evaluating a number of course design and learning models, applying principles of planning, conducting needs assessment of learners, thinking about structure and content, writing learning outcomes, designing learning activities, preparing learning resources and evaluating a short course or workshop. It is very practical in focus and you work on your own short course or workshop as you progress through the course. The assessment involves participating in an on-campus workshop, contributing to an online discussion area and submitting a plan for your own short course or workshop.

Note: Normally, this course is offered in workshop mode with an online component. Please see timetables for attendance details.

PHCM9131
Research Skills for Public Health
School of Public Health and Community Medicine
UOC4 HPW2
Prerequisite: PHCM9503, PHCM9502 or CMED9502 , PHCM9499, PHCM9500 or CMED9500

This course aims to explore concepts and develop skills related to conducting research in public health. Emphasis will be given to identifying and refining research questions, developing conceptual and critical analytic skills, developing library and database search skills, undertaking literature analyses, planning project aims, identifying practical administrative and ethical issues and limits, developing writing skills and contributing to current debates in public health research.

Note: Normally, this course is offered in either distance mode or internally with weekly classes. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9133
Learning, Teaching and Assessment
School of Public Health and Community Medicine
UOC4

This course explores contemporary ideas about learning in the health professions and the requirements these imply for teaching and assessment. The course emphasises formal learning at university but also covers non-formal learning in the workplace and through continuing education. The course applies ideas about education generally to situations that are relevant specifically to health professionals. The course is offered externally and requires regular participation in on-line discussion groups. There is no pre-session workshop.

Note: Normally, this course is offered in distance mode with an online component. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9147
Major Project (8 uoc)
School of Public Health and Community Medicine
UOC8

The project comprises in-depth study of a contemporary public health issue or topic. Candidates are expected to demonstrate their ability to apply knowledge and skills gained in the course, through: identifying and defining a significant issue; systematically collecting relevant, up-to date information about the issue; analysing, interpreting and discussing the information; drawing conclusions; making recommendations; and writing a report in a manner consistent with academic standards at Master's level. The project may be in the form of a small-scale research study, a case study, a program evaluation or a report on field placement. Although candidates are advised to start planning project early in their program, it is normally undertaken after completion of all core and elective courses.

Appropriate course code will be advised on enrolment.

PHCM9302
Learning in Small Groups
School of Public Health and Community Medicine
UOC4

This course explores how people operate as members and leaders of learning groups and the conditions, which make for effective group work in both education and the work place. The emphasis is on experiential learning, observation of group process, improving skills in facilitating group learning and designing appropriate learning activities. To complete the two assignments you need to observe and analyse group dynamics in a learning group and then to plan and lead a small group learning session. However these activities need not take place in a formal educational setting - you are welcome to use professional development activities, patient education groups or other kinds of community learning groups as the basis of the assignments.

Note: Normally, this course is offered in distance mode with an optional workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9304
Learning Clinical Reasoning
School of Public Health and Community Medicine
UOC6

This course covers teaching of the steps in the clinical process, inductive and deductive strategies, data collection and its flaws, the reliability of clinical evidence, intuition and clinical memory. The candidate will explore investigation and sufficiency of evidence, strength of clinical and investigational evidence, interpretation and misinterpretation, logical processes in clinical inference and plausibility of diagnosis. The course will introduce the utility of expert systems and computer-aided diagnosis. Assignments include the study of clinical reasoning in the candidate's setting and the design for teaching about these processes.

Note: Normally, this course is offered in distance mode. Please see timetables for further details about the course and any online components.

PHCM9306
Clinical Supervision
School of Public Health and Community Medicine
UOC4

This course aims to help students develop a reflective and critical approach to the operational and educational supervision of staff and students that is effective, and that is based on relevant theory and on ethically defensible practice. It draws on models of supervision and facilitation taken from the management, adult education and clinical supervision literatures. The assignments focus both on the educational and operational supervision of individuals working on specific tasks, and on the planning and supervision of blocks of clinical experience for individuals or groups.

As the assignments in this course ask students to reflect on their experiences as supervisors, students enrolling in this course should have, or should have recently had, a formal or informal supervisory role in relation to staff, trainees or students, in a clinical setting.

Note: Normally, this course is offered in distance mode with an optional workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9307
Exploring and Managing Ethical and Moral Dilemmas
School of Public Health and Community Medicine
UOC4

This course guides the learner through the major ethical principles affecting clinical choices using a large array of contemporary clinical issues. The course is based on posing questions and search for answers. Ethicists differ in the way they search for answers. Not all believe that there is one truth to find. Many believe that the 'truth' depends on the context, or situation, or on the relative importance of opposing values. This course attempts to hear 'many voices' not only from ethicists and clinicians but from law, religion, administration and lay media. Ethicists themselves range across a spectrum from "You should...." (duty based deontologists) to "It depends...." (situationists). The courses aims to bring out that range. Assignments rely on students' consultations and clinical education experiences to explore ethical principles and their implications in the clinical setting.

Note: External Course.

Note: Normally, this course is offered in distance mode. Please see timetables for further details about the course and any online components.

PHCM9308
Learning Clinical Decision Making
School of Public Health and Community Medicine
UOC4

This course deals with quantitative and qualitative aspects of decision making, management options, ambiguity and sufficiency of evidence at the test-treatment threshold, identification of possible outcomes, calculation of probabilities and utilities for each outcome. It introduces structuring with decision analysis, elicitation of patients' preferences, configuration of trade-offs and sensitivity analysis, influences operating in the context and in the personal psychology of doctor and patient. The notions of defensibility of decisions, and judgement in making choices under uncertainty are also explored. Assignments include the analysis of a number of decision processes in the candidate's setting.

Note: Normally, this course is offered in distance mode. Please see timetables for further details about the course and any online components.

PHCM9309
Assessment of Clinical Performance
School of Public Health and Community Medicine
UOC4

This course covers the purposes, location, criteria, methods, timing, frequency, scoring methods and formats, and training of examiners to achieve consistency. The course includes development of assessments undertaken by self, peers, other health workers and patients. The course also addresses issues of judgment of others, and of innovation in developing accurate estimates of practical ability. Assignments include the study of performance assessment, and development of approaches to formative assessment.

Note: Normally, this course is offered in distance mode with an optional workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9312
Research Into Clinical Education
School of Public Health and Community Medicine
UOC6

This course introduces clinical educators to the research methods appropriate for understanding and studying complex, multifactorial, interactive, dynamic situations in which few variables can be controlled. Critical analysis as consumers of clinical research papers and the use of basic statistical concepts (parametric and non-parametric) and methods will be included. Candidates will plan a research project into clinical education as their principal assignment.

Note: External Course.

Note: Normally, this course is offered in distance mode. Please see timetables for further details about the course and any online components.

PHCM9315
Clinical Teaching
School of Public Health and Community Medicine
UOC6

The course includes the planning and conduct of clinical teaching programs, preparation of the learners including assessment of the learner's readiness, briefing before patient encounter, demonstration of skills, perceptual skills in data collection, debriefing and reflection on the clinical encounter, explication of the clinical experience, in terms of available theory. The candidate is challenged to translate professional knowledge into working knowledge, and forward planning of reading and further practice. The course also deals with the micro-skills of listening, questioning, probing and challenging, demonstrating, and involving the patient and other staff. The activities and assignments require the candidate to have access to clinical students in a teaching role for part of the coursework. Assignments include the study of the candidate s clinical teaching and the study and practice of clinical micro-skills.

Note: Normally, this course is offered either in distance mode only or distance mode with an optional workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9316
Learning Consulting Skills
School of Public Health and Community Medicine
UOC6

In this course, the medical stream deals with the identification, learning and teaching of consulting skills in communicating with patients, families and colleagues in clarifying illness problems, in acquiring accurate information, interpreting evidence and diagnosing disease, in handling ambiguity and uncertainty, in referral to others and in negotiating trade-offs among management options. Differences between generalist and specialist tasks and contexts will be explored. Consulting skills in the nursing stream parallel these, but with differing responsibilities in assessment and patient care. Lessons will be drawn from these settings to other clinical healthprofessional _ patient communication settings. Assignments include study in the candidates own setting. The workshop explores ways for improving the effectiveness of communicating with patients, and includes many opportunities for practicing new skills. Note: External Course / Workshop candidates should be working in a clinical setting with access to potential or actual students/trainees.

Note: Normally, this course is offered either in distance mode only or distance mode with an optional workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9331
Ethics & Law: Public Health & Administration
School of Public Health and Community Medicine
UOC4

The aim of this course is to consider ethics and law in public health and in the management of health care institutions. Ethics is considered with a focus on public health and health care management rather than ethics as an individual issue (as it is usually conceptualised). Law is approached as an important element in defining public health and as an instrument to achieve goals in public health and health care management. The course includes an introduction to ethics and law and provides an opportunity to apply these understandings to particular issues in public health and health care management according to students interests.

Note: Normally, this course is offered in distance mode with a workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9351
Health Economics
School of Public Health and Community Medicine
UOC6 HPW3

Economic analysis as applied to resource allocation, planning and evaluation in health services. Topics: basic concepts and methods of economic analysis, economics of the public and private sector, decision making, supply and demand, pricing and nonpricing methods of allocation, welfare analysis, ethics of resource allocation, economic planning of health services, cost benefit evaluation, cost effectiveness analysis, economics of hospitals and economic impact of health insurance.

Note: Normally, this course is offered in either distance mode or internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9360
Major Project (Clinical Education)
School of Public Health and Community Medicine
UOC12

The final project is an important component of the MClinEd. Its purpose is to ensure that the knowledge and experience you gain from the program are transferable to seeking the solutions of clinical education in your own clinical setting. For this reason it is important that your project proposal should include information which will help you clarify and define the topic you wish to pursue and which will help you and your supervisor to proceed systematically with the exploration and planning of your project.

Note: External Course

PHCM9371
Research and Evaluation Methods
School of Public Health and Community Medicine
UOC4

Skills in research design, evaluation methods and literature review will be developed using applied learning methods. Skills will be developed in the formulation of a research question, questionnaire or evaluation methodology. Students will choose an area or areas of interest to develop during the session and the development of this research will be presented for weekly peer review. Peer review is aimed at providing students with a critique and a forum for students to learn, to appraise a variety of research problems.

Note: This course is offered only in Hong Kong.

PHCM9381
Policy Studies
School of Public Health and Community Medicine
UOC4

This course focuses on the policy process - understanding agenda setting, policy formulation, implementation and evaluation. Particular emphasis is placed on the concept of evidence-informed policy. Attention is also devoted to enhancing the links between research, other forms of evidence, and policy and practice. Participants will be invited to describe and examine their own roles in policy-making processes. The concept of policy significance and policy accountability will be explored. The assignments will be structured around preparing a paper on a policy topic, which can be submitted to a journal for publication. Participants will develop skills in policy analysis and will develop tools to help them

navigate policy environments in which they operate. The course is suitable for both Australian and international students.

Note: Normally, this course is offered in either distance mode with a workshop or internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9401
Introduction to University Learning and Teaching
School of Public Health and Community Medicine
UOC4

This course introduces participants to a range of topics and issues in learning and teaching that impact on the teaching roles of academic staff in universities. The course builds on the introductory workshop series Foundations of University Learning and Teaching offered at UNSW as a staff development activity. Topics such as student and adult learning, reflective practice, planning for classes, large group teaching, small group teaching, online teaching, and assessment are addressed. The workshop sessions are designed to be highly interactive and encourage participants to draw from their own experience as a learner and a teacher, to introduce participants to the research literature in each topic area and to model good teaching practice. Participants also have the opportunity of designing and facilitating a short teaching session. Assessment in the course involves the selection of one area of teaching or learning for special study. Participants then describe their own practice and conduct a literature review in the area, and consider the relevance of the literature to their own practice, possible changes they might make and the issues that these changes would raise.

PHCM9402
Student Learning in Higher Education
School of Public Health and Community Medicine
UOC4

Student Learning in Higher Education considers the nature of student learning, the factors that impact on the way students approach their learning tasks, and the learning arrangements that support effective student learning in higher education settings. Student learning is considered from a number of different frameworks and research orientations, including adult learning, student approaches to learning, learning from experience, and reflective practice. In addition to considering accounts of student learning in the relevant literatures, students in this course investigate aspects of student learning in the courses that they teach using one or more of the frameworks considered. This course builds on the brief introductions to student learning presented in the course Introduction to University Learning and Teaching and together these courses form the core components of the Graduate Certificate of University Learning and Teaching. The face to face component of the course is two one day workshops which are run mid semester in Session 2.

PHCM9403
Teaching Strategies for Effective Learning
School of Public Health and Community Medicine
UOC4
Prerequisite: PHCM9401 or MEED9401, PHCM9402 or MEED9402

This course provides a degree of flexibility for academics who wish to focus on teaching strategies most appropriate to the contexts in which they teach. Participants choose two from a series of teaching contexts which include Teaching Small Groups, Teaching Large Groups, Teaching in the Studio, Teaching in the Laboratory, Teaching On-Line and Fieldwork. The course is taught through workshops which are practical and experiential, allowing participants to observe or participate in many of the strategies under discussion. Project work for assessment requires participants to experiment with the some of the strategies in their own teaching and to evaluate the results.

PHCM9404
Course Planning and Assessment
School of Public Health and Community Medicine
UOC4
Prerequisite: PHCM9401 or MEED9401, PHCM9402 or MEED9402

The course is organised according to an instructional design framework to guide participants in planning their teaching and assessment activities for a university course or similar unit of study. It expands on the concepts introduced in the Course Introduction to University Learning and Teaching, and gives participants the opportunity to apply the planning concepts to their own teaching. They will learn to analyse the learning needs of their students, set learning goals and objectives, consider a range of sequencing principles for their course content, select the best teaching strategies for their goals, and plan appropriate assessment strategies for both formative and summative assessment of learning. The face to face component of the course is a two day workshop

PHCM9405
Innovations in Education
School of Public Health and Community Medicine
UOC4
Prerequisite: PHCM9401 or MEED9401, PHCM9402 or MEED9402

This course enables participants to further investigate the pedagogy covered in the other Graduate Certificate courses by exploring an innovation that relates to their teaching context. The topic may relate to a trend, issue, policy or teaching/learning practice. Participants will review the literature in their discipline and within education more generally that relates to the chosen focus. They will share their findings, challenges and concept of â œinnovationâ in regular workshops throughout the semester. Several examples of innovation in higher education will also be explored and participants will be encouraged to work closely with a practitioner who is able to share their expertise on the topic and/or underlying pedagogy. Assessment will be based on the completion of tasks for each of the workshops and a final assignment that reflects on the impact of the investigation in terms of the possibility for innovation. Where the period of one semester may not be sufficient time in which to implement the innovation, the course encourages an important first step through the establishment of a strong pedagogical foundation. For those who have already collected data or would like to investigate changes that they have already implemented, this course will provide the framework for further development.

PHCM9406
Educational Technology in Learning and Teaching
School of Public Health and Community Medicine
UOC4
Prerequisite: PHCM9401 or MEED9401, PHCM9402 or MEED9402

There is currently a strong interest in the potential for online technologies to support and enhance learning and teaching at all tertiary levels. There are many ways to make use of online technologies. The most effective ways are likely to involve considering approaches to learning and teaching so that methods that make the most effective use of the technologies, or are most effectively enhanced by the technologies, can be adopted. This course considers the rationale for using online technologies in learning and teaching, and a range of approaches to educational design using techniques such as developing learning activities, online discussion and collaboration, and formative evaluation in project development. Participants will have the opportunity to consider theoretical issues in online learning, and a range of practical applications that have a basis in appropriate theoretical issues. Assessment will be based on a project that the participant will develop for use in a teaching program.

PHCM9411
Hospital Epidemiology
School of Public Health and Community Medicine
UOC6

This course is a core for students undertaking the Graduate Certificate in Hospital Epidemiology with responsible for their hospital's infection control program or nurses and doctors with an interest in infection control. The course will introduce students to the disciplines of epidemiology and statistics using the key areas of responsibility for infection control - surveillance and outbreak investigations. Important statistical techniques covered include correct interpretation of statistical results, calculation of common statistics required for infection control such as infection rates, 95% confidence interval, attack rates, and tests for comparisons between rates and against threshold rate (your past rates, the Centres for Disease Control and Prevention). You will learn the theory of outbreak investigation and to plot and interpret an epidemic curve for outbreak investigation and identify significant associations between exposures and infection. Important epidemiological tools such as study designs, biases, validity and reliability will be learnt so that students may design sound studies associated with infection control and critically appraise the medical literature.

PHCM9421
Public Health, Statistics and Epidemiology
School of Public Health and Community Medicine
UOC6

Distribution patterns and determinants of disease and disability with particular reference to diseases of major Australian concern and the impact on health service provision. Students will discuss possible interventions

to reduce this impact and will be introduced to the use of epidemiology in the planning, operation and evaluation of health services.

Note: Normally, this course is offered in distance mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9422
Population Health, Epidemiology and Statistics
School of Public Health and Community Medicine
UOC6 HPW3

Population health is primarily concerned with the health status of populations and communities as distinct from clinical health or medicine which is primarily concerned with the health of individuals and families. The objectives for this course include: an examination of the determinants and causes of disease and injury in populations and communities and the impact on health service provision; the collection and bio-statistical analysis of data to create information about disease and injury patterns in populations and communities (the epidemiological approach); and the use of information about disease and injury in populations and communities in order to manage, plan and provide hospitals, health services and prevention strategies.

Note: Normally, this course is offered internally with weekly classes for students studying at Kensington campus. This course is offered as a distance course with a workshop for students enrolled in the Hong Kong Program. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9431
Interpersonal Communications in Organisations
School of Public Health and Community Medicine
UOC4

A theoretical and practical course which aims to increase students understanding of, and capacity to deal with, communication problems in organisations. Teaches students to improve their own communication skills by a series of communications exercises, role plays, simulations and games. Students are able to chart their progress with a checklist developed for the course.

Note: Normally, this course is offered in workshop mode for students studying on Kensington campus. This course is offered as a distance course with a workshop for students enrolled in the Hong Kong Program. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9441
Healthcare Economics and Financial Management
School of Public Health and Community Medicine
UOC6 HPW2

This course combines health economics and healthcare financial management. It analyses how economic concepts can be applied to the healthcare industry. There is an introduction to double entry accounting to provide a working knowledge of cash and accrual accounting, plus an analysis of balance sheets, profit and loss statements and cash flow statements. How to construct a budget in a healthcare environment is a core skill in this course.

Note: Normally, this course is offered internally with weekly classes for students studying at Kensington campus. This course is offered as a distance course with a workshop for students enrolled in the Hong Kong Program. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9442
Health Resources Planning and Development
School of Public Health and Community Medicine
UOC6 HPW2

This course is intended for students dealing with resource planning of lesser developed countries. A case study approach is used and reflects circumstances likely to be experienced in developing countries. In Hong Kong, the Hong Kong health system is examined. Topics cover the basic concepts in services planning including environmental scanning, applying emerging trends in health service delivery and addressing issues of resource allocation. Also included is the examination of ways to effectively engage communities in the development of their health services and the planning and procurement of health resources including facilities, workforce and service programs in the light of qualitative and quantitative analysis.

Note: Normally, this course is offered internally with weekly classes for students studying at Kensington campus. This course is offered as a distance course with a workshop for students enrolled in the Hong Kong Program. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9471
Comparative Health Care Systems
School of Public Health and Community Medicine
UOC6 HPW2

The first part of this course is concerned with the principles and practice of health system analysis and comparison, the sources and utilization of information relating to the development, organisation and operation of health services, and frameworks for assessing their performance. Then, drawing on material for a wide range of affluent and developing countries we examine the constitutional, legal, economic, social, epidemiological and political environments within which health care systems operate. We review patterns of health service organisation and management,: health policy development and planning; characteristics of personal, community and environmental health services and their activities; health service financing arrangements including health insurance systems; the health workforce; other health service inputs and health information systems. The impact of some recent attempts at health system reform is assessed and proposals for future re-structuring are critically reviewed.

Note: Normally, this course is offered internally with weekly classes for students studying at Kensington campus. This course is offered as a distance course with a workshop for students enrolled in the Hong Kong Program. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9499
Epidemiology for Public Health
School of Public Health and Community Medicine
UOC4 HPW3
Prerequisite: PHCM9503, PHCM9502 or CMED9502

This course provides students with an understanding of the role of epidemiology as the quantitative science underpinning much of public health and clinical practice. Students will learn the basic methods of epidemiology, such as the measurement of disease frequency, epidemiological study designs, and how they are applied in a variety of clinical and public health contexts. The course equips students with the skills to critically review the epidemiological literature and interpret epidemiological studies. Skills for measuring frequency of disease and testing for evidence of association between risk factors and disease in this course will build on statistics learnt in PHCM9503 Statistics for Public Health. This course will cover topics pertaining to study design and interpretation of results.

Note: Normally, this course is offered in either distance mode or internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9501
Computing Techniques for Health Services Management
School of Public Health and Community Medicine
UOC4

This course considers the impact of Information and Communication Technologies (ICT) in the health care sector. The rationale for the course is that ongoing and rapid developments and innovations in ICT continue to have an impact on the delivery and management of health services. Keeping up with these changes is an important and challenging responsibility for the health professional whose duties may include working with, proposing and/or implementing ICT solutions. Further, the use of computing hardware, software and communication networks has become an integral part of the work life of health professionals. This course seeks to assist you in learning about and applying ICT project management knowledge and skills. Developing such skills will enable you to be more effective at managing the use of ICT in an organisation. This course is primarily project-based. It requires you to investigate current developments in ICT and to consider how these could be implemented in your own organisational settings. This course uses WebCT as part of its online learning environment.

Note: Normally, this course is offered in either distance mode. Please see timetables for attendance details or any online components.

PHCM9503
Statistics for Public Health
School of Public Health and Community Medicine
UOC4 HPW3

This is a core course for Master of Public Health Students. Provides an introduction to research methods and statistical techniques applicable to public health data. Statistical techniques will focus on data analysis of a single variable or linear relationships between two variables. In addition, students will learn to use SPSS for Windows to conduct statistical analyses on a set of data relevant to public health.

Note: Normally, this course is offered in either distance mode or internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9516
Introduction to Public Health
School of Public Health and Community Medicine
UOC4 HPW2

This course will introduce students to the discipline of public health. Topics covered include: the core functions of public health; measurement of population health; an introduction to the Australian health care system; principles of communicable and non-communicable disease control; social determinants of health; indigenous health; public health advocacy and evidence based public health.

Note: Normally, this course is offered in either distance mode or internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9517
Advanced Biostatistics and statistical computing
School of Public Health and Community Medicine
UOC4
Prerequisite: PHCM9503, PHCM9502 or CMED9502

Statistical design, analysis and reporting: a selection of topics from clinical trials and other controlled studies, non-experimental studies, rates and proportions, multi-way tables, analysis of covariance and repeated measures, multiple regression and other multivariate analysis, life tables and survival analysis; use of statistical software. Thorough individual instruction in the use of computers will be given in the laboratory.

Note: Normally, this course is offered in workshop mode. Please see timetables for attendance details or any online components.

PHCM9518
Case Studies in Epidemiology
School of Public Health and Community Medicine
UOC4 HPW2
Prerequisite: PHCM9499, PHCM9500 or CMED9500

This course explores advanced epidemiological techniques and will build upon and extend the epidemiological skills taught in PHCM9499 Epidemiology for Public Health. The course achieves its aims through case studies in four areas in which epidemiology has made a substantial contribution to public health and clinical policy and practice. These are cancer, cardiovascular disease, hepatitis and screening for disease. The course reviews important epidemiological studies that have contributed to development of knowledge and in public health and clinical application in these areas. The emphasis of the course will be on the importance of epidemiological methods, and will give students a deeper understanding of study designs and biases in epidemiology.

Note: Normally, this course is offered internally with weekly classes. Please see timetables for attendance details or any online components.

PHCM9531
Field Placement
School of Public Health and Community Medicine
UOC4

The field placement will be arranged in consultation with the relevant Plan Convenor, and provide students with the opportunity to gain insight into practice in the field. Students are required to submit a report of their experience, demonstrating application of the relevant coursework and implications of the placement for their own professional practice.

PHCM9605
Health in Developing Countries
School of Public Health and Community Medicine
UOC4 HPW2

An overview of of the major health problems and their causes in developing countries, and the strategies and approaches used by health services and international assistance in addressing these problems.

The course emphasises understanding and interpretation of commonly used health data and indicators, and encourages students to share their experience and knowledge of health conditions and services in their home countries. Topics covered include: health and development, health status and health services, underlying issues; women's health; child health; communicable diseases; environmental health; non-communicable disease; health of at risk groups; and international development assistance.

Note: Normally, this course is offered internally with weekly classes. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9608
Rural Health Studies 1
School of Public Health and Community Medicine
UOC4

The subject covers the following issues: The health of rural populations and their determinants including locational disadvantage; sources of information for a rura; health needs assessment; data collection and analysis for needs assessments; developing plans and strategies to address local health needs identified in the needs assessment including primary, secondary and tertiary prevention, service development, workforce development.

Note: Normally, this course is offered in distance mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9610
Food & Nutrition Policy Studies
School of Public Health and Community Medicine
UOC4

A systems approach to analyzing the food and nutrition system will be used in identifying strategies to improve the health of vulnerable populations in both developed and developing countries. Reference will be made to internationally recognised indicators of nutritional risk and global nutrition priorities. Critical factors in policy development, implementation and evaluation of food and nutrition policies will be considered. Students will work through a case study and demonstrate their understanding by preparing, presenting and defending a proposed food policy for a specified population or community group.

Note: Normally, this course is offered in distance mode with an online component. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9611
Health of the Elderly
School of Public Health and Community Medicine
UOC4 HPW2

This course provides an introduction to a range of issues that influence health of the elderly. The course commences with a historical overview leading into a series of lectures by experts in their field. The topics covered include: Biology of Ageing; Important Medical Conditions in Old Age; Psychiatry of Old Age, including the impact of dementia on the health and welfare system of Australia and risk factors for depression in the elderly; Osteoporosis; Diabetes and other Endocrine Disorders; Falls; Stroke; Rehabilitation and Delivery of Support Services; Geriatric Rehabilitation; Continence & Incontinence; Palliative Care; Ageing Across Cultures; Promoting Wellbeing.

Note: Normally, this course is offered internally with weekly classes. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9612
Environmental Health
School of Public Health and Community Medicine
UOC4

This course will take a broad look at current concepts in environmental health in Australia and overseas. Using the tools of toxicology, epidemiology and social science and case studies we will examine

pollution in different media (air, water and soil etc), chemicals and pesticides, epidemics and food borne illness, the impact of climate change, the creation and interpretation of 'risk', environmental health risk assessment and health impact assessment, equity in environmental health, environmental politics and health and environmental sustainability and health. The course will be suitable for students who wish to gain a basic grounding in environmental health, with the option of more detailed investigation of specific concepts.

Note: Normally, this course is offered in distance mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9614
Researching Marginalised Groups
School of Public Health and Community Medicine
UOC4

This course focuses on researching marginalised groups. Hard to access groups such as the mentally ill, prisoners, homeless people, and injecting drug users are either excluded from community surveys or, due to chaotic lifestyles, are unlikely to participate. Issues affecting these groups are often sensitive (eg. drug use, criminal behaviour and sexual experiences) and require a different approach to research. The course is designed to provide participants with the knowledge and practical skills to research these groups and understand the issues affecting them. This will be a stimulating course with experts in a range of disciplines invited to share their knowledge and experiences with participants. The course is suitable for graduate students in epidemiology and public health including medical/health practitioners, mental health professionals, community health workers, researchers, and policy makers.

Note: Normally, this course is offered in alternate years in workshop mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9615
Delivery of Primary Health Services in the Community
School of Public Health and Community Medicine
UOC4 HPW2

The subject aims to develop an understanding of how primary health care can address the needs of individuals, population groups and communities in Australia and overseas. It provides an understand of the objectives, functions and organisation of primary health care services in Australia and countries with similar health care systems and how care is integrated between providers in the community including between acute and community based care. Students critically review initiatives for integrated primary health care for patients with complex and chronic disease and evaluate the process, impact and outcomes of primary care in the community and how the benefits and costs are distributed between those involved.

Note: Normally, this course is offered internally with weekly classes or in workshop mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9621
HIV/AIDS: Australian and International Responses
School of Public Health and Community Medicine
UOC4 HPW2

This course provides an introduction to biological, clinical and epidemiological aspects of HIV infection, and considers the impact of HIV/AIDS on a number of areas of the health care system and society, both now and in the future. The course is taught by internationally recognised experts in the field, and will have a particular focus on HIV/AIDS in Australia and the Asia/Pacific region.

Note: Normally, this course is offered internally with weekly classes. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9626
Inequalities and Health
School of Public Health and Community Medicine
UOC4

This course aims to provide students with a comprehensive overview of the patterns of, explanations for and actions to address health inequality in western industrialised countries.

Note: Normally, this course is offered in workshop mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9630
Indigenous Health in Australia
School of Public Health and Community Medicine
UOC4 HPW2

This course aims to broaden your knowledge of Aboriginal and Torres Strait Islander health and will focus on four broad themes: Investigating successive government policy and its instrumental role in exacerbating and maintaining the ongoing and inequitable burden of suffering experienced by Indigenous Australians; health promotion and primary health care, exploring Indigenous perceptions of wellbeing as well as health approaches that are informed by more comprehensive and holistic views of health care; investigating research into Indigenous health issues in a range of contexts, and; examining advocacy and activism and their critical contribution to the development of more appropriate health services for Indigenous families and communities.

Note: Normally, this course is offered in workshop mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9633
International Tobacco Control
School of Public Health and Community Medicine
UOC4 HPW2

The worldwide toll of death and disability related to tobacco use is enormous. In this course we examine programs in countries that have made efforts to limit availability of tobacco and reduce its use, and the effectiveness of those efforts. This course examines the issues of tobacco control: what does it involve; how best can it be achieve; and how can it be evaluated. This course is useful for doctors, nurses and other health practitioners, public health specialists, policy-makers and others in the public and private sectors of developed and developing countries. At the end of this course, students will understand the patterns of tobacco use and health effects of smoking, and will have learnt about nicotine dependence. Students will learn about the range of public health approaches available to reduce tobacco prevalence including the range of harm reduction strategies. Students will develop skills of brief interventions to use with smokers and will appreciate the issues associated with relapse. This course provides students with important knowledge and skills that will enable them to plan and evaluate an effective tobacco control program.

Note: Normally, this course is offered every second year internally with weekly classes. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9661
Current Issues in Health
School of Public Health and Community Medicine
UOC4

This interactive subject critically examines controversial issues involving those working in the health sector. Topics addressed include: changing trends in the delivery of health care towards shorter stays and day-surgery, the impact this has on the community and primary care services, the impact on the work of health professionals in the acute and community care sectors, the use of accident and emergency services and ambulance diversions, implications for the future training of health professionals.

Note: This course is offered only in Hong Kong.

PHCM9701
Managing Human Resources in Health
School of Public Health and Community Medicine
UOC6 HPW3

This subject identifies the context and various factors which may influence the organisation of both work and workers. It aims to develop knowledge and skills in critically evaluating techniques and methods which have been recommended for organising work and managing responses of workers. In particular, features of health workplaces and the highly professionalised workforce are considered. Topics addressed include: assessing and improving worker performance, motivating professionals, workplace conflict, designing work, introducing technology, ethical and managerial aspects of employment law such as unfair dismissal and "whistle-blowing."

Note: Normally, this course is offered in either distance mode with a workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9711
Management of Organisations
School of Public Health and Community Medicine
UOC6

Examines current theories of organisation and management, and evaluates their applicability to management work in health care settings. Examines the relationship between theory and practice in managing organisations; fosters an appreciation of the dynamics of managerial behaviour and extends understanding of what is entailed in accomplishing organisational change and in constituting management control.

Note: Normally, this course is offered either internally with weekly classes or in distance mode with a workshop. This course is also offered as a distance course with a workshop for students enrolled in the Hong Kong Program. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9731
SARS & Crisis Management Investigation
School of Public Health and Community Medicine
UOC6

Students enrolled in this course will be required to demonstrate their knowledge of Infection Control and their understanding of surveillance and outbreak investigation by completion of a project.

Note: This course is only available for students enrolled in the Graduate Certificate in Health Services Management (Hospital Epidemiology)

PHCM9732
Clinical Practice in Infection Control
School of Public Health and Community Medicine
UOC6

A series of lectures will be provided on topical areas of infection control where theory or practice have advanced or changed.

Note: This course is only available for students enrolled in the Graduate Certificate in Health Services Management (Hospital Epidemiology)

PHCM9741
Management of Change
School of Public Health and Community Medicine
UOC4 HPW2

In this course we examine theories, evidence and approaches centred on managing change. We explore contemporary management issues and challenges facing those who are responsible, now or in the future, for the managerial performance of health service organisations. We attempt in this course to bridge the theory - practice divide. A key concern is to examine various change management tools, techniques and ideas and assess their usefulness. Specific topics examined include: some psychological aspects of management; organisational aspects of change; cultural change; systems change; networks; restructuring; communication; continuous improvement; and managing change effectively. Part of the course is devoted to providing insights into students' own managerial style. A major theme is to develop the ability to generate improved solutions to managerial problems and to manage change more strategically.

Note: Normally, this course is offered every second year in distance mode. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9748
Clinical Governance
School of Public Health and Community Medicine
UOC6

This course develops an appreciation of the way that the role of clinicians in health care delivery is being affected by changes in the social, legal, economic, organisational, informational and political contexts of health service organisation. At its completion, students will understand the principles of clinical governance and of the range of issues and problems that it is meant to address. The course requires students to appraise different approaches to improving clinical effectiveness, quality, service integration and the use of external value for money consideration in service design and delivery. Students carry out an extended case study and a range of problem-based exercises. This will provide students an opportunity to examine what their changed role implies for their personal skills development.They are provided also with opportunities to acquire and practice skills they require to analyse and address issues arising from efforts to extend clinical accountability.

Note: Normally, this course is offered in distance mode with a workshop. Please see timetables for attendance details and any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9750
Clinical Governance for Clinician Managers
School of Public Health and Community Medicine
UOC4

Students will gain an understanding of the principles and application of clinical governance. The course develops in the student an appreciation of the role of clinician-managers in health care delivery systems within the social, legal, economic, organisational, informational and political contexts. The course will be taught within the broad imperative of social and economic accountability. The teaching methodology will be that of case study analysis and problem-solving. The aim of the methodology is to create student critical analysis and problem-solving that will develop clinician-management skills. On successful completion of the course students will be equipped to exercise managerial autonomy within cooperative structures and processes.

Note: This course is only offered in Hong Kong.

PHCM9751
Management for Public Health
School of Public Health and Community Medicine
UOC4 HPW2

This is a core course for Master of Public Health students that extends students' understanding of the broad range of factors that can affect public health policy development and implementation and which can influence how public health services are organised and managed. The course enhances students' understanding of different approaches to organising and managing at different levels in a healthcare organisation and provides some tools to approach management problems.

Note: Normally, this course is offered in either distance mode or internally with a workshop. Please see timetables for attendance details or any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9761
Public Mental Health in Australia
School of Public Health and Community Medicine
UOC4 HPW2

This course provides an alternative approach to the range of available clinical courses that deal with mental illness and mental disorders. It is designed to give students the skills to analyse the social determinants of mental health, the significance of these on the formation of policy, and the ability to design programs that could prevent the onset of mental illness and promote mental health presenting. Discovery learning is used to direct students to the theories and practices about the social determinants of mental health, and the significance of public policy. There is a major project throughout the course, which will allow students to either design a program that could reduce the onset of mental illness in an identified community of their choice, or would promote the mental health of members of that community.

Note: Normally, this course is offered internally with weekly classes. Please see timetables for attendance details or any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9901
Health Systems Simulation
School of Public Health and Community Medicine
UOC6 HPW3

An introductory course in applying systems simulation to health problems, taught by experienced health systems simulation practitioners, which demonstrates a range of multi-level, multi-method simulation approaches, including agent based, system dynamics and discrete event. The learning approach takes the form of structured walkthroughs of practical examples of classical and real simulation case studies, including patient flows through care systems, chronic disease management, epidemic models and diffusion of technology, funding and workforce problems, population

ageing impacts, medicines use and system performance improvement. Each week practical applications will be interspersed with theory and methods, including systems, system dynamics, agent based methods, group model building, simulation project methods, and using ithink and anylogic software. The course is targeted to a broad range of student participants, including health services managers and planners, clinical management and practice improvement specialists, process and systems improvement facilitators and IT and technical experts interested in health simulation.

Note: Normally, this course is offered internally with weekly classes. Please see timetables for attendance details or any online components: http://sphcm.med.unsw.edu.au/sphcm.nsf/website/forstudents.timetables.hmph

PHCM9911
Health Informatics Principles
School of Public Health and Community Medicine
UOC6 HPW2

This course provides an introduction to the area of health informatics with a broad overview of the field. It covers the basic theoretical concepts needed to understand informatics principles starting with the notion of what one means by information, what constitutes a model, what defines a system. The building blocks allow students to understand information and communication systems from first principles as well as to understand the different roles that communication and information systems play in health care. The course introduces various forms of computer-based health information systems and covers issues such as data privacy, security and confidentiality.

Note: Normally, this course is offered in either distance mode with a workshop. Please see timetables for attendance details or any online components.

PHCM9922
Decision Support Systems
School of Public Health and Community Medicine
UOC4 HPW2

This course enables participants to become familiar with the goals and different forms of decision support in health care, and gain knowledge of the practical issues of implementation. The course examines systems based on statistical and logical approaches to decision making that include statistical prediction, rule-based systems, case-based reasoning, neural networks, fuzzy logic etc. It gives an overview of the various computerized clinical decision support techniques together with a detailed assessment of successful and unsuccessful applications developed. The actual and potential impact of the technology together with the challenges associated with this kind of application will be examined.

Note: Normally, this course is offered in distance mode with a workshop. Please see timetables for attendance details or any online components.

PHIL5002
Themes in the History of Philosophy
School of Philosophy
UOC8 HPW2

Explores philosophical themes from the history of modern philosophy. Themes will be selected from a range of topics including: substance, mind and bodies, freedom, being, the ideal and the real, reason and judgement, and the social contract. Philosophical texts to be examined will be chosen from the work of influential thinkers from the 17th to the 19th centuries including: Descartes, Locke, Leibniz, Hume, Kant, Hegel, Nietzsche and Mill. No more than two themes will be selected for study in the work of no more than two theorists, depending on student requirements.

PHIL5004
Contemporary Epistemology and Metaphysics
School of Philosophy
UOC8 HPW2
Excluded: PHIL2208, PHIL2109

Examines some of the central issues in recent analytic epistemology such as those relating to theories of truth, evidence, scepticism, fallibilism, contextualism, relativism and the possibility of non-absolute knowledge. Depending on student requirements, the course also examines central issues in contemporary metaphysics such as the nature of natural and social reality, the existence of god, minds, free will, death and moral responsibility.

PHIL5005
Directions in European Philosophy
School of Philosophy
UOC8 HPW2

The main themes in 20th Century French and German philosophy, such as the structure of human existence, subjectivity and intersubjectivity, the production of meaning, and the nature of temporality, will be traced from the phenomenology of Husserl and Heidegger to developments through French philosophers such as Merleau-Ponty, Levinas, and Derrida.

PHIL5006
Developments in Moral Philosophy
School of Philosophy
UOC8 HPW2
Excluded: PHIL2508

Examines the emergence of the main branches of moral philosophy (eg utilitarianism, emotivism, and deontological ethics) from their historical roots in the philosophy of thinkers such as Mill, Hume, and Kant to recent developments in the late 20th Century. Also examines some new applications for these moral theories in fields such as environmental ethics and bioethics.

PHIL5007
Issues in Philosophy of Mind
School of Philosophy
UOC8 HPW2
Excluded: PHIL2206

Examines the main developments in philosophy of mind in the late 20th Century. Issues explored include the nature of thinking, perception, and feeling, and different theories about the composition and structure of the mind. These developments in philosophy of mind will be applied to one of the following issues/fields, depending on students' requirements: personal identity, psychology, or artificial intelligence.

PHIL5008
Themes in Social and Political Philosophy
School of Philosophy
UOC8 HPW2
Excluded: ARTS5001, ARTS5026

Explores different philosophical approaches to the concepts of equality, freedom, justice, rights, and community. These approaches are drawn from liberalism, Marxism, communitarianism and post-structuralism.

PHIL5009
Advanced Study Project
School of Philosophy
UOC8 HPW2

Students can undertake close examination of either a philosophical theme or the work of one philosopher. The project is undertaken under the supervision of a member of staff who has expertise in the field and must have the approval of the Head of School.

PHIL5010
Cosmopolitanism, Citizenship and Sovereignty
School of Philosophy
UOC8 HPW2

Aims to familiarise students with the principal theoretical responses to current changes in the international political order and the implications this has for domestic political theory. Examines current varieties of cosmopolitan political thought as responses to the deficiencies in theories of justice and citizenship which overtly or implicitly assume the nation state as the basis of political order. Addresses debates over the concepts of sovereignty, citizenship and cosmopolitan political order, as well as the complex relations between these concepts. Examines some sources of contemporary cosmopolitan thought in the philosophy of the Enlightenment. Compares and contrasts different approaches to these issues as an exercise in the methodology of political philosophy.

PHIL5011
Themes in Chinese Philosophy
School of Philosophy
UOC8 HPW2

Examines ethics, politics and the question of value in a number of Chinese philosophies. Issues discussed include Confucian ethics and its implications, Chinese conceptions of harmony, and theories of government in Confucian and Daoist (Taoist) philosophies. No previous knowledge of Chinese or Chinese philosophy is assumed.

PHIL5206
Artificial Intelligence and Computer Science
School of Philosophy
UOC8 HPW2

An introduction to the methods, role and history of computation and artificial intelligence in cognitive science.

PHIL5400
Moral Theory and Moral Reasoning
School of Philosophy
UOC8 HPW2

Introduces students to basic concepts and theories of moral philosophy, as well as to the characteristics of systematic moral reasoning. Makes particular reference to practical application, drawing examples from the professional context.

PHIL5401
The Professions and Society
School of Philosophy
UOC8 HPW2

Covers the history, philosophy, and sociology of the professions in relating them to the social contexts which make them not only skilled occupations but ones with special social identities and responsibilities. Examines the history of modern professions, the sociological criteria applied to distinguish professions from other occupations, and the formation of professional identities with norms and procedures of practice.

PHIL5402
Ethical Issues in Business and the Professions
School of Philosophy
UOC8 HPW2

Deals with the ethical requirements of the professions and professionals. Offers the opportunity to investigate issues arising in professional practice and in practicing professionally in a business environment. Investigates the application of moral reasoning to professions and professionals, including the structure and content of codes of ethics, relationships with clients, third parties, employers and colleagues, and society.

PHIL5403
Ethics in Organisations
School of Philosophy
UOC8 HPW2

Provides practical experience in developing ethics within organisations. Offers the opportunity to develop one or more detailed case-studies which have particular application to each student's particular interests or vocations. Functioning as a seminar as well as a supervised project, the course brings together various interests, approaches, and strategies for implementation of responses to ethical issues in the professional context. Requires completion of individual projects by all students, and each student's active input into all projects being undertaken within the course.

PHIL5404
Supervised Readings in Professional and Applied Ethics
School of Philosophy
UOC8 HPW2

A supervised reading program which extends aspects of applied ethics, particular to individual students' needs.

PHIL5405
Applied Ethics Project
School of Philosophy
UOC8 HPW2
Excluded: PHIL5406

The development of an extended case study concerned with systematic organisational provision for ethical practice. Students develop a topic appropriate to their particular organisation or profession.

PHIL5406
Research Project in Applied Ethics
School of Philosophy
UOC8 HPW2
Excluded: PHIL5405

Research-oriented investigation of the possibility of systematically providing for ethical practice within a particular organisation or within a facet of an organisation's activities. Differs from PHIL5405 in that this course is more research-oriented, requiring critical inquiry into an area in professional ethics, involving engagement with academic literature.

PHIL5501
Issues in Environmental Ethics
School of Philosophy
UOC8 HPW2
Excluded: PHIL2420

Introduces students to fundamental debates in environmental philosophy. Focuses both on the application of moral theory to environmental issues, as well as the ethical implications of these issues in national and international contexts. Encourages student to appreciate the complex and interdisciplinary nature of environmental negotiation and conflict.

PHIL5502
Contemporary Bioethics
School of Philosophy
UOC8 HPW2
Excluded: PHIL2418

Examines current issues in the field of bioethics by considering a number of developments in biomedical technology. Introduces the main streams of ethical theory used in contemporary bioethical debates, primarily utilitarianism, deontology, virtue ethics, and ethics of care, as a platform for philosophical discussion of a number of controversial bioethical issues. Addresses such issues as the doctrine of the sanctity of life and the concept of the person, brain death, organ transplant market, abortion, reproductive technologies, genetic enhancement and screening, cloning and euthanasia.

PHIL5503
Organisational Ethics: Public and Private
School of Philosophy
UOC8 HPW2

Identifies and considers probity requirements and a number of ethical issues present in private and public sector organisations. Identifies and analyses ethical failure in areas such as corporate crime, professional malpractice, and public accountability. Considers systematic measures aimed at regulating conduct and preventing corruption: codes of conduct, ethics committees, ethics educations, watchdogs and regulators, and whistleblower programs.

PHIL5504
Ethics and Biotechnology
School of Philosophy
UOC8 HPW2
Excluded: PHIL2422 and PHIL2424

Examines the key concepts used in applied ethics, and particularly bioethics, and the ways in which new biotechnological developments challenge these assumptions. Focuses on conceptions of human nature, ethical responsibility and the relation of the human and technological, or natural and cultural, and the ways in which these operate within key ethical theories. Issues to be discussed may include reproductive and genetic technologies, genetic modification and bio-risk, and nanotechnology. Philosophical texts used may include works by philosophers such as Kant, Hume, Nietzsche, Foucault, Habermas, Derrida, and others.

PHPH5401
Sports Injuries 1
School of Medical Sciences
UOC6
Must be enrolled in Program 9055, or 5503, or 7378

Sports injuries 1 describes dermatomes and myotomes and the implications for sports injuries. The anatomy of the shoulder, elbow, wrist and hand is described which provides the basis for describing sporting injuries to the shoulder, elbow, wrist and hand. The anatomy of the head and neck is described in order to deal with sporting injuries to the head, neck, eye, ear, nose and face. The anatomy of the trunk is described in order to deal with sports injuries to the chest, abdomen, back. Finally, on-field management of sports injuries is described.

PHPH5411
Sports Injuries 2
School of Medical Sciences
UOC6
Must be enrolled in Program 9055, or 5503, or 7378

Sports Injuries 2 deals with normal soft tissues and injuries to these in relation to muscles, tendons, ligaments and cartilage. Bone structure and function are described to understand injuries to bone. Anatomy of the pelvis, hip and thigh precedes consideration of injuries and their management in the groin, hip and thigh. Functional anatomy of the knee lays the basis for understanding acute and chronic injuries to the knee. Anatomy of the leg, ankle and foot is considered in relation to injuries to these regions.

PHPH5420
Sports Psychology
School of Medical Sciences
UOC3
Must be enrolled in Program 9055, or 5503, or 7378

The beneficial effects of exercise are considered in relation to a number of psychological states; anxiety and arousal in competition; team cohesion and group dynamics; motivation and compliance in regard to exercise; psychological aspects of injury in the athlete; behavioural problems of exercise-addiction, body weight problems. Stress and the immune system.

PHPH5421
Sports Injuries 3
School of Medical Sciences
UOC6
Must be enrolled in Program 9055, or 5503, or 7378

Compulsory for Graduate Diploma and Masters students. This course deals with musculoskeletal injuries affecting the thigh, knee, lower leg, foot and ankle. Functional and surface anatomy of these areas will be covered followed by a consideration of injuries and their management. Principles of imaging of the lower limbs will also be covered and a discussion regarding which imaging modality is most useful for a number of suspected pathologies. A practical discussion regarding rehabilitation of acute and chronic lower limb injuries is included.

PHPH5431
Medical Applications of Exercise 1
School of Medical Sciences
UOC6
Must be enrolled in Program 9055, or 5503, or 7378

Medical Applications of Exercise 1 surveys the physiology of the cardiovascular system in its control and reflex responses as well as the electrophysiology of the heart and the ECG. The effects of exercise on the cardiovascular system are discussed. Investigations of cardiovascular functions are illustrated, including stress testing. Primary, secondary and tertiary use of exercise in cardiac rehabilitation are considered. Cardiovascular aspects of special groups are described, in pregnant women, in hypertensive and diabetic patients.

PHPH5440
Clinical Skills Training 1
School of Medical Sciences
UOC3 HPW2
Must be enrolled in Program 9055, or 5503, or 7378

Clinical Skills Training I and II give students practical experience in the examination of joints and other 'hands-on' procedures such as taping techniques, injecting techniques, on-field management of acute trauma and interpretation of imaging. In each clinical skills training course, students are taught how to use on-line medical databases and practical aspects of using WebCT.

Clinical Skills Training 1 focuses on practical aspects of examination and management of injuries to the upper limb and cervical spine.

Topics covered include; cervical spine examination and imaging; management of concussion, dental issues, the wrist and hand, the elbow and shoulder including physiotherapeutic assessment and treatment of shoulder instability and impingement. Students will undertake practice examinations of the shoulder, elbow, wrist and hand; make hand and wrist splints and mouthguards, and be involved in practical demonstrations of sporting techniques during this course.

PHPH5441
Medical Applications of Exercise 2
School of Medical Sciences
UOC6
Must be enrolled in Program 9055, or 5503, or 7378

Temperature regulation is considered as a basis for understanding hyperthermia in the athlete. Physiological and medical considerations are described in relation to the female athlete and in relation to children. Respiratory physiology and respiratory medicine provide the basis for understanding exercise-induced asthma, diving and altitude problems for the athlete.

PHPH5450
Clinical Skills Training 2
School of Medical Sciences
UOC3 HPW2
Must be enrolled in Program 9055, or 5503, or 7378

Clinical Skills Training I and II give students practical experience in the examination of joints and other 'hands-on' procedures such as taping techniques, injecting techniques, on-field management of acute trauma and interpretation of imaging. In each clinical skills training course, students are taught how to use on-line medical databases and practical aspects of using Web CT.

Clinical Skills Training 2 focuses on practical aspects of examination and management of injuries to the lower limbs and back. Topics covered include lower limb examination, physiotherapy and imaging; thoracolumbar spine examination and rehabilitation, lower limb pain, evaluation of foot and ankle pathology and office podiatry. Students will undertake practice examinations of the knee, hip, pelvis, foot, ankle and back during this course.

PHPH5451
Sports Science
School of Medical Sciences
UOC6
Must be enrolled in Program 9055, or 5503, or 7378

The biochemistry is described for intermediary metabolism and specifically aerobic and anaerobic metabolism in muscle and the hormonal control. Energy expenditure is considered in the resting and exercising person. Muscle physiology deals with the contractile process and features of tensile force in relation to the different fibre types. The motor unit is described as are the sensory inputs to the central nervous system and its control of motor function. Biomechanical principles include a consideration of subjective, objective and predictive analysis. Gastrointestinal physiology surveys the motility and digestive and absorptive activities of the gut.

PHPH5453
Major Project and Report
School of Medical Sciences
UOC12
Must be enrolled in Program 9055, or 5503, or 7378

Compulsory for masters students. A research project related to sports medicine, planned in the subject Research Methods, is undertaken and completed in 14 weeks. The project, conducted over six-months part-time, will involve research into an area of sports medicine at a clinical or basic level which contributes new knowledge to the field. The Project is to be presented as a scientific report of 8000-10000 words.

PHPH5470
Sports Nutrition
School of Medical Sciences
UOC3
Must be enrolled in Program 9055, or 5503, or 7378

Caloric and fluid needs of the active person and the specialised needs of the athlete, ie vitamins, minerals and ergogenic aids. Food composition, dietary intake for both the active and the sedentary. Protein, carbohydrates, fats, dietary fibre, fluid intake, minerals and vitamins. Nutrition for special groups such as children, adolescents, pregnant and lactating women, the elderly and different ethnic groups is considered. Performance-related activities, training diet and requirements for metabolic fuels, dietary compounds, mineral and trace elements, fluid, amino acid and vitamin supplements. Primary, secondary and tertiary prevention of problems in obesity, coronary health disease, diabetes and eating disorders.

PHPH5491
Pharmacology Project
School of Medical Sciences
UOC6

A small laboratory or industry based project or an extensive literature review or extensive data analysis in the area of drug development.

PHPH5510
Sports Pharmacology
School of Medical Sciences
UOC3
Must be enrolled in Program 9055, or 5503, or 7378

Basic pharmacology. Factors affecting pharmocokinetics in relation to routes of administration, plasma levels, volumes of distribution, catabolism and elimination. Effect of exercise on drugs in vivo, effects of thermal regulation, interactions of medically prescribed drugs on the physically active person. Banned performance-enhancing drugs, screening and identification procedures. Drug educations and prevention of drug abuse.

PHPH5530
Clinical Biomechanics
School of Medical Sciences
UOC3
Must be enrolled in Program 9055, or 5503, or 7378

Application of biomechanics to joints in relation to sporting activities and overuse problems. Gait analysis, repetitive movements resulting in micro and macro-trauma.

PHPH5571
Research Methods
School of Medical Sciences
UOC6
Must be enrolled in Program 9055, or 5503, or 7378

Biostatistics and epidemiological principles. Construction of a research study and preparation for a major project. In this course the student develops an approved research project to be undertaken in PHPH5453. SPSS software supplied.

PHPH5591
Paediatric Sports Medicine
School of Medical Sciences
UOC6 HPW3
Must be enrolled in Program 9055, or 5503, or 7378

Paediatric Sports Medicine involves the studying of the child athlete for prevention and management of injury and illness. The subject commences with consideration of normal physiology of growth and development and expected responses to training. Management of acute and overuse injuries is studied, followed by the effects of intense training and exercise and early profiling / specialisation. Exercise in chronic illness states is covered, including its use as an adjunct to therapy. Subsequent modules include the issues surrounding drugs in sport and ADHD, management of childhood obesity, consideration of the benefits and risks of children's sport and finally, important medicolegal issues.

PHPH5611
Applied Sports Medicine
School of Medical Sciences
UOC6
Must be enrolled in Program 9055, or 5503, or 7378

This subject brings together the strands dealt with in preceding subjects on sports injuries and medical applications of exercise. Weekly topics include: the prevention of injury, including the screening of athletes pre-season; imaging in sports medicine, considering the use of X-Rays, CT and MRI, ultrasound, nuclear medicine; principles of rehabilitation in relation to types of stretching and strengthening, physical methods of soft tissue treatment, manipulation and mobilisation, proprioceptive re-training, taping; the use of non-steroidal anti-inflammatory drugs and corticosteroid injections; the management of rheumatological conditions in relation to physical activity; medical coverage of fun runs and other community events; the role of the team physician; legal and ethical aspects of sports medicine. Genetic determinants of sporting performance are also discussed and the potential uses and abuses of gene therapy.

PHPH5621
Military Sports Medicine 1
School of Medical Sciences
UOC6 HPW3
Must be enrolled in Program 9055, or 5503, or 7378

Military Sports Medicine 1 covers important musculoskeletal injuries commonly seen in a military environment. All major joints, and their relevant injury patterns are considered. The shoulder, lower back, knee, and shin are given special attention, given their relative contribution to presentations in a military setting. Each week, students are introduced to key principles of sports medicine, relevant to pathology discussed within that module, and elsewhere in the course. Directed examinations for regional conditions are presented weekly by experts in that field, to aid diagnosis and management.

PHPH5631
Military Sports Medicine 2
School of Medical Sciences
UOC6 HPW3
Must be enrolled in Program 9055, or 5503, or 7378

Military Sports Medicine 2 covers a variety of issues important in the practical management of military personnel. Individual weeks are devoted to the study of: prevention and screening; biomechanics; rehabilitation; sports nutrition; weight and fitness consultancy; sports medicine in special environments; causes for reduced performance; cardiovascular conditions and exercise-induced asthma; and radiology.

PHPH9100
Discovery and Pre-clinical Development of New Medicines
School of Medical Sciences
UOC6

Development of new medicines: history and philosophy of development of new medicines. Process of discovery: screening/molecular modeling resulting in identification of lead compounds. Refinement of lead compounds, biological testing in laboratory animals, tissues or tissue components. Choice of chemical entity for further development and identification of back-up compounds. Preclinical studies of selected compound: the value and limitations of animal models in predicting clinical efficacy and potential adverse effects: mechanism of action, screening for total biological effects, toxicology. Factors involved in choosing compounds for clinical development: scientific merit, medical utility, uniqueness, commercial value, compatibility with company strategies, facilities available for development. Selection of back-up compound. Project management: identification of commercial/medical objectives, pre-clinical issues, clinical development strategies. Company strategies: decision path analyses, resources, and time-lines. Clinical trial programme: phases 1, 2, 3 and 4. Clinical research plan: time-lines, study designs, dose-ranging, choice of test populations, indications, trial locations, and data treatment. Go/No Go criteria.

Note: The course is compulsory for programmes 7370, 5504, and 9060.

PHPH9101
Principles of Drug Action
School of Medical Sciences
UOC6

This course provides a general overview of pharmacodynamics and pharmacokinetics including the following topics. The dose-response relationship as a function of pharmacokinetic and pharmacodynamic properties. Qualitative discussion of factors involved in determining pharmacokinetic properties: routes of administration, formulation, absorption, distribution, elimination (metabolism and excretion). Qualitative investigation of pharmacokinetics variables (bioavailability, volume of distribution, clearance, half-lives, etc.). The use of pharmocokinetic variables in dosage optimization. Qualitative discussion of pharmacodynamic mechanisms: specific and non-specific mechanisms. Receptors and signal transduction. Agonists, partial agonists and antagonists. Quantitative investigation of drug-receptor interactions. The influence of non-drug factors (disease states, age, genetics, etc.) on pharmacokinetic and pharmacodynamic parameters, and hence on the dose-response relationship. A major feature of this course is the emphasis placed on instruction in using on-line library resources. These skills are used in all subsequent courses.

Note: The course is compulsory for programmes 7370, 5504, and 9060.

PHPH9102
Pharmaceutical Development of New Medicines
School of Medical Sciences
UOC6

The course begins with an introduction to dosage forms, and describes their design, development and manufacture using tablets as an example. The relevance of the properties of active ingredients to product development is discussed. Concepts of sterility and sterilisation are introduced. The chapter on product quality outlines concepts of quality, quality assurance and quality control, discusses the significance of pharmacopoeial monographs, and gives reasons for the various tests of quality for raw materials and finished products. The fundamental relationship between ongoing quality and Good Manufacturing Practice is discussed, together with examples of validation of later changes or variations to products. Particular attention is given to methods of testing for impurity content, the significance of different types of impurity, disintegration and dissolution testing, and the design and interpretation of stability studies. The final chapter outlines the design, conduct and reporting of bioavailability and bioequivalence studies, and describes formulation strategies for drugs which have limited bioavailability.

Note: The course is compulsory for programmes 5504, and 9060.

PHPH9104
Law, Ethics and the Regulation of Medicines
School of Medical Sciences
UOC6

This course provides a general overview of the ethical issues and laws relevant to the development and marketing of medicines. It includes the following topics. State and Commonwealth Constitutional powers. Common law, statutory law, accountability, natural justice. Laws relating to the development and sale of medicines; patents, intellectual property, trade practices. Ethical issues in drug development and marketing.

Preparation and submission of marketing applications, approval and appeal processes. Principles of Good Clinical Research Practice (GCRP). The ethical review process, consent procedures in biomedical research. The philosophy of regulation of drug use: input of industry, Government, consumer. The regulatory principles regarding the use of developmental drugs in human subjects and the practical consequences of these on the design and conduct of clinical investigations. The organization of the regulatory processes in Australia: The Therapeutic Goods Administration and advisory bodies (ADEC, ADRAC, etc.) The Pharmaceutical Benefits Advisory Committee. Submissions regarding cost effectiveness. Preparation and submission of an application for approval to test or marker a drug and the relevant appeal process. Integration of regulatory affairs into the pre- and post-marketing planning and review of product development strategies. Input from international bodies and national agencies.

Note: The course is compulsory for programmes 7370, 5504, and 9060.

PHPH9107
Therapeutics and the Molecular Basis of Disease 1
School of Medical Sciences
UOC6

This course provides a basis for understanding the mechanisms involved in the disordering physiology that underlies common disease states. The object is to provide an understanding of those disorders that are amenable to correction or amelioration with drug therapy. It thus provides a rationale for drug design and utilization. The subject consists of five main sections. Section 1 is a review of relevant features of general biology with emphasis on (a) modern systems of taxonomy (natural products are still a major source of lead compounds for developing new therapeutic agents) and (b) biochemistry with emphasis on those aspects relevant to molecular biology and biochemical pharmacology (the other two main areas involved in new drug development). Section 2 deals with cellular injury and death and covers causes of cell injury, general mechanism of cell injury an necrosis, apoptosis, stress proteins and cell injury, subcellular alterations in cell injury, intracellular accumulations, pathologic calcification, hyaline change cellular aging. Section 3 covers cellular growth and differentiation including control of cell growth, extracellular matrix and cell-matrix interactions, and cellular adaptions of growth and differentiation. Section 4 deals with inflamation and repair and covers acute inflammation, chemical mediators of inflammation, chronic inflammation, morphologic pattern in acute and chronic inflammation, systemic effects of inflammation, wound healing. Section 5 covers oedema, hyperaemia and congestion, haemorrhage, haemostasis and thrombosis, embolism and shock.

Note: The course is elective for programmes 5504, and 9060.

PHPH9108
Therapeutic Basis of Drug Use and Development 1
School of Medical Sciences
UOC6
Prerequisite: PHPH9107

This course aims to provide an understanding of the medical problems and treatments that need to be understood in developing new therapeutic agents and optimizing their use. Emphasis will be on highlighting the strengths and weaknesses of present therapies and identification of current research aimed at developing new therapeutic agents. The course begins with a review of drug safety including mechanism of adverse drug reactions and drug interactions, together with the influence of age, race and disease states on the tendency to develop adverse responses to medication. The course provides and integrated description of relevant physiology, pathophysiology, disease states: (a) infectious disease: bacterial, fungal, viral and parasitic infections: (b) immunological disorders: immunodefiency, hypersensitivity, transplantation: (c) haemotology: anaemias, haemorrhagic disorders, disorders of white blood cells, leukaemias, lymphomas; (d) cardiovascular disorders: cardiac arrhythmia, ischaemic heart disease, heart failure, hypertension, vascular disorders; (e) respiratory tract disorders: upper respiratory tract disorders, asthma, chronic obstructive pulmonary disease, acute bronchitis, bronchiectasis, cystic fibrosis, pneumonia; (f) renal tract disorders: renal failure, disorders of renal tubule function, obstructive uropathies, myoneurogenic disorders, incontinence, neoplasms: (g)) gastrointestinal disorders: oesophageal disorders, gastritis, peptic ulcer, diarrhoea and constipation, gastroenteritis, malabsorption syndromes, chronic inflammation of the bowel, gastrointestinal neoplasms; (h) hepatic and biliary disorders: jaundice, ascites, fibrosis, cirrhosis, hepatitis, neoplasms.

Note: The course is elective for programmes 5504, and 9060.

PHPH9109
Therapeutic Basis of Drug Use and Development 2
School of Medical Sciences
UOC6
Prerequisite: PHPH9107

The objectives of this course are the same as describe for course PHPH 9108. The course will provide and intergrated description of relevant physiology, pathophysiology, disease state manifestations and clinical pharmacology with respect to the following disease: (a) nutritional and metabolic disorders: nutrition, nutritional deficiencies, obesity, water/ electrolyte/acid-base metabolism; (b) endocrine disorders: disorders of the pituitary, thyroid, adrenal glands; disorders of carbohydrate metabolism; (c) gynaecological disorders: common problems, amenorrhoea and abnormal bleeding, endometriosis, breast disorders, neoplasms; (d) neurologic disorders: seizure disorders, sleep disorders, cerebrovascular disease, CNS infection and neoplasms, demyelinating diseases, disorders of movement, spinal cord disorders peripheral nervous system disorders: (e) psychiatric disorders: personality disorders, drug dependence, neuroses, mood disorders, schizophrenic disorders, delusional disorders: (f) musculoskeletal and connective tissue disorders: reheumatoid arthritis and other diffuse connective tissue disease, arthritis associated with spondylitis, osteoarthritis, infections and neoplasms of the bones, crystal-induced conditions, bone and cartilage disorders, nonarticulare rheumatism; (g) ophthalmological disorders: disorders of the eyelids, conjunctiva, and cornea, cataract, uveal tract disorders, retinal disorders, glaucoma, disorders of the optic nerve; (h) dermatological disorders: dermatitis, scaling disorders, disorders of the hair folicles and sebaceous glands, skin infections - bacterial, viral, parasitic, fungal, drug eruptions and similar inflammatory disorders of skin, disorders of cornification, tumours. .

Note: The course is elective for programmes 5504, and 9060.

PHPH9111
Advanced Pharmaceutical Development of Medicines
School of Medical Sciences
UOC6

This subject extends the principles covered in Pharmaceutical Development of Medicines and includes detailed treatment of the formulation and in vitro/in vivo assessment of oral controlled-release products and novel dosage forms such as transdermal therapeutic systems and osmotic pumps. There is an extensive chapter on the formulation and testing of inhalation products, including metered dose inhalers, dry powder inhalers and nebulisers. Regulatory aspects of the quality of all of these products are discussed. Students will have the opportunity to conduct an evaluation of a bioavailability study 'in the shoes of' a regulator, with emphasis on European requirements. The chapter on formulation of protein pharmaceuticals explains the particular problems associated with this group of products including stability and compatibility, and describes how the challenges are addressed. Case studies illustrate application of the principles that have been introduced. (An alternative to the topic of protein formulation will be provided for students who are also taking Biopharmaceuticals electives).

PHPH9112
Advanced Pharmacokinetics
School of Medical Sciences
UOC6

This course greatly extends the introduction to pharmacokinetics given in the core module Principles of Drug Action, with particular emphasis being given to new aspects of pharmacokinetics. Topics covered include methods used in drug development to investigate the pharmacokinetic characteristics of new chemical entities in the pre-clinical and clinical phase. The role of pharmacokinetics in drug selection is highlighted and emphasis is placed on critical appraisal of the pharmacokinetic literature. Other topics include investigating drug interactions and population pharmacokinetics as a tool to inform drug development and the clinical utility of medicines. Students electing to take this unit will also have a chance to pursue a short assignment in an area of interest to their work place related to the area of pharmacokinetics and pharmacdynamics.

PHPH9113
Advanced Regulatory Affairs
School of Medical Sciences
UOC6

This course will extend the core module Law, Ethics and the Regulation of the Development and Use of Medicines, for example, by providing a comprehensive examination of the role of the international regulatory agencies such as those of the European Union and the United States and

their influence on the Australian regulatory processes examined. Other aspects of the regulatory process mentioned briefly in the core module, such as issues relating to pharmaceutical chemistry, will be considered in more detail. However, the major emphasis of the module will be on case study and critical appraisal. Students will review registration dossiers, write evaluation reports and prepare Pre-ADEC responses. The focus of this work will be the optimization of the regulatory process. Students will also participate in a mock Australian Drug Evaluation Committee (ADEC) meeting to gain an understanding of that Committee's procedures and decision-making processes.

PHPH9114
Pharmacoeconomics
School of Medical Sciences
UOC6

As limits are placed on health care budgets, from the national to the individual level, the relative value of competing uses of scarce resources is becoming a significant part of decision making. Pharmacoeconomics assists the decision-maker by determining the comparative value of a product, and whether this value is worth the loss of benefits that could have been obtained by using the money in a different way.

In the Australian environment, pharmacoeconomic analyses are considered by the Pharmaceutical Benefits Advisory Committee who advises the Minister on whether the product should be reimbursed on the Pharmaceutical Benefits Scheme. They are also used in hospital formulary submissions within the public hospital setting, and in support material and publications for doctors. Another role for pharmacoeconomics occurs early in the drug development process. Pharmacoeconomic models can help to assess the potential value of a product and they can also identify threshold levels of efficacy that must be met for the product to be commercially viable.

This module focuses on the principles of pharmacoeconomics, the process of obtaining reimbursement of a product on the Pharmaceutical Benefits Scheme, and issues in applying pharmacoeconomic theory to the real world. The module also covers economic concepts, efficiency, equity and ethics of decision making in the health care field and provides an overview of pharmacoeconomics internationally. Specific areas covered include the different types of economic analysis, sources of data, randomized trials versus naturalistic or pragmatic trials, quality of life and assessment of utility, and league tables.

The module will be of benefit to those wanting to work in the area of pharmacoeconomics and also to those wanting to broaden their knowledge base about this important area

PHPH9116
Advanced Clinical Trials Management
School of Medical Sciences
UOC6
Prerequisite: PHPH9100

The focus of the advanced module will be the practical application of the underlying principles encountered in the core course on clinical trials management. Students will prepare a complete data package for the research ethics committee (REC) for a study submitted as part of the clinical trials notification (CTN) scheme as the major focus and assessment task for this module. The trial will be multi-centred and early phase, that is Phase II to III. There will be potential serious toxicities and a data safety monitoring committee will need to be established. Students will develop the clinical trials protocol, the draft patient consent form, and case report form (CRF). The application package will be assessed by a mock REC and the student will be asked to respond to questions and criticisms raised by the REC.

PHPH9118
Therapeutics and the Molecular Basis of Disease 2
School of Medical Sciences
UOC6

This course is a continuation of the material covered in PHPH9107 and, like the previous course, aims to provide a basis for understanding the mechanisms involved in disordered physiology that underlies common disease states. The objective is to provide an understanding of those disorders that are amenable to correction or amelioration with drug therapy. It thus provides a rationale for drug design and utilization. The course consists of four main sections: immunology and diseases of immunity; infection, genetic disorders; and neoplasia. Immunology and diseases of immunity includes a review of normal immune system mechanisms (cells of the immune system, cytokines, histocompatibility antigens, and hypersensitivity reactions); mechanisms of autoimmune diseases, immunologic deficiency syndromes, other actual or suspected immune system diseases (e.g. amyloidosis). Infection includes a brief introduction to mircobiology, general principles of microbial pathogenesis, discussion of selected human infectious diseases. Genetic disorders includes a brief section on the new genetics , mutation, mendelian disorders, disorders with multifactorial inheritance, normal karyotype cytogenetic disorders, single-gene disorders with nonclassic inheritance, molecular diagnosis. Neoplasia includes definitions and nomenclature, characteristics of benign and malignant neoplasms, epidemiology, molecular basis of cancer, biology of tumour growth, carcinogenic agents and their cellular interactions, host defence mechanisms, clinical features of tumours. Aspect of molecular biology relevant to the preceding topics (e.g. gene therapy) will be discussed.

Note: The course is elective for programmes 5504, and 9060.

PHPH9119
Providing Independent Drug Information for General Practice
School of Medical Sciences
UOC6

A minimum of 3 students is required to allow delivery and a maximum of 6 students are allowed to enrol.

Provision of drug information to General Practitioners has been largely undertaken by the pharmaceutical industry. The most practised and effective methods of providing independent drug information to GPs will be explored in this course. Whilst focussing largely on educational visiting / academic detailing, this course will also explore other ways of transmitting independent information to doctors, including Web-based programs. This course will be of interest to health professionals and organisations associated with providing drug information to General Practitioners. GPs participate actively in the teaching program. Facilitation is provided by experienced educational visitors.

This course is usually offered in two modes:

(1) a three-day residential workshop with pre-workshop preparation and a post-workshop task, followed by two assignments. (Minimum 3 students for this option to be available.)

(2) a distance learning package including two teleconferences, with pre-teleconference preparation and post-teleconference tasks and two assignments. (Minimum 5 students.)

The course aims to: provide communication and interaction skills training in the techniques of educational visiting/academic detailing; provide a knowledge base on rational prescribing and policy developments with respect to quality use of medicines (QUM); provide students with critical appraisal skills training for the provision of independent drug information. You can expect to: identify the strategies that are effective in promoting changes in clinical behaviour; Implement these strategies effectively in a variety of ways; identify where gains can be made for doctors and patients in quality use of medicine and cost effective prescribing; Iientify effective ways of using data about the prescribing pattern of individual doctors.

PHPH9120
Clinical Development of Medicines
School of Medical Sciences
UOC6

This course provides an introduction to clinical epidemiology, statistics, clinical trial management and data management. A brief introduction to the principles of clinical epidemiology is provided as a basis for measurement of drug effects in humans, including sources of error, types of research studies, and study design. Introduction to statistics includes methods for descriptive statistics, normal distributions and methods for expressing probability distribution parameters including t, chi-square and F. Inferential statistics covers application of distribution parameters to decision making, hypothesis testing, choosing an inferential test, comparison of two means, the two-sample t test, analysis of variance, chi-square test, correlation, non-parametric tests, and calculation of confidence intervals.

Clinical trials management reviews all stages involved in conducting a clinical trial. The stages covered include the initial project proposal; development of the protocol and other trial related documentation required to gain ethical and regulatory approval for a clinical trial; planning of all trial related materials required to commence the study; conduct of the trial during patient recruitment and treatment; data management and analysis of the data generated from the study; reporting of the data and finally close out of the trial. Responsibilities of the sponsor in trial planning, approval, investigator selection, monitoring and auditing are discussed. The International Conference on Harmonization (ICH) code of Good Clinical Practice (GCP) is emphasized throughout the module. The course is compulsory for program 7370, 5504, and 9060.

PHPH9121
Postmarketing Development of Medicines
School of Medical Sciences
UOC6

This Module consists of two volumes which focus on safety in the use of medicines in the postmarketing period. Volume 1 looks at Pharmacovigilance which has been described as 'All methods of assessment and prevention of adverse drug reactions' (Begaud 1993), and will incorporate systems set up to collect, assess and monitor adverse reactions to medicinal products. The course will discuss the history of major adverse events that has lead to the current monitoring programmes as well recent approaches to improving methods for detecting potential adverse drug reactions. The responsibilities of the pharmaceutical companies is covered; the aims of the collection of ADR/ADE information and the data bases used in this process are addressed. Information from the impact of international harmonization of procedures to the local operating company procedures is covered. Also covered are causality assessment, categories of causal relationship, the incidence of adverse reactions and their assessment, and risk/benefit issues. A major chapter on the classification and mechanisms of adverse drug reactions provides pharmacological understanding of the types of ADRs, long-term effects and effects on the embryo, foetus and neonate. The classification and mechanisms of drug interactions often associated with ADRs are covered. Volume 2 of this Module will address Pharmaceutical Information. The course will discuss the information resources and information services required to bring together and utilize all the information about a drug product which has been generated during its development and marketing. It provides an introduction to and an understanding of the restrictions under which pharmaceutical companies operate in terms of the provision of information, promotion and advertising. Core to this will be an understanding of the requirements and the writing of the Product Information and Consumer Medicine Information documents. The advertising and promotion of therapeutic goods as controlled by government and industry regulations are discussed.

Note: This course is a compulsory programmes 5504, 9060.

PHYS9060
Advanced Optics
School of Physics
UOC6 HPW3

Review of geometrical optics, matrix methods; physical optics; Fresnel and Fraunhofer diffraction, transfer functions, coherence, auto and cross correlations, applications of modern optics, holography, lasers. Additional research on topics of current interest, literature search, seminar.

Note: This course may also be offered via distance education.

PHYS9310
Physics of Solid State Devices
School of Physics
UOC6 HPW3

Review of electronic structure of semiconductors; pn junctions, bipolar and field effect transistors including formation, characterisitics and electrical breakdown. Optical devices includign light emitting diodes, junction lasers. Integrated circuit structures. Additional readings on chosen topics.

Note: This course may also be offered via distance education.

PHYS9710
Lasers and Applications
School of Physics
UOC6 HPW3

Theory of lasers, interaction between light and matter, optical amplifiers, oscillators, laser-cavity design, modes, Q switching, model locking, ultra-short pulse generation, specific lasers, including gas, solid state, dye lasers, semiconductor diode lasers, applications of lasers in medicine, spectroscopy, communications, consumer electronics. Additional research on topics of current interest, literature search, seminar.

Note: This course may also be offered via distance education.

PHYS9720
Optoelectronics
School of Physics
UOC6 HPW3

Optical Communications: introduction, definitions, waveguides, step and graded index fibers, polarization, maintaining fibers, dispersion, attenuations, fibre amplifiers, modulation schemes, communication systems. Fibre Optic Sensors: active and passive sensors, fibre optic interferometers, specific examples. Semiconductor Optics: physics of semiconductors: band theory, electrons/holes, effective mass, direct/indirect band gaps, Si, GaAS; recombinant processes, optoelectronic materials and growth, MOCVD, MBE: semiconductor junctions: pn junctions, p-I-n junction, heterojunction; quantum wells. Optoelectronic Devices: (a) emitters: light emiting diodes, physics of lasers, laser diodes, heterostructure lasers, types of diode lasers including gain guiding, index guiding, stripe geometry lasers, quantum well lasers, distributed feedback lasers, VCSEL's. (b) detectors: definitions, noise, figures of merit, thermal detectors, photon detectors: photoconductors, PMT, photodiodes, p-i-n diodes, avalanche photodiodes, CCD's. QWIP's. Additional research on topics of current interest, literature search, seminar.

Note: This course may also be offered via distance education.

PHYS9761
Optoelectronics Laboratory I
School of Physics
UOC6 HPW5

Methods and techniques employed in fibre optics and optical spectroscopy, includign measurement of attenuation in fibres, NA of single and multi-mode fibres, construction of an OTDR system, principles of WDM, spectroscopy of various light sources and detector characteristics, spectroscopy of quantum wells.

PHYS9762
Optoelectronics Laboratory 2
School of Physics
UOC6 HPW5

Methods and techniques employed in laser technology and spectroscopy, including laser safety procedures, measurement of laser characteristics, high resolution speed of lasers, study of laser modes and laser intensity, construction of diode pumped Nd:YAG laser; reflection and transmission holography, Fourier transform spectroscopy.

POLS5100
Issues in Australian Public Policy: Internship Program
School of Politics and International Relations
UOC8 HPW2

Involves a two day per week research internship attachment where the student undertakes research for a selected organisation such as the Asia-Australia Institute, Amnesty International, The Refugee Council, The International Women's Development Agency, Paul Keating's Office, the US Information Agency and others. Students will meet weekly for debriefings on their internships and to discuss policy-related issues. These meetings may include lectures where appropriate and/or visitors of interest.

Note: Students are expected to undertake a research project or project as required by the organisation with which they are placed.

POLS5102
Australia in the World
School of Politics and International Relations
UOC8 HPW2

A study of Australia's place in the world. Strategic, diplomatic, economic, historical and legal approaches.

POLS5103
Law, War and Justice
School of Politics and International Relations
UOC8 HPW2

A study of classical and modern theories of war and peace with a specific focus on ethical and legal issues.

POLS5113
Research Project
School of Politics and International Relations
UOC8 HPW2

A 10,000 word research project on an agreed subject. Students should arrange contact times with supervisor.

Note: This project may only be undertaken with the permission of the MA Coordinator and is available only to students enrolled in a full MA program who have achieved distinction level over three completed courses and demonstrated research capacity. Application forms to undertake this course are available from the School office and must be lodged for consideration by the end of the teaching period of the session preceding the one in which the research project will be taken.

POLS5120
The International System
School of Politics and International Relations
UOC8 HPW2

Examines the international system in a theoretical and historical perspective. Explores the contribution of the main approaches in International Relations to an understanding of the contemporary world. Analyses the economic and political organisation of world politics with specific attention to the evolution of the international system since the end of the Second World War. Explores the roles of the major actors in international relations.

POLS5122
The International Political Economy
School of Politics and International Relations
UOC8 HPW2

Analyses the nature and dynamics of the international political economy. Provides a critical introduction to the evolution of a global economy and considers the implications of the globalisation of economic activity for states and other international actors. Investigates the relationship between the growth of international economic activity and the domestic economic and social policy objectives of states. Contributes to an enhanced understanding of the relationship between politics and economics.

POLS5125
The Politics of International Law
School of Politics and International Relations
UOC8 HPW2

International law plays an integral role in the system of international politics. This course challenges students to analyse that role and the major interpretations of that role. The content covered includes topics such as: the core principles and concepts of international law; distinguishing a political from a legal interpretation of a multilateral treaty, consent and verification; the operation of the International Court of Justice and the relationship between foreign policy formulation and international law. No prior knowledge of international law is required.

POLS5126
Nationalism and Ethnicity in International Relations
School of Politics and International Relations
UOC8 HPW2

Investigates the resurgence of ethnicity and nationalism in the international arena. The post cold-war international order sustains the expansion of a market oriented global culture that transcends nation-states' boundaries, but the resurgence of ethnic and nationalist movements appears to contradict this globalising trend. Aims to examine the resurgence of ethnicity and nationalism in the contemporary world and evaluate the challenge that this resurgence imposes to a world of nation-states and to the post-cold war international order. The central question is to what extent is the nation state a viable and effective political unit in a world of global markets, inter-state organisations and political movements for ethnic resurgence. A number of case studies will be discussed.

POLS5127
China and Asia-Pacific Security
School of Politics and International Relations
UOC8 HPW2

An examination of China's relations with the outside world in the post-Cold War era. Topics include: the theoretical foundation on which China formulates its foreign policy, China's security perceptions; its current relations with major powers; its arms build-up and the regional response. Through identifying China's common interests with the international community and its problems with Western powers, efforts are made to evaluate China's place in the world. The course is issue-oriented, although theoretical analysis will not be ignored.

POLS5158
Theories of the Global Free Market and their Critics
School of Politics and International Relations
UOC8 HPW2
Excluded: POLS3047

Neo-liberal or 'economic rationalist' arguments for the desirability of a global free market. Formal characteristics of 'free' market relations in economic theory. Free markets in theory v free markets in practice. Maximalist and minimalist arguments for free markets. Neo-liberalism and the critique of state economic intervention. The 'Asian Tigers' and neo-liberal theory. Critiques of maximalism and critiques of minimalism. State intervention and global economic competitiveness. Economic theory and global economic stability and instability.

POLS5159
The Israeli Palestinian Conflict
School of Politics and International Relations
UOC8 HPW2

Addresses the most salient features of the Israeli Palestinian Conflict and its impact in the international arena. Discusses the emergence of Zionism in Europe, the process of colonial settlement in Mandatorial Palestine, emergence of distinct Israeli and Palestinian societies, the impact of superpowers on the conflict, the various proposals for resolving the conflict and the role of the United Nations and other international organisations in the elusive search for a conflict resolution.

POLY5000
Polymer Science
School of Chemical Eng and Industrial Chemistry
UOC19 HPW6

Polymer Processes: Classification of polymers, methods of polymerisation; bulk, solution, emulsion, suspension, high pressure; processes; step growth, chain growth; the chemistry and applications of polymer systems including polyesters, polyamides, phenolic condensation resins, vinyl polymers, synthetic elastomers. Natural polymers. Mechanism and Kinetics: Step growth polymerisation, kinetics, structure effects; chain growth polymerisation. Free radical polymerisation, chemistry and properties of free radicals and initiators; kinetics of propagation and termination reactions; co-polymerisation; monomer radical structure and reactivity. Cationic and anionic polymerisation; stereoregular polymers. Polymer Characterisation: Molecular weight; averages and distributions; thermodynamics of polymer solutions; theta temperature; fractionation methods; measurement of number-average molecular weight and weight-average molecular weight. Polymer Physics: Principles of operation of conventional polymer processing equipment; safety procedures; polymer compound design; stress strain behaviour of polymers in tension, compression, shear and flexure; elementary rheological behaviour of polymers; rubber elasticity; thermal characteristics of polymers.

PSYC7000
Research and Evaluation Methods
School of Psychology
UOC6 HPW2

An examination of threats to the validity of casual inferences from randomised experiments, quasi-experiments and passive observational studies, with particular reference to field studies and program evaluations. Statistical power analysis, the analysis of data from nonequivalent control group designs, interrupted time series analysis, and structural modelling.

PSYC7001
Psychological Assessment 1
School of Psychology
UOC6 HPW3

A theoretical basis, background information and practical skills in methods of assessment typically used in clinical, forensic, and organisational psychology. Topics will include: the assessment of intelligence in adults and children, assessment of adult abilities, vocational interests, and personality, use of behavioural/structured interviewing, computerised test administration and expert scoring systems, assessment centres, special purpose testing, preparation of assessment reports, the provision of feedback to clients and subjects, and ethical, legal and professional issues. Emphasis will be on the development of practical skills in the administration, scoring and interpretation of standardised psychological instruments.

PSYC7002
Psychological Assessment 2
School of Psychology
UOC6 HPW2

The psychometric foundations of psychological assessment. Classical and modern test theory. Item analysis and item response theory. Differential change measurement. Single case profile analysis, with applications to the WAIS-R and WISC-3. Applications of exploratory and confirmatory factor analysis to test construction and evaluation. Clinical and statistical prediction. Decision theoretic approaches to testing and assessment. The use of intraclass correlations to evaluate the reliability of ratings and other assessment methods.

PSYC7100
Psychology of Organisations 1
School of Psychology
UOC6 HPW2

General framework for understanding organisational settings and how social structures and procedures affect work motivation, job satisfaction, performance and health. Emphasis placed on the particular contribution which psychologists can make to such areas as job analysis and design, selection, and performance appraisal, interpersonal and intergroup relations, social influence, leadership style, job enrichment, and communication patterns.

PSYC7101
Psychology of Organisations 2
School of Psychology
UOC6 HPW2

An advanced examination of some topics covered in PSYC7100 Psychology of Organisations 1 with a particular emphasis on the application of sound measurement and research principles to selection, job evaluation, work motivation and occupational health and stress. Special attention given to the application of social psychological principles to the work setting.

PSYC7102
Learning , Training and Development
School of Psychology
UOC6 HPW2

An introduction to the latest theory and research in learning, memory and cognition relevant to designing and implementing programs of instruction and behavioural intervention . Aspects of the training cycle including needs analysis for training , setting learning objectives , and evaluating the effectiveness of any instructional program .

PSYC7115
Career Choice and Development
School of Psychology
UOC6 HPW2

The theory and practice of career choice and development, and approaches to career decision making and work adjustment throughout life. The role of occupational information and psychological tests, and the impact of work, leisure, retirement and unemployment on these areas will be considered. The specific problems of minority groups in these areas will be highlighted.

PSYC7117
Advanced Topics in Organisational Psychology
School of Psychology
UOC6 HPW2

Advanced treatment of established and emerging areas in organisational psychology.

PSYC7122
Professional and Ethical Practice (Organisational) 1
School of Psychology
UOC6

Attendance at professional practice meetings (including reviews of professional ethical issues) and career development workshops (including a thorough understanding of ethical principles and practices within professional settings) and the completion of placements to a total of 250 hours.

PSYC7123
Professional and Ethical Practice (Organisational) 2
School of Psychology
UOC6

Attendance at professional practice meetings (including reviews of professional ethical issues) and career development workshops (including a thorough understanding of ethical principles and practices within professional settings) and the completion of placements to a total of 250 hours.

PSYC7124
Professional and Ethical Practice (Organisational) 3
School of Psychology
UOC6
Prerequisite: PSYC7122, PSYC7123

Attendance at professional practice meetings (including reviews of professional ethical issues) and career development workshops (including a thorough understanding of ethical principles and practices within professional settings) and the completion of placements to a total of 250 hours.

PSYC7125
Professional and Ethical Practice (Organisational) 4
School of Psychology
UOC6
Prerequisite: PSYC7122, PSYC7123

Attendance at professional practice meetings (including reviews of professional ethical issues) and career development workshops (including a thorough understanding of ethical principles and practices within professional settings) and the completion of placements to a total of 250 hours.

PSYC7126
Research Thesis (Organisational) 1
School of Psychology
UOC12

Research thesis involving an investigation into some aspect of organisational psychology.

PSYC7127
Research Thesis (Organisational) 2
School of Psychology
UOC12
Prerequisite: PSYC7126

A continuation of the research thesis begun in PSYC7126.

PSYC7204
Child Clinical Psychology
School of Psychology
UOC6 HPW3

An examination of the developmental psychopathology, assessment, and treatment of the major childhood disorders. Emphasis is given to empirically-supported approaches, with a particular focus on cognitive and behavioural family systems assessment and interventions.

PSYC7210
Human Neuropsychology
School of Psychology
UOC6 HPW3

An overview of cognitive, emotional and behavioural disorders arising from damage to the brain with an emphasis on the assesment of brain-behaviour relationships, assesment and rehabilitation.

PSYC7212
Experimental Clinical Psychology 1
School of Psychology
UOC6 HPW3
Excluded: PSYC7400

An introduction to clinical practice and covers the major anxiety and mood disorders. This course reviews the major models and research strategies for understanding psychopathology and clinical interventions. Specific psychological disorders are analysed in detail to illustrate the interplay of biological, cognitive, and behavioural models of psychological dysfunction. Each disorder is also described in terms of practical assessment and treatment procedures.

PSYC7220
Psychology of Health and Illness
School of Psychology
UOC6 HPW2

Applications of psychological principles, derived from human and animal research, to human health, including health promotion, risk factor reduction, and the psychological assessment and management of medical illnesses, with a special focus on chronic illnesses.

PSYC7221
Experimental Clinical Psychology 2
School of Psychology
UOC6 HPW4

A continuation of the problem oriented approach begun in the PSYC7212, this course examines the theoritical basis of models of psycopathology, assesment and intervention, and related professional issues. It deals with a range of psychological problems including insomnia, psychosis, personality disorders, eating disorders, and relationship disorders.

PSYC7222
Experimental Clinical Psychology 3
School of Psychology
UOC6 HPW2

The assessment and management of a range of disorders including bereavement, drug and alcohol problems, dissociative disorders, and psychogeriatrics.

PSYC7223
Professional and Ethical Practice (Clinical) 1
School of Psychology
UOC6

This course focuses on practical training of clinical skills and thorough understanding of ethical principles and practices within professional settings. Attendance at one-day workshops and once-weekly meetings is required. Skills training includes interviewing, cognitive therapy, providing expert testimony, and interviewing children. There will be a strong focus on the code of professional conduct and ethical issues that arise in the context of working with individuals, cultural groups, organisations, other professionals and the public at large.

PSYC7224
Professional and Ethical Practice (Clinical) 2
School of Psychology
UOC6
Prerequisite: PSYC7223

This course continues with the training of psychological skills and ethical practices required in the professional context. Attendance at one-day workshops and once-weekly meetings is required. Skills training includes interviewing families, group processes, professional supervision, and report writing. Weekly meetings will also deal with the conduct of professional psychologists, with a strong focus on the maintenance of ethical practices.

PSYC7225
Professional and Ethical Practice (Clinical) 3
School of Psychology
UOC6
Prerequisite: PSYC7224

Across PSYC7225 and PSYC7226 students must complete three field placements, totalling 800 hours. These will normally comprise one adult mental health setting, one child setting, and one specialised setting. In addition, students will complete supervised clinical work in the Psychology Clinic. Students will also attend once-weekly meetings that will continue reviews of professional and ethical issues.

PSYC7226
Professional and Ethical Practice (Clinical) 4
School of Psychology
UOC6
Prerequisite: PSYC7224

In addition to field placements, students will also attend once-weekly meetings that will continue reviews of professional and ethical issues.

Note: See under PSYC7225.

PSYC7227
Research Thesis (Clinical) 1
School of Psychology
UOC12

Research thesis involving an investigation into some aspect of clinical psychology.

PSYC7228
Research Thesis (Clinical) 2
School of Psychology
UOC12
Prerequisite: PSYC7227

A continuation of the research thesis begun in PSYC7227.

PSYC7400
Interventions in Forensic Psychology 1
School of Psychology
UOC6 HPW3
Excluded: PSYC7212

An introduction to clinical practice and covers the major anxiety and mood disorders. This course reviews the major models and research strategies for understanding psychopathology and clinical interventions. Specific psychological disorders are analysed in detail to illustrate the interplay of biological, cognitive, and behavioural models of psychological dysfunction. Each disorder is also described in terms of practical assessment and treatment procedures.

PSYC7401
Interventions in Forensic Psychology 2
School of Psychology
UOC6 HPW2

An examination of the approaches to intervention employed by psychologists in various forensic settings. It will focus specifically on the theory and practice of interviewing and counselling forensic clients. Areas to be covered will include: the assessment, treatment and prevention of child maltreatment; interviewing child witnesses; specific issues in interventions with crime victims; dealing with spousal violence; counselling and mediation in the Family Court; the prevention of juvenile offending; and the interventions involving violent offenders.

PSYC7402
Applications of Forensic Psychology
School of Psychology
UOC6 HPW2

The relationship between work and the legal system. It includes issues relating to work and work organisation, such as equal employment opportunity, unfair dismissal, stress in the workplace, and issues relating to workers compensation such as the assessment of the effects of harmful workplace exposures on performance, the effects of work injury on work performance and the effects of the compensation system itself. It also includes issues relating to testimony for cases in coronial, compensation and other criminal courts.

PSYC7403
Experimental Psychology and Law
School of Psychology
UOC6 HPW2

Examination of contributions to the application of forensic psychology in different settings that come from theory and research in social and experimental psychology and allied fields. Topics may include eyewitness identification, jury selection, lie detection, use of hypnosis, trial advocacy tactics, individual and jury decision making, laypersons' perceptions of insanity, judges instructions, the effects of the media, to name a few.

PSYC7409
Professional and Ethical Practice (Forensic) 1
School of Psychology
UOC6

Across PSYC7409, PSYC7410, PSYC7411 and PSYC7412 students must complete 1000 hours of professional practice, including professional seminars, workshops, and external placements. Students must complete a minimum of three different field placements, of approximately 35 days in length, in settings that may include the courts, police, prisons, or other related forensic settings.

This course provides an introduction to skills training in a variety of tasks undertaken by forensic psychologists. It focuses on practical training of forensic skills and a thorough understanding of ethical principles and practices within professional settings. Attendance at one-day workshops and once-monthly meetings is required. Skills training includes interviewing, cognitive techniques, providing expert testimony, and interviewing children. There is a strong focus on the code of professional conduct, and ethical issues that arise in the context of working with individuals, cultural groups, organisations, other professionals and the public at large.

PSYC7410
Professional and Ethical Practice (Forensic) 2
School of Psychology
UOC6
Prerequisite: PSYC7409.

In addition to field placements, this course continues with the training of psychological skills and ethical practices required in the professional context. Attendance at one-day workshops and once-monthly meetings is required.

Skills training includes interviewing families, group and jury processes, professional supervision, and mediation counselling. Weekly meetings will also deal with the conduct of professional psychologists, with a strong focus on the maintenance of ethical practices.

PSYC7411
Professional and Ethical Practice (Forensic) 3
School of Psychology
UOC6
Prerequisite: PSYC7410

In addition to field placements, students attend regular meetings that continue reviews of professional and ethical issues. Assessment is conducted by audio and videotaped practice, case presentations, and formal reports.

PSYC7412
Professional and Ethical Practice (Forensic) 4
School of Psychology
UOC6
Prerequisite: PSYC7410

In addition to field placements, students will attend regular meetings that will continue reviews of professional and ethical issues. Assessment will be conducted by audio and videotaped practice, case presentations, and formal reports.

Note/s: See under PSYC7409

PSYC7413
Research Thesis (Forensic) 1
School of Psychology
UOC12

Research thesis involving an investigation into some aspect of forensic psychology.

PSYC7414
Research Thesis (Forensic) 2
School of Psychology
UOC12
Prerequisite: PSYC7413

A continuation of the research thesis begun in PSYC7413.

PTRL5001
Fluid Dynamics in Porous Media
School of Petroleum Engineering
UOC6 HPW3

Capillary-gravity equilibrium and initial fluid distribution. Relative permeability, capillary pressure, rock microstructure and multi-phase flow. Review of oil-gas phase behaviour and fluid PVT properties. Material balance equations. Calculation of water influx from material balance. Special Project (Ref: PTRL2014)

PTRL5003
Well Pressure Testing
School of Petroleum Engineering
UOC6 HPW3

Theory of transient well testing. Practical aspects of design and performance of field test instrumentation. Pressure drawdown tests. Fall-off tests. Multi-rate tests. Gas well testing. Flow-after-flow. Isochronal and isochronal modified. Interference testing. Pulse testing. Drillstem tests. Fractured reservoir tests. Analysis of multiphase flow tests. Special Project (Ref: PTRL3023)

PTRL5004
Numerical Reservoir Simulation
School of Petroleum Engineering
UOC6 HPW3

Reservoir simulation and reservoir management. Differential material balance equations. Relative permeability, capillary pressure and residual saturations in two and three-phase flow. Compositional reservoir simulator equations and the Black Oil Model. Numerical solution of simulator equations. Truncation errors and stability. Transmissibilities, upstream weighing, explicit and implicit and explicit treatment of transmissibilities. Numerical dispersion and grid-orientation effects. Model and grid selection. Model initialisation and capillary pressure-gravity equilibrium. Well models and equivalent radius of a well block, relating well grid-block pressures to pressure test build-up pressures. Use of well dynamic and vertical pseudo-functions. Planning and executing a reservoir simulation study. Reservoir simulation workshop. Special Project (Ref: PTRL4015)

PTRL5005
Design Project for Petroleum Engineers
School of Petroleum Engineering
UOC6 HPW3

This course covers front-end engineering design of new production facilities for a potentially viable oil/gas field. Common offshore and onshore field development modes are first reviewed. Various oil/gas processing systems are studied, including gas dehydration, condensate handling, acid gas removal, LPG extraction, and crude oil stabilisation. Design tasks studied include process simulation, preparation of process flow diagrams/piping & instrument diagrams, HAZOP studies, and project management arrangements. Students will make extensive use of a commercial process simulation software package during tutorials. Each student shall carry out an example facilities scoping study and submit this as their final design report. Special Project. (Ref: PTRL3021)

PTRL5006
Field Development Geology for Petroleum Engineers
School of Petroleum Engineering
UOC6 HPW3

Introduction to field development geology. Impact of sedimentary environment and associated diagenesis on field development strategy. Carbonate depositional processes and their effect on reservoir characteristics. Identification and characterisation of reservoir flow and barrier units. Reservoir seals. Importance of electrolog correlation in oil and gas field development. Identification and quantification of reservoir heterogeneity. 3D geological modeling. Reserves estimation. Geology of fractured reservoirs. Reservoir geophysics. Aquifer characterisation. New oil from old fields. Data planning during field development. Role of synergy in oil and gas field development. Case histories. Special Project. (PTRL 3016)

PTRL5007
Reservoir Engineering
School of Petroleum Engineering
UOC6 HPW3

Recovery factors, mobilisation, displacement and sweep efficiencies. Fractional flow analysis and displacement efficiency. Heterogeneity and gravity segregation and their effect on recovery. Water and gas coning. Unsteady-state field water influx calculations. Determination of aquifer parameters from history matching. Pseudo relative permeability and vertical equilibrium. Decline curve analysis. Special Project (Ref: PTRL3008)

PTRL5008
Petroleum Production Economics
School of Petroleum Engineering
UOC6 HPW6

Unit A-Petroleum Project Evaluation: Cash flow analysis in the petroleum industry (definition of cash flow, deriving net cash flow under tax/royalty systems and production sharing contracts, depreciation methods, inflation, sunk costs). Economic indicators (net present value, rate of return and other indicators). Fiscal analysis (the nature of petroleum fiscal regimes, the effects of fiscal regimes on exploration and field development decision making, economic analysis of fiscal regimes in Australia and Indonesia). (Ref: PTRL3025)

PTRL5009
Well Drilling Equipment and Operations
School of Petroleum Engineering
UOC6 HPW3

Introduction to physical processes involved in drilling oil and gas wells. Rotary drilling rigs for both land and offshore operation. Drilling equipment including rig powering and transmission, hoisting, rotary systems, BOP equipment and hookup, drill pipes and collars. Drilling fluid circulating systems including pumps, mud tanks, mud mixtures and mud cleaners. Elements of rock mechanics and its application in drilling. Selection of drill bits and penetration rate optimisation. Rig sizing and selection. Special marine equipment. Special Project (Ref: PTRL2015)

PTRL5010
Natural Gas Engineering
School of Petroleum Engineering
UOC6 HPW3

Properties of Natural Gases: typical compositions. Equations of state: general cubic equations, specific high accuracy equations. Use of equations of state to find residual energy properties. Gas Compression: positive displacement and centrifugal compressors; fans. Calculation of power requirements. Compressible Flow in Pipes: fundamental equations of flow: continuity, momentum, energy equations. Isothermal flow in pipes: the Weymouth equation. Static and flowing bottom-hole pressures in wells. Fundamentals of Gas Flow in Porous Media:

Steady-state flow equations. Definition of pseudo-pressure function. Gas Flow in Cylindrical Reservoirs: general equation for radial flow of gases in symmetrical homogeneous reservoirs. Non-dimensional forms of the equation; derivation of coefficients relating dimensionless to real variables. Infinite reservoir solution; pseudo-steady-state solution. Gas Well Deliverability Tests: Flow-after-flow tests: prediction of IPR curve and AOF for the well. Isochronal tests. Drawdown tests: need for data at two flow rates. Special Project. (Ref: PTRL4016)

PTRL5011
Petroleum Production Engineering
School of Petroleum Engineering
UOC6 HPW3

Component of the petroleum production systems. Well productivity engineering. Production from under saturated oil reservoirs. Production from two phase reservoirs. Production from gas reservoirs. Pseudo critical properties of natural gases. Gas well deliverability for non-Darcy flow. The near-wellbore condition and damage characterisation, the effect of perforating conditions on well performance. Wellbore flow performance. Well deliverability. Well head surface gathering systems. Artificial lift systems. Horizontal well production. System analysis. Production Chemistry Basics (wax, scale, corrosion, emulsions). Special Project. (PTRL 4018)

PTRL5012
Drilling Mud - Formulation, Selection & Maintenance
School of Petroleum Engineering
UOC6 HPW3

Students in this course will be given a thorough understanding in the classification of mud systems and the roles of different mud additives, their chemistry and interactions. Students will then learn how to implement this knowledge to aid in the design, maintenance, and development of an efficient mud system for a given drilling scenario by varying mud composition (to achieve optimum rheological and physical mud properties).

Course covers: Basics of water- and oil-based drilling and completion fluids. API mud properties & testing procedures and chemical analysis. Clay and polymer chemistry and their applications to drilling fluid formulations. Classification and structure of clays. Hydration mechanism of clays. Cation exchange capacity of clays and influence on clay properties. Rheology of clay suspensions, yield of clay. Structure and properties of polymers used in drilling fluids. Fluid-loss additives. Viscosifying agents. Surface active agents used in drilling fluids. Drilling fluid filtration - bridging mechanism, filtration-control materials and techniques, prevention of formation damage, filtration effect on drilling rate. API mud properties. Mud systems and treatments for hole conditions - torque and drag, stuck pipe, lost circulation and borehole instability. Prevention of corrosion. Mud program design - Mud weight, weighting materials, and mud weight calculations.

PTRL5015
Overview of the Petroleum Industry
School of Petroleum Engineering
UOC6 HPW3

Unit 1: Worldwide distribution of oil and gas reserves. Subsurface data sampling and data interpretation. Measurement scaling. Core, log and test data. Unit 2: Rock/fluid systems. Rock and fluid parameters used in the petroleum industry. Inter-relations between these parameters. Coring and core analysis. Well logging and log interpretation. Well testing and test analysis. Unit 3: Drilling of oil and gas wells. Classification of wells. Drilling operating systems. Drilling fluids. Well completions. Gun perforating. Hydrocarbon production techniques. Hydrocarbon recovery mechanisms. UNIT 4: Economics of the upstream and downstream oil and gas industry. Supply and demand for oil and gas. International trading in oil and gas. Participation of Industry speakers. Special Project. (Ref: PTRL1010)

PTRL5016
Well Completions and Stimulation
School of Petroleum Engineering
UOC6 HPW3

Students enrolled in this course will learn how to develop cost-effective completion designs. Completion design and optimization is taught from a practical, technical, and economic point of view, with consideration of future workover and stimulation options. Students will also learn how to use the latest tools to design and optimize completion scenarios.

Course covers: Interval selection and productivity considerations, effect of producing mechanisms, influence of reservoir heterogeneity, required producing rate, inflow performance relationship, summation of pressure drops, matching completion and reservoir performance, and artificial lift requirements. Inflow performance and multiple tubing performance analyses using the latest optimization tools, well stimulation and workover planning, tubing packer movement and forces calculations. Graphical tubing design and simplified tensional strength design, selection of downhole equipment, tubing accessories and wellhead equipment. Basics of perforation, selection of equipment and procedure for perforating oil and gas wells. Technology of sand control - gravel packing. Fundamentals of well stimulation technologies - acidisation, hydraulic fracturing.

PTRL5021
Reservoir Characterisation
School of Petroleum Engineering
UOC6 HPW3

Overview of reservoir characterisation and modelling problems. Reservoir mapping. 3D modelling. Univariate, bivariate and multivariate statistics for geological data analysis. Pattern recognition techniques. Petrophysical predictions from well logs. Introduction to petroleum geostatitsics. Variograms. Kriging. Uncertainty quantification. Stochastic reservoir modelling. Sequential simulation. Gaussian simulation. Indicator simulation. Integrating seismic attributes, well tests and production data. Constraining reservoir models with various sources of information. Reservoir upgridding and upscaling. Special Project (Ref: PTRL3013)

PTRL5022
Drilling Systems Design & Optimisation
School of Petroleum Engineering
UOC6 HPW3

Prediction of formation pore pressure and stress gradients. Determination of safety mud weight bounds for different in-situ stress conditions. Design and planning well trajectory. Surveying tools and methods. Design of drill string including bottom hole assembly. Drilling methods and equipment for directional, horizontal and multilateral wells. Selection of casing shoes, material properties and design of casing program.

PTRL5107
Formation Evaluation
School of Petroleum Engineering
UOC6 HPW3

Reservoir petrophysics. Basic parameters and relationships. Data control, acquisition and interpretation from cores, well logs and well tests. Integration of these data for the evaluation of hydrocarbon reservoirs.

General purpose well logs. Fluid and formation resistivities. Porosity measurements from cores and well logs. Wellsite log interpretation. Lithology, saturation and permeability studies. Hydrocarbon mobility determination. Shaly sand analysis. Complex reservoir interpretation. Practical work with core, log and well test data for reservoir quality evaluation and quantitative reservoir studies. Special Project (Ref: PTRL3023)

PTRL6001
Reservoir Engineering 1
School of Petroleum Engineering
UOC6

Basic concepts of origin, accumulation and recovery of hydrocarbon fluids. Fluid properties, PVT behaviour and classification of hydrocarbon reservoirs. Material balance equations for gas cap, solution gas, depletion and water drive reservoirs, and gas reservoirs. Reservoir rock properties and core analysis procedures, porosity-permeability relationships. Darcy's law for linear and radial flow, steady-state and pseudo steady-state flow. Wellbore damage, skin-factor and well productivity. Horizontal wells. Wettability, capillary pressure and vertical distribution of reservoir fluids.

PTRL6003
Well Pressure Testing
School of Petroleum Engineering
UOC6

Theory of transient well testing. Practical aspects of design and performance of field test instrumentation. Pressure drawdown tests. Fall-off tests. Multi-rate tests. Gas well testing. Flow-after-flow. Isochronal and isochronal modified. Interference testing. Pulse testing. Drillstem tests. Fractured reservoir tests. Analysis of multiphase flow tests.

PTRL6004
Numerical Reservoir Simulation
School of Petroleum Engineering
UOC6

Formulation of reservoir simulation equations. Explicit and implicit solution procedures. Cartesianand radial geometry. Single dimension, two-phase flow. Commercial reservoir simulation software. Planning and execution of reservoir simulation projects. Use of reservoir simulation as a management and development tool.

Reservoir simulation workshop - a series of real-world reservoir simulation problems including water and gas coning and water flood project.

PTRL6007
Reservoir Engineering II
School of Petroleum Engineering
UOC6

Pore-scale description of fluid distribution and displacement. Relative permeability and extension of Darcy's law to multi-phase flow. Fractional flow theory and displacement efficiency. Heterogeneity and sweep efficiency. Estimation of field recovery factors. Gravity stabilized displacements. Water and gas coning for vertical and horizontal wells. Decline curve analysis. Natural water influx and aquifer history matching. Pseudo-relative permeability and capillary pressure, calculation of dynamic and vertical equilibrium pseudos. Use of pseudo functions in reservoir simulation.

PTRL6008
Petroleum Production Economics
School of Petroleum Engineering
UOC6

Cash Flow Analysis - definitions, cash flow and profit, cash flow and taxation, cash flow and production sharing contracts, incorporating inflation, fiscal drag, real and nominal cash flows. Economic Indicators - net present value, internal rate of return, pay back, capital productivity index. Incremental investment analysis (accelerating production, lease/buy economics). Risk Analysis - expected value, decision trees, value of information, sensitivity analysis, probability analysis, Monte Carlo simulation, risk and selection of discount rate. Fiscal Analysis - structure of petroleum fiscal regimes, severity and efficiency, incremental fiscal effects. Australian Crude Oil Levy and Resource Rent Tax Fiscal Regimes - structure, detailed cash flow modelling, severity, efficiency, incremental effects, effect on exploration and development in Australia. Indonesian Production Sharing Contract Regime - structure, detailed cash flow modelling, severity, efficiency, incremental effects, effect on exploration and development in Indonesia.

PTRL6009
Well Drilling Equipment and Operations
School of Petroleum Engineering
UOC6

This course is taught from a practical view with the aim that students will learn how to streamline and optimize rig operations and gain the technical skills to provide cost-effective solutions to common rig problems associated with day-to-day operations. Students enrolled in this course will be given an in-depth view of the physical processes involved in drilling oil and gas wells, both on-shore and off-shore. Moreover, students will learn the functions and roles of key rig equipment and apparatus.

Course covers: Powering and transmission system. Hoisting system. Rotary systems - including top-drive. Rotary drilling bit classification and selection. Circulating systems - including pump selection and design. Derrick design and selection. Offshore drilling technology - including anchoring systems, surface motion. compensation systems, marine risers, riser tensioning systems. Blow-out preventers - including selection and stack design, accumulator systems, mud monitoring systems.

PTRL6016
Well Completions and Stimulation
School of Petroleum Engineering
UOC6

Students enrolled in this course will learn how to develop cost-effective completion designs. Completion design and optimization is taught from a practical, technical, and economic point of view, with consideration of future workover and stimulation options. Students will also learn how to use the latest tools to design and optimize completion scenarios.

Course covers: Interval selection and productivity considerations, effect of producing mechanisms, influence of reservoir heterogeneity, required producing rate, inflow performance relationship, summation of pressure drops, matching completion and reservoir performance, and artificial lift requirements. Inflow performance and multiple tubing performance analyses using the latest optimization tools, well stimulation and workover planning, tubing packer movement and forces calculations. Graphical tubing design and simplified tensional strength design, selection of downhole equipment, tubing accessories and wellhead equipment. Basics of perforation, selection of equipment and procedure for perforating oil and gas wells. Technology of sand control - gravel packing. Fundamentals of well stimulation technologies - acidisation, hydraulic fracturing.

PTRL6021
Reservoir Characterisation
School of Petroleum Engineering
UOC6

Reservoir characterisation and modelling problems. Basic univariate, bivariate and multivariate statistics for geological data analysis. Petrophysical predictions from well logs. Introduction to petroleum geostatistics. Variogram and covariance models. Kriging and cokriging. Stochastic simulation. Sequential simulation. Gaussian and indicator simulation. Uncertainty quantification. Integrating secondary data. Integrating dynamic data. Reservoir upscaling.

PTRL6025
Well Control & Blowout Prevention
School of Petroleum Engineering
UOC6

As you progress through this course you will be exposed to:

7 Basic concepts and procedures in well control;

7 Advanced theory and mathematical applications;

7 Preliminary equipment designs;

7 Advanced equipment designs and applications;

7 Onshore and offshore scenarios for advanced well design.

The objective of this course is to expose engineers to advanced well control concepts and apply those skills to individual projects.

Course content includes: Causes of Kicks, Kick Detection, Pressure Concepts and Calculations, Procedures, Gas Characteristics and Behaviour, Fluids, Constant Bottom Hole Pressure Well Control Methods, Equipment, Government & Industry and Company Rules & Orders and Policies, Sub-sea Well Control, Special Situations.

PTRL6027
Casing Design & Cementing
School of Petroleum Engineering
UOC6

Casing Design - API properties of casing and casing couplings. Performance properties of casing under load conditions - Tension, burst pressure, collapse pressure,biaxial loading and buckling. Principles of casing design for vertical, deviated and horizontal wells - Setting depth design procedures, casing string sizes,and selection of casing weight, grade & couplings. Preparation of casing programs for different well types. Optimisation of casing program.

Cementing - Basics of cement - Manufacture, composition and standardisation. Measuring and controlling cement properties. Cement additives. Slurry design - Wellbore temperatures, retardation, density, filtration control, strength stability, viscosity/suspension, gas migration theory and control, cement job simulation, 'wait-on-cement' time. Cementing calculations - Primary cementing, plug balancing, and squeeze cementing. Rheology and types of flow - Rheological models, types of flow, and flow in pipes & annuli. Mechanism of mud removal by cement - Well preparation, mud conditioning, running casing, mud displacement. Cementing equipment. Planning, conducting and monitoring primary and secondary cementing jobs. Post-job considerations and evaluation. secondary cementing jobs. Post-job considerations and evaluation.

PTRL6028
Practical Aspects of Well Planning and Drilling Cost Estimates
School of Petroleum Engineering
UOC6

Students will learn a technical and analytic approach to cost-effective well planning from site selection to casing landing and cementing with an emphasis on trajectory analysis based on borehole stability, torque and drag of tubulars, and hole cleaning. This course binds together key concepts from mud design, cementing and casing design, and directional and ERD well design. Students will learn how to use these concepts to

plan and optimize well trajectories in a systematic and practical manner. The course objectives are reinforced by practical examples and a case study.

Course covers: Data acquisition, pore pressure prediction, fracture gradient prediction, in-situ stress determination, stress analysis, trajectory analysis and optimization, wellbore stability analysis, mud weight selection and optimization, casing program design, BHA selection and design, torque and drag analysis, determination of cuttings transport efficiency.

PTRL6029
Directional Horizontal and Multilateral Drilling
School of Petroleum Engineering
UOC6

Students in this course will learn about the application of deviated and multilateral wells, well planning and surveying, and methods and equipment used to monitor and maintain directional control. In doing so, students will gain a thorough understanding of the economic benefits and technical challenges associated with implementation of directional well technology.

Course covers: Applications of directional, horizontal and multilateral wells. Planning and executing the drilling of directional, horizontal and multilateral wells. Planning of well trajectory. Graphical and analytical representations of Build & Hold and Build, Hold & Drop. Planning of well paths with single and multiple targets. Surveying methods, tools and calculations (tangential method, balanced tangential method, average-angle method, radius of curvature method, minimum curvature method, and Akgun/Kuru method). Drilling tools and methods. Selection of appropriate bottom-hole assembly and optimisation - slick BHA, single- and multi-stabiliser BHAs. Steerable Rotary Systems Downhole mud motors. Drilling and drill string considerations.

PTRL6107
Formation Evaluation
School of Petroleum Engineering
UOC6

Reservoir petrophysics. Basic parameters and relationships. Data control, acquisition and interpretation from cores, well logs and well tests. Integration of these data for the evaluation of hydrocarbon reservoirs.

General purpose well logs. Fluid and formation resistivities. Porosity measurements from cores and well logs. Wellsite log interpretation. Lithology, saturation and permeability studies. Hydrocarbon mobility determination. Shaly sand analysis. Complex reservoir interpretation. Practical work with core, log and well test data for reservoir quality evaluation and quantitative reservoir studies.

REST0001
Property Investment
Building Construction Management Program
UOC6 HPW3

A systematic analysis of the principles and methods of contemporary property investment is offered in this course including modern portfolio theory. Property is viewed as one among several asset classes in financial markets.

REST0004
Property Finance
Building Construction Management Program
UOC6 HPW3

Accepting the premise that real estate encompasses land, property and infrastructure, this course considers how the development, operation and investment of real estate are financed. It places contemporary financial practice within a context of theory and recent history of change in the financial sector of national and global economies. This course is broader in approach than REST0001 and is complementary in the approaches to common topics.

REST0005
Valuation 1
Building Construction Management Program
UOC6 HPW3

This course provides a graduate level introduction to valuation theory and practice. Topics include the concept of value in economics, valuation and related fields; the meaning of valuation as defined by statute and case law; property rights and land tenure; principles and methods of valuation; and the practice of valuation.

REST0006
Property Development
Building Construction Management Program
UOC6 HPW3

This course examines the process of property development, in the context of pluralistic market economics and underpins the analysis with economic theory. It covers all aspects of the development process from evaluation, through preparation, implementation, to disposal, and uses projects and cases to give students skills in organising and solving feasibility analysis problems.

REST0007
Asset and Facilities Management
Building Construction Management Program
UOC6 HPW3

This course introduces the key issues in facilities management and how it relates to organisational strategies within the context of corporate infrastructure resourcing. Topics include facility planning, financial forecasting, real estate strategies, property management, maintenance and operation and performance measurement as enablers of business.

REST0008
Corporate Real Estate
Building Construction Management Program
UOC6 HPW3

This course provides an overview of two important issues relevant to the needs of real estate/property professionals, corporate managers, and companies with international activities. There are; (i) the role of real estate in corporate settings, and (ii) the relationship between corporate and real estate objectives. Globalisation of real estate markets and the increasing importance of international business is emphasised. General characteristics of various countries are examined, and students are required to develop in-depth knowledge of the real estate market of a country of their choice.

REST0010
Modern Property
Building Construction Management Program
UOC6 HPW3

The real estate industry is rapidly moving from essentially responding to client requirements for structures towards providing business solutions and sustainable communities. And the infrastructure that forms the strategic framework for economic and social development draws upon the same skills and resources that are used to develop land and construct buildings for the purposes of residence, commerce, recreation hospitality and social services. Real estate now covers these fields and is thus a key sector of the economy. Starting from this premise the course explores how real estate needs to be understood and traverses the core areas of this diverse field including facility management.

REST0015
Statutory Valuation
Building Construction Management Program
UOC6

Valuers are often called upon to perform valuations of special use properties and for statutory purposes and to represent those valuations as an expert witness. The content of the course includes: valuations for tax and taxation of capital gains; statutory rating purposes under relevant legislation including computer assisted mass appraisal; appeals procedure; compulsory acquisition. Assessment of compensation resulting from acquisition, resumption and damage. Evidence: the expert witness and professional liability; moot court and an introduction to the valuation of special purpose properties and businesses as a going concern.

REST0016
Specialist Valuation
Building Construction Management Program
UOC6

The content of this course included the development of knowledge and skills developed in Valuation 1 and applying them to the process of valuing special purpose properties and going concerns. It also includes applications of the profits method of valuation, valuation of business assets; tangible, intangible and technical plant and machinery valuation; valuation of licensed premises' hotels and resorts. Valuation of regional shopping areas; heritage valuations and valuation of transferable development rights. Valuation of terminable interests. Public sector and institutional investment valuation.

REST0017
Urban Economics
Building Construction Management Program
UOC6

The course exposes students to economic theory and applies that knowledge to assist the student's appreciation of the economic imperatives, which drive and shape urban development. Topics covered will include: economic processes in spatial and land use development; urban growth theory; competing land use; supply and demand in the pricing of urban property; the concept of the 'rent bid curve' business location theory; the impact of land based communication corridors on price; technology and footloose location theory; planning and government control on free market pricing; environmental and heritage issues; and local government regulation and by-laws.

SAED9001
Education Studies
School of Art Education
UOC6 HPW3

This course aims to explore and analyse the history, philosophy and psychology of education in Australia and overseas for the purposes of the art teacher, the art administrator, and the art educator in a whole school environment. Course content will include - analysis of the distinctions between models of explanation, models and methodologies (e.g. anthropological, analytic); overview of the theories and methods involved in studying the history, philosophy, psychology, sociology, and politics of education. Issues for examination are drawn from whole school change; disadvantaged education; accountability in the school - financial, social, educational; community involvement.

SAED9002
Practices of Research in Art, Design and Education
School of Art Education
UOC6 HPW3

Research is broadly conceived in this course as a pattern of practices in which the major agencies which contribute to the research process are perceived as a mutually dependent relation. This course aims to introduce students to the agencies of investigative practice in the humanities and social sciences and to an understanding of their role in the validation, analysis and interpretation of content within the domains of art, design and education. While practices of research in art, design and education vary widely in their instrumental and political significance it is nevertheless the goal of this course to enable students, through the analysis of exemplars of research, to rehearse these practices in a manner consistent with an apprenticeship model of learning. In particular students will be able to integrate and apply systematically key agencies of research practice in art, design and education including - the role of explanatory theory, the functional stance of the researcher, the constraints imposed by art as the object of investigation, the use of nomothetic and ideographic methods, and the conventions of proposal writing.

SAED9003
Issues in Design Education
School of Art Education
UOC6 HPW3

Issues in Design Education comprises a critical investigation of the principal discourses shaping and influencing design in the curriculum. Design is problematised as an issue within the curriculum as it has become invested with the competing histories of the Technological and Applied Studies KLA, the aspirations of technology and the discourses of the individual and the creative process.

SAED9004
Curriculum in Art, Design and Education
School of Art Education
UOC6 HPW3

This course provides students with modernist and post structural theoretical frameworks of curriculum evaluation and critique. Curriculum as an educational construct is problematised. Curricula investigations aim to reveal and interpret the force, agency and power in curriculum policy and practice. Particular reference will be made to the critical methodologies as appropriate to an interpretation of the visual arts in education.

SAED9005
Theory of Knowing in Art, Design and Education
School of Art Education
UOC6 HPW3

This course aims to further students understanding of the cognitive foundations of the visual arts. It provides a general introduction to epistemology including concepts such as belief, truth, perception, and representation. Reference will be drawn to recent concepts in metaphysics including, theory of mind, ontology, and the self. The subject goes on to reposition these concepts within the assumptions of a variety of philosophical perspectives. Students will be required to examine a range of these concepts and perspectives for their relevance to the teaching of art.

SAED9006
Theoretical Frameworks in Art, Design and Education
School of Art Education
UOC6 HPW3

This course aims to introduce students to the theoretical frameworks which form the basis for the conception of visual arts education as a distinctive field. Theoretical frameworks in art education will be explained as a largely discontinuous collection of histories. These histories are united by ruling paradigms many originating outside of the field in the human sciences, and in the practices of the visual arts. Examples include, psychoanalytical approaches to creativity, anthropological and socio-cultural studies, and cognitive theories.

SAED9008
Introduction to Art Therapy
School of Art Education
UOC6 HPW3

This course aims to explore the integration of art and therapy in theory and practice. Subject matter will include theories of personality and self development; theoretical approaches to psychotherapy including - psychodynamic - Jungian humanistic - existential - gestalt - transactional - cognitive/behavioural - systematic - implosive/flooding - rational. The history of art therapy - the difference and relationships between art teaching and art therapy. The use of metaphor - images and symbols in conscious and unconscious messages. Perceptual processes and their implications for the art therapist. An examination of mythical and archetypal in art. The notions of primary events as causal antecendents in behaviour. Overview of possible applications and appropriate settings for the use of art therapy by the art educator.

SAED9009
Applying the Conceptual Framework in the Art Museum
School of Art Education
UOC6 HPW3

This course is organised around five museum concepts (sites, objects, contexts, display and publics). These are engaged with the Visual Arts Stage 6 Syllabus Conceptual Framework (artwork, artist, audience, world) to generate strategies promoting effective use of the museum environment with senior visual arts students. Museums are conceived of educationally as places to enact visual arts critical and historical practices.

SAED9010
Dialogues, Communities and Cultural Development
School of Art Education
UOC6 HPW3

In a planned series of workshops this introductory course enables students to become familiar with some of the issues and contexts of contemporary community arts, including cultural development and democracy, cultural resources, real wealth/community value and social capital. The practice and management of selected contemporary groups, events and public art and design projects, along with more traditional applications of community arts practice as social and cultural development are explored, including the preparation of funding applications, field work and collaborative projects.

SAED9018
Research Project in Elective Studies 1
School of Art Education
UOC6 HPW1.5

This course aims to enable students to prepare a proposal for art educational research into a chosen specialisation in art education. Course content will include a review of major factors entailed in - historical, descriptive, experimental, and philosophical methods; literature reviews including - computer-assisted searches and descriptors, annotations, abstracts; instrumentation and data collection, qualitative and quantitative methods, the pilot study, sampling, research evaluation; introduction to descriptive, analytical, and interpretative approaches to the

statistical measures of central tendency, variability, correlation, probability, frequency; qualitative measures of conceptual and structural analysis, auditing, triangulation; proposal writing, framing a question, setting the limitations of the study.

SAED9019
Research Project in Elective Studies 2
School of Art Education
UOC6 HPW1.5

This course aims to enable students to design and evaluate a curriculum project for a chosen specialisation in visual arts education. Course content will include descriptive methods, the survey, handling large data collections; literature review and annotated references; establishing the objectives and activities of a limited curriculum project in a specialised orientation of visual arts education; qualitative and quantitative evaluation methods.

SAED9020
Art and Design History in Art Education
School of Art Education
UOC6 HPW3

The course introduces a range of contemporary theories of art and design history. Students will examine and evaluate art-historical methodologies and apply them to educational settings within the context of general education. The textual, interpretive and revisionist character of the historical act are experienced, analysed and understood as a set of interpretive and explanatory practices which enable identification and revision of historical narratives.

SAED9021
Introduction to Frameworks of Research in Art& Design Education
School of Art Education
UOC6 HPW3
Prerequisite/s: SAED 2401, SAED 2406, SAED 3491, SAED 3402, SAED 3404, SAED 3407

This course will further investigate theoretical frameworks which have been adopted by art education in the twentieth century. It is an elective orientation to research in the professional field. Frameworks include neokantianism and the experience of language; cognitive psychology, the influence of new stage theory and the notion of visual thought; behaviourism and the dictate of evaluation; psychoanalytic theories of art education; pragmatism, aesthetics and the central role of experience; theories of creativity; neo-realism in child art.

SAED9022
Research Seminar in Art Education
School of Art Education
UOC6 HPW3
Prerequisite: SAED9021

The aim of this course is to focus on a theoretical framework of current significance to the field of art education and engage it in critical analysis. This course will enable students to see explanatory frameworks in art education as histories of belief which govern the notion of practice and truth in art education.

SAED9024
Art and Design Criticism in Art Education
School of Art Education
UOC6 HPW3

This course introduces a range of contemporary theories or art and design criticism. Students will examine and evaluate art-critical methodologies and apply them to educational settings within the context of general education. The textual, evaluative and revisionist character of the critical act are experienced, analysed and understood as a set of analytical and evaluative practices which enable judgement and revision of critical explanations.

SAED9025
Qualitative Research in Art, Design and Education
School of Art Education
UOC6 HPW3

This course investigates and applies qualitative research methods to student-designed research projects in art, design and art education. Data collection techniques covered include interviews, observations and other field-based strategies, as well as non-reactive sources such as document retrieval and analysis. The use of computer-assisted qualitative data analysis (CAQDA) to assist with the design, management and analysis of qualitative information will be introduced through workshops and seminars. As well as designing and applying conceptual and empirical models of qualitative research, strategies for reporting qualitative research projects will be reviewed and applied.

SAED9026
Contextual Studies in Teaching Art and Design
School of Art Education
UOC6 HPW3

This course provides opportunities for teachers to develop skills in the practice of classroom research and experiment with ways to study, interpret and apply contemporary visual arts teaching theories and methodologies within the practical context of their school, as appropriate to individual teaching responsibilities. Utilising clinical supervision and action research methods, individual projects focus on models of effective teaching and documentation, supervision, professional development and evaluation.

SAED9029
Bodies of Work and the Practice of Art Making
School of Art Education
UOC6 HPW3

Bodies of Work and the Practice of Art Making investigates the background developments, contexts and need for this innovation in visual arts assessment and curriculum. This course comprises a combination of theoretical discussions and workshops investigating bodies of work. Bodies of work are considered in contrast to portfolios and diaries; as related to artistic ability; in the functional relation between the teacher and the student; along with the epistemic and psychological properties of the body of work.

SAHT9111
Management and Organisation: Systems, Services and Survival
School of Art History and Theory
UOC6 HPW3

This course examines the management and administrative skills and knowledge required from individuals to take up positions as directors and managers of arts and related organisations. It covers aspects of management and organisational structures in existing institutions both large and small, public and commercial. It includes the establishment of new organisations and the planning and development of systems designed to ensure the delivery of services and the long term survival of arts organisations and institutions, their human and material resources and the ideas and ideals which drive them.

Note: Core course MArtAdmin.

SAHT9112
Writing for Different Cultures and Audiences
School of Art History and Theory
UOC6 HPW3

This course is about the kinds of writing that those working in art institutions most commonly undertake: writing from the perspective of the institution. It recognises that writing may have many different functions and writers must learn to adapt their style, vocabulary and technique, according to who will read the product. Questions to be considered include the current debate on captions, writing for children and non-specialist publics, research techniques including oral history, press kits and media management, and different types of catalogues. The method of study is very much hands on. It involves, among other things, the editing and layout of an edition of Artwrite, a magazine of student writing.

SAHT9113
Cultural Property, Ethics and the Law
School of Art History and Theory
UOC6 HPW3

This course examines the ethical and legal implications of the interactions generated between artists, exhibiting spaces and the viewing/purchasing public in contemporary society. It enables the development of a broader critical perspective on the cultural, legal, political and moral contexts of gallery and museum management. Issues discussed include contracts, copyright, acquisitions and disposal of works, moral rights and censorship, conflict of interest, the responsibilities of trustees.

SAHT9114
Exhibition Management and Curatorial Studies
School of Art History and Theory
UOC6 HPW3

This course examines the theoretical and practical aspects of exhibition management. It develops a knowledge of curatorial procedures with particular reference to the initiation, presentation, interpretation and planning of art works in exhibition settings. Specific attention is paid to the administrative skills necessary to mount exhibitions, the production of visual and written documentation and the methods of critical engagement with images and objects. Visits to exhibitions as well as participation in the planning and implementation of an exhibition form an essential part of this subject. Students undertaking this course must first complete at least three of the following core courses: SAHT9111, SAHT9112, SAHT9113 and SAHT9126.

SAHT9115
Internship
School of Art History and Theory
UOC6 HPW0

Students undertake a project-based industry placement internship consisting of a minimum of 240 hours. This may involve more than one host institution. Internships enable students to gain practical, supervised experience of gallery management, curatorial practice, public programs, art writing and other work areas related to the course. The internship is ungraded but successful completion requires the submission of reports both by the host institution and the student. Students are also required to participate in an on-line discussion during their internship and their final report is posted on the WebCt site. Internships have been hosted locally, interstate and overseas by many arts organisations including: the National Gallery of Australia, Metropolitan Museum of Art (New York), The Getty (Los Angeles), The Guggenheim (New York and Venice), Art Institute of Chicago, Museum of Modern Art, Chicago, Art Gallery of New South Wales, regional and commercial galleries in New South Wales, Sotheby's Australia Pty Ltd, Australian Centre for Photography, State Library of New South Wales, Visual Arts/Craft Board of the Australia Council, Powerhouse Museum, and the Ministry for the Arts, New South Wales. Students undertaking this course must first complete at least three of the following core courses: SAHT9111, SAHT9112, SAHT9113 and SAHT9126. They should also have completed at least three core options as outlined in the program structure.

SAHT9116
Research Paper
School of Art History and Theory
UOC6 HPW3

This project allows for the focusing of investigative, analytical and theoretical skills. Topics must relate to the broad area of the internship and are chosen in consultation with a supervisor who will guide and direct the project. The 10,000 word study may include the use of film, video and audio tape or photographic documentation where relevant. While it may draw directly on experiences gained during the internship, the research paper must be treated as an independent project. Students undertaking this course must first complete at least three of the following core courses: SAHT9111, SAHT9112, SAHT9113 and SAHT9126. They should also have completed at least three core options as outlined in the program structure.

SAHT9121
Exhibition and Gallery Design Development
School of Art History and Theory
UOC6 HPW3

This course considers two areas of design development. These are the theoretical and practical aspects of exhibition design and display techniques and the specific design demands of a gallery space. The ways in which the objectives of an exhibition may be identified are discussed, and all aspects related to project initiation and completion examined. These include planning and design management, budget formulation and controls, production and installation management, spatial requirements and evaluation, light and lighting.

SAHT9122
Education and Public Programs
School of Art History and Theory
UOC6 HPW3

This course covers issues surrounding public programs and education in the context of art galleries, museums and related institutions. It addresses questions to do with the identification and definition of audiences, examines the needs of non-specialist communities as well as educational institutions, and takes account of the practicalities of budgeting and planning. The development of programs using volunteer guides (and their training), floor talks, lectures, seminars and conferences is presented as a subject for practical purposes as well as critical consideration. Also included is a consideration of exhibitions for purely educational purposes.

SAHT9123
Marketing and Promotion
School of Art History and Theory
UOC6 HPW3

This course focuses on issues in marketing for those working in arts and related fields. Topics covered include methods of audience research and ways of undertaking group surveys and their implementation. How to define the unique qualities of a target institution and create a public image around this separateness are issues explored, together with detailed studies of promotional and fundraising strategies.

SAHT9124
Arts and Cultural Policy
School of Art History and Theory
UOC6 HPW3

This course reviews the development of arts and cultural policy and policy implementation in Australia. Particular attention is paid to the role of the Australia Council and the development of national and regional infrastructure, and factors determining the level and allocation of public funding. Comparisons are drawn with other nations, particularly the United Kingdom, Canada and the United States of America.

SAHT9125
The Australian Art Market
School of Art History and Theory
UOC6 HPW3

This course investigates the art market as a process of bringing art works to sale. It offers an historical overview from the Renaissance artists workshops and guilds and a detailed study of contemporary Australian art. The subject explores the development of patronage, taste and collecting, and the impact of these phenomena on the subsequent rise of the international art market. Key elements in the Australian art market under investigation in this course include the fragmentation of the art market, Australian Movable Cultural Heritage, and artistic reputation. The subject assists students to understand commodification in the art world and the processes by which artworks are brought to sale.

SAHT9126
Organisational Psychology: Managing People in the Workplace
School of Art History and Theory
UOC6 HPW3

This course provides individuals working in an arts based organisation with competencies relevant to the inter-personal and inter-group skills demanded in the efficient and effective management of organisations. It aims to fulfil the needs of individuals interested in the principles of planning, organisation, communication and evaluation of personnel within an organisation and, as well, the needs of directors and supervisors who wish to develop expertise in essential personnel management aspects of their job within an appropriate theoretical framework.

SAHT9127
Conservation and Collections Management
School of Art History and Theory
UOC6 HPW3

This course introduces the principles of conservation and illustrates its role as an integrated component of collections management. It examines the physical nature of works of art and the interactions with their environment. The range of responses of conservation to collections is discussed as well as conservation's relationship with an institution's custodial responsibilities and public programs. Conservators and registrars at selected Sydney institutions are visited in order to facilitate a comparative overview of conservation practice.

SAHT9128
History of Exhibitions of Australian Art
School of Art History and Theory
UOC6 HPW3

This course introduces issues in Australian art by a detailed examination of those art exhibitions that have attempted to define either Australian art or crucial moments in Australian art. The course examines both the curatorial rationales behind the exhibitions and the art that was perceived by different generations as significant. Major exhibitions, both here and overseas, will be considered in the context of a broad cultural history.

SAHT9129
The Development of Art Criticism in Australia
School of Art History and Theory
UOC6 HPW3

This course examines the history of art criticism and writing about art in an Australian context and considers how these practices reflect, diagnose and affect the nature of the visual arts. There is a constant evaluation of recent art criticism from a variety of sources and a questioning of what actually constitutes criticism. At the same time, the subject goes back to the start of writing about art in Australia and looks at the practice from the beginning of European settlement to recent times in an historical context.

SAHT9130
Art Galleries and Collections in Australia
School of Art History and Theory
UOC6 HPW3

This course balances the historical and theoretical aspects of collections (public, private and corporate) with the practical issues involved. How and why collections are formed; the aesthetic and political assumptions behind collecting policies; how well various collections serve their constituencies are some of the issues that are explored, together with aspects of conservation, storage, documentation and access as they relate to the practical aspects of collection management. Visits are made to various public institutions including state and regional galleries and, where possible, selected private and corporate collections.

SAHT9131
Visual and Museum Cultures of the Asia-Pacific Region
School of Art History and Theory
UOC6 HPW3

This course introduces a comparative study of contemporary visual art and museum cultures in the Asia-Pacific region. As arts professionals - curators, administrators, writers, etc - develop relationships with colleagues through the region, an understanding, not only of the visual arts but also of the museum sector, is becoming essential. Case studies of international exhibitions, and related arts programs, will be examined.

SAHT9132
Festivals and Biennales
School of Art History and Theory
UOC6 HPW3

This course covers the history, conception and implementation of arts festivals and recurrent national and international exhibitions. Particular attention is paid to events in Australia such as the Biennale of Sydney, the Australian Sculpture Triennial and the Adelaide Festival (including Artist's Week). Overseas events include the history of the Biennale commencing in Venice in 1895 to Sao Paulo and Paris, as well as major expositions such as the Indian Triennial, Documenta and the Carnegie International. The history of these complex programs is discussed, in particular, the administrative skills, conceptual insights and artistic resources essential to their successful realisation.

SAHT9133
Pornography, Art and Politics
School of Art History and Theory
UOC6 HPW3

This course will explore the boundary between art and pornography and the social function of that boundary in western society. It will look at the ways in which bodies are eroticised and/or designated as pornographic or perverse. Concepts such as fetishization, voyeurism, sadism and masochism will be discussed in relation to art history and contemporary art practice. The politics of pornography will be debated in relation to such issues as gender/feminism, child sexuality, censorship and AIDS.

SAHT9134
Memory and Self
School of Art History and Theory
UOC6 HPW2

This course traces contemporary ideas of body and subjectivity through the work of a range of artists and writers. Its major focus is on the experience of memory and self-understanding. It addresses the questions of how memory is constituted and how it is crucial to our sense of self; how memory affects our relations to images and objects, and how memory is represented. The course also examines human relations to space, the themes of horror and humour, and the topics of gesture, performativity and mimesis. Contemporary art and writing practices will be used as the basis for a creative engagement with theoretical ideas. Focus texts include writing by Christian Boltanski, Georges Perec, Oliver Sacks, Dori Laub, Julia Kristeva, Jeff Wall, Judith Butler and the stories of the 'stolen children'.

SAHT9136
The Art and Culture of Everyday Life
School of Art History and Theory
UOC6 HPW3

This course looks critically at the different formulations of art in relation to mass culture. It gives an overview of the social and technological development of mass culture including the advent of photography, film, television, advertising and the popular press. Special attention is paid to the ways in which the relationship between art and mass culture has been conceptualised by such seminal thinkers as Michael de Certeau, Fernand Braudel, Paul Virilo and Jean Baudrillard.

SAHT9137
Art and Cultural Difference
School of Art History and Theory
UOC6 HPW2

The conceptualisation and evaluation of cultural difference has occupied a central position in western art and culture, particularly since the period of colonisation began. This subject sees cultural difference as a series of narratives and counter-narratives. Topics covered include the ways in which cultural difference has been addressed in art and literature by colonised subjects, the place of art in anti-colonial liberation movements of the twentieth century and French constructions of the Orient in scultpture and painting. Particular attention is paid to the writings of, among others, Walter Benjamin, Theodor Adorno, Luce Irigaray and Franz Fanon.

SAHT9138
Art After Postmodernism
School of Art History and Theory
UOC6 HPW3

This course will re-examine a number of theoretical approaches to the understanding of images and objects that have been addressed during the undergraduate course. These approaches will be brought to bear on a range of artworks produced in Australia and internationally over the last decade. It will offer an overview of many of the contemporary developments, themes and issues that have concerned artists in the period after postmodernism, that is, during the late eighties and nineties. Issues to be considered will include how objects and images come to have meaning and how stable this meaning is, the ways in which artworks differ from other objects, the relations between language and visual images, the ways in which images and objects can be seen and the sort of viewer/s they imply, the different forms of perceptual 'address' that we bring to artworks, including the visual, tactile and kinaesthetic and the significance of artworks in relation to the politics of information dissemination, gender, postcolonialism, class and ethnicity.

SAHT9139
Art, Technology and New Media
School of Art History and Theory
UOC6 HPW3

This course explores the ways in which artists have responded to developments in technology and new media. A range of practices are examined from digital media to holography to techno-performance. In addition to investigating the work of specific artists, the subject investigates the ways in which museums and galleries are responding to the demands of new media and developing new strategies of presentation. The course will also introduce a range of theoretical work on new media and on virtual reality. In particular it will debate the nature of virtual experience, examining the temporal and spatial implications of operating within a virtual environment. The subject incorporates a certain amount of hands-on experience and also demonstrations of artists' work.

SAHT9141
Current Issues in Art
School of Art History and Theory
UOC6 HPW2

This course explores current issues in art, placing these issues in the contexts of current cultural concerns and theoretical frameworks. Drawing on recent work by Australian and international artists, the course facilitates an attitude of self-reflectivity in student's own practice

SAHT9143
Design History and Theory 1
School of Art History and Theory
UOC6 HPW2

This course will provide candidates with the opportunity for advanced study in the history/theory of design. Attention will be paid to a critical analysis of design history as cultural signifier for a range of cultures including European, American, Asian and Australian examples: a detailed discussion of the cross-cultural connections international design history represents: a comparative analysis of the influence of design philosophers and practitioners on the history of design styles and practice both, nationally and internationally: analysis and application of historical research methodologies to the further elaboration of pre-20th Century design history. Specific attention will be paid to the impact on design of the philosophy of aesthetics with critical analysis and application (to design) of the aesthetic theories of a range or theorists including Hegel and Kant. The import for design of an in-depth sociological analysis of a range of design cultures, including Europe, America, Asia and Australia; the critical analysis of research in the sciences and technologies and their impact on design theory and methodologies.

SAHT9144
Design History and Theory 2
School of Art History and Theory
UOC6 HPW2

This course will provide candidates with the opportunity for further investigation of the history/theory of design. Attention will be paid to a critical analysis of design history as cultural signifier for a range of cultures including European, American, Asian and Australian examples: a detailed discussion of the cross-cultural connections international design history represents: a comparative analysis of the influence of design philosophers and practitioners on the history of design styles and practice both, nationally and internationally: analysis and application of historical research methodologies to the further elaboration of pre-20th Century design history. Specific attention will be paid to the impact on design of the philosophy of aesthetics with critical analysis and application (to design) of the aesthetic theories of a range or theorists including Benjamin, Foucault and Derrida. The import for design of an in depth sociological analysis of a range of design cultures, including Europe, America, Asia and Australia; the critical analysis of research in the sciences and technologies and their impact on design theory and methodologies.

SAHT9145
Design History and Theory Project
School of Art History and Theory
UOC6 HPW2

This course/module will provide candidates with the opportunity to undertake research projects resulting in a body of data from which considerations and applications of selected philosophical, aesthetic, historical, sociological and psychological positions can be made towards the development of design theory. Candidates may investigate the role of design theory in the development of a range of design cultures with specific reference to the Australian context. Comparative analysis of design theory models, toward the articulation of more complex systems for design analysis will be considered.

SAHT9201
Registration and Handling of Works of Art and Material Culture
School of Art History and Theory
UOC6 HPW3

Registration and Handling of Works of Art and Material Culture gives students the essential theoretical tools and hands-on experience in recording and handling works of art and material culture. As well as examining the recording of collections and exhibitions, students will study the undertaking of condition reports, issues of safe handling of a range of works, the special issues surrounding Indigenous works and other items of cultural sensitivity. Because this course includes the installation and packing of actual exhibitions, students are advised that on occasion they will need to allocate whole days for completing assessable tasks.

SAHT9202
Eurocentred Visions: Grand Narratives in Western Art
School of Art History and Theory
UOC6 HPW3
Excluded: SAHT2211.

To tell progressive stories about Western art, 'grand narratives' were constructed. In these 'grand narratives', as this course reveals, Eurocentric and ethnocentric historical material was ordered into stories about Western nations becoming more and more civilised as signified by the development of perspective, the 'Classical' canon, landscape and cityscape, portraiture and the nude from Ancient Greece to Modernism. Positioned as peripheral to this evolution or merely a sub-text to these grand narratives, Non-Western art, particularly that of Islam, was either excluded or misrepresented as uncivilized, regressive and barbaric. Issues of cultural difference capable of disrupting the seamless flow of Western arts evolution, such as gender relations, sexualities, ethnicities, nationhood, diaspora, work, patronage and money, criminality and disease, were disavowed. To deconstruct these 'grand narratives', this course will use these exclusions and denials as its tools. Drawing upon interdisciplinary models for reconstructing history provided by Michel Foucault, Edward Said, Jonathan Crary and Abigail Solomon-Godeau, amongst others, it will explore how to rewrite histories of art in relation to non-western art, homoeroticism, manhood and the 'heterosexual imperative', prostitution and 'the venereal peril', health, disability and hysteria, the alienated and displaced, the 'orientalised other', the nuclear family and 'docile bodies'. As a postgraduate course, it will also explore the impact of such new narratives on curating exhibitions, collecting art, critical writing and art publishing.

SAHT9203
Mapping the Modern
School of Art History and Theory
UOC6 HPW3
Excluded: SAHT1101.

Commencing in the nineteenth-century and concluding with World War Two, this course examines seminal art and design movements and tendencies within changing social, political and cultural contexts. The material covered includes Realism, Impressionism, Expressionism, Art Nouveau, the Bauhaus, and early avant-gardes such as Futurism, Dada and Surrealism. These are considered against the backdrop of industrialisation, technological transformations, colonisation, international conflicts and totalitarian regimes. This course is designed for students with no prior academic knowledge in art.

SAHT9204
Mapping the Postmodern
School of Art History and Theory
UOC6 HPW3
Excluded: SAHT1102.

This course examines major transformations in art and design practice and theory from the late 1940s to the present, and locates these within changing social, political and economic contexts. Issues relating to Formalism, Pop, image and text, the de-materialisation of art, and performance are addressed, as well as Feminist theories and practice, post-colonial culture, and new technologies. This course is designed for students with no prior academic knowledge in art.

SAHT9205
Modern Aesthetics: From the Enlightenment to the 21st Century
School of Art History and Theory
UOC6 HPW3
Excluded: SAHT2641.

This course addresses key critical philosophies of modern aesthetics from the 18th Century to the present. It examines the relevance of aesthetic theory since the Enlightenment to developments in modern and contemporary art practice. Areas studied include the aesthetic theories of Kant, Hegel, the German Romantics, and Nietzsche, as well as approaches to aesthetics developed within poststructuralist, psychoanalytic and Marxist discourses. Themes investigated include debates between formalist and historicist aesthetic theories; the revival of aesthetic theory in the visual arts in recent decades; responses to the image culture of postmodernity; and the relationship between aesthetics and ethics. The course investigates how key currents of modern aesthetic theory might be applied and revised in light of broad social and cultural shifts, as well as developments in modern and contemporary art.

SAHT9206
Art and Biogenetics: Breeding the Body Beautiful
School of Art History and Theory
UOC6 HPW3
Excluded: SAHT2224.

When Eugenic Sterilisation became law in the Third Reich, American, Australian, European and British Eugenic Societies immediately congratulated Hitler. He, in turn, commended their eugenic policies and acknowledged them as his precedent. Far from being an isolatable phenomenon, this course will then reveal why Nazi eugenics may be

perceived as the extreme realisation of a biogenetic culture that flourished worldwide. By examining images and exhibitions of the body beautiful, alongside those of degeneracy, it will explore different ways in which art propelled the quest for genetic perfection. Through an investigation of the artwork of such critical Modernists as Marcel Duchamp and Picabia, it will expose ways in which art was also able to parody this quest. As a postgraduate course, it will also investigate the relationship of eugenics to the Human Genome Project today and the art projects that have pursued its ramifications upon bioethics and aesthetics.

SAHT9207
Modern Art and French Imperialism
School of Art History and Theory
UOC6 HPW3
Excluded: SAHT2223.

When Paris was invaded by Nazi troops, the art writer Harold Rosenberg reminisced how it had once been 'the Holy Place of our time. The only one.' Until then, a Modern Art market had flourished in Paris, unsurpassed in scale and complexity by any other nation, and actively supported by the French Third Republic. Whilst encouraging artists worldwide to come to Paris, it also encouraged international collectors to acquire Modern Art made in France. At the same time, the Republic also bought artwork for transmission to French provinces and colonies in its ethnocentric conviction that those at the 'peripheries' would become 'civilized' by this 'mission'. This course will explore how Paris evolved as a unique field of cultural production through the network of institutional interrelationships forged between the French State, Paris Salons, art dealers and patrons. It will examine the huge number and national diversity of artists from Rupert Bunny and Marie Vassiliev to Pablo Picasso, who flocked from cities as geographically diverse as Sydney, St. Petersburg and Barcelona to this Modern Art Centre. As a Postgraduate course, it will also examine the politico-cultural identities of Salons and Dealer-Galleries, the rivalries between them for State funding and market dominance and the coteries that formed between particular artists, art writers, art dealers and art politicians. By charting the dissemination of acquisitions, it will reveal how cultural imperialist strategies deployed by America during the Cold War, were alive and well in twentieth-century France.

SAHT9208
Digital Theory and Aesthetics
School of Art History and Theory
UOC6 HPW3
Excluded: SAHT3613.

This course identifies four major themes in current practice and thinking about digital aesthetics and theory; systems; mediation; emergence; networks. The course will trace the cultural and aesthetic histories of these four themes, examining how they have developed through conceptual debate in electronic and new media theory, and through technical and artistic practices in the 20th and 21st centuries. It will also focus upon the current state of debate and practice within these four areas. This course makes extensive reference to alternative aesthetic strategies and practices in new media aesthetics, and students will be encouraged to undertake research into innovative and experimental uses of, and ideas about, digital technologies.

SAHT9209
Screen Culture
School of Art History and Theory
UOC6 HPW3
Excluded: SAHT3614.

Information and screen culture are central to the shaping of the political and economic structures and cultural experience of contemporary global society. The impact of screen culture is pervasive and deeply integrated into everyday life and yet digital media are also capable of generating and communicating complex and highly critical cultural insights. Topics covered in this course include the history of the digital screen, virtual communities, utopianism, cyberculture, gaming, interactivity and future cinema. Social responsibility and ethical action in digital media practice are explored through a critical understanding of the significance and impact of screen culture.

SAHT9690
Special Project
School of Art History and Theory
UOC6 HPW0

From time to time, one-off opportunities arise for the College to offer special programs of study for credit. For example, supervised international experiences such as study tours. This course is intended to facilitate the College in developing its educational program for postgraduate students by incorporating such opportunities into the academic program. Specific s will be distributed detailing the academic content, objectives, assessment tasks and criteria, modes of teaching and learning, expectations and requirements of student participation. Please note that there may be costs involved (such as costs associated with travel, accommodation, meals and museum visits) in taking this course.

SAHT9693
Museum Development- fundraising and philanthropy
School of Art History and Theory
UOC6 HPW3

This subject considers the issues surrounding the development of alternative funding streams for arts organizations, in particular the extra funding needs of museums. It discusses strategies for encouraging philanthropy, and examines the law governing bequests and wills. Students study corporate sponsorship merchadising, catering, and personal support under the cultural gifts program. Issues surrounding support in kind - including the "friends"of the institution and volunteers.

SART9701
Painting 1
School of Art
UOC6 HPW3

To develop practical and conceptual abilities at a professional level appropriate to a contemporary painting practice. Students will be encouraged to critically analyse their work within a supportive environment, develop investigative skills, and examine their own individual creative processes.

SART9702
Painting 2
School of Art
UOC6 HPW3
Prerequisite: SART9701 or SART9705.

This studio based course will assist students in consolidating their practical and conceptual skills into a resolved body of work. Students will be encouraged in the development of their critical, analytical and investigative skills and the ability to assess their practice within the context of contemporary painting practice.

SART9703
Painting 3
School of Art
UOC6 HPW3

To develop practical and conceptual abilities at a professional level appropriate to a contemporary painting practice. Students will be encouraged to critically analyse their work within a supportive environment, develop investigative skills, and examine their own individual creative processes.

SART9704
Painting 4
School of Art
UOC6 HPW3

To develop practical and conceptual abilities at a professional level appropriate to a contemporary painting practice. Students will be encouraged to critically analyse their work within a supportive environment, develop investigative skills, and examine their own individual creative processes.

SART9705
Drawing 1
School of Art
UOC6 HPW3

To develop practical and conceptual abilities at a professional level appropriate to a contemporary drawing practice. Students will be encouraged to critically analyse their work within a supportive environment, develop investigative skills, and examine their own individual creative processes.

SART9706
Drawing 2
School of Art
UOC6 HPW3
Prerequisite: SART9701 or SART9705.

This studio based course will assist students in consolidating their practical and conceptual skills into a resolved body of work. Students will be encouraged in the development of their critical, analytical and investigative skills and the ability to assess their practice within the context of contemporary drawing practice.

SART9707
Drawing 3
School of Art
UOC6 HPW3

To develop practical and conceptual abilities at a professional level appropriate to a contemporary drawing practice. Students will be encouraged to critically analyse their work within a supportive environment, develop investigative skills, and examine their own individual creative processes.

SART9708
Drawing 4
School of Art
UOC6 HPW3

To develop practical and conceptual abilities at a professional level appropriate to a contemporary drawing practice. Students will be encouraged to critically analyse their work within a supportive environment, develop investigative skills, and examine their own individual creative processes.

SART9709
Printmaking 1
School of Art
UOC6 HPW3

To pursue in-depth investigation into conceptual and technical aspects of the subject, and to further the development of skills and aesthetic considerations within areas of specialisation in the medium.

SART9710
Printmaking 2
School of Art
UOC6 HPW3
Prerequisite: SART9709.

This studio based course will assist students in consolidating their practical and conceptual skills into a resolved body of work evidencing their focus within a potentially broad field. Students will be encouraged in the development of their critical, analytical and investigative skills and the ability to assess their practice within the context of contemporary printmaking practice.

SART9711
Printmaking 3
School of Art
UOC6 HPW3

To pursue in-depth investigation into conceptual and technical aspects of the subject, and to further the development of skills and aesthetic considerations within areas of specialisation in the medium.

SART9712
Printmaking 4
School of Art
UOC6 HPW3

To pursue in-depth investigation into conceptual and technical aspects of the subject, and to further the development of skills and aesthetic considerations within areas of specialisation in the medium.

SART9721
Sculpture, Performance and Installation 1
School of Art
UOC6 HPW3

Self-initiated programs of creative experiment appropriate to an informed and contemporary sculpture practice will be developed through critiques and tutorials. Within this area students are encouraged to critically analyse the conceptual basis of their work in the contexts of studio and history/theory. A cross-disciplinary attitude within the studies area of sculpture is encouraged.

SART9722
Sculpture, Performance and Installation 2
School of Art
UOC6 HPW3
Prerequisite: SART9721.

This studio based course will assist students in consolidating their practical and conceptual skills into a resolved body of work evidencing their focus within a broad interdisciplinary field. Students will be encouraged in the development of their critical, analytical and investigative skills and the ability to assess their practice within the context of contemporary sculptural practice.

SART9723
Sculpture, Performance and Installation 3
School of Art
UOC6 HPW3

Self-initiated programs of creative experiment appropriate to an informed and contemporary sculpture practice will be developed through critiques and tutorials. Within this area students are encouraged to critically analyse the conceptual basis of their work in the contexts of studio and history/theory. A cross-disciplinary attitude within the studies area of Sculpture is encouraged.

SART9724
Sculpture, Performance and Installation 4
School of Art
UOC6 HPW0

Self-initiated programs of creative experiment appropriate to an informed and contemporary sculpture practice will be developed through critiques and tutorials. Within this area students are encouraged to critically analyse the conceptual basis of their work in the contexts of studio and history/theory. A cross-disciplinary attitude within the studies area of Sculpture is encouraged.

SART9727
Drawing
School of Art
UOC6 HPW3

This course will provide the opportunity for students at any level of drawing experience to investigate many aspects of drawing. Students will explore a range of visual images and ideas supported by an examination of historical and contemporary drawing practice. Through interpreting and translating two and three dimensions students will develop observational skills and begin to build a personal graphic language.

SART9728
Painting
School of Art
UOC6 HPW3

This subject will introduce students to basic skills in painting and encourage them to understand both the inter-relationship of form and content and the creative possibilities of various media and techniques. Students will explore aspects of contemporary art practice and develop an understanding of the historical development of painting. This course will use a series of projects and workshops to extend the student's personal creative interests.

SART9729
Etching
School of Art
UOC6 HPW3

This subject will introduce students to basic procedures and attitudes in the contemporary art practice of etching. Through lectures, demonstrations and projects, students will gain understanding and skills in the use of traditional and contemporary techniques in etching as a means of creating unique and original works of art. After gaining understanding and proficiency in established approaches, students will be introduced to current developments in photo-etching and solar plate etching.

SART9732
Sculpture
School of Art
UOC6 HPW3

This studio based course will introduce students to sculptural practice within a contemporary context, through a series of projects and technology based workshops. The projects extend the student's personal creative enquiries, foster an awareness and recognition of historical precedents and sculptural theory, and with an interdisciplinary focus, capitalise on the student's existing capabilities. The course is intended to provide a challenging catalyst for the production of sculptural works within a supportive program to further the student's art practice.

SART9733
Life Drawing
School of Art
UOC6 HPW3

This course will enable students to explore the drawing of the human figure. Students will develop an understanding of the structure and form of the human body. They will also expand their knowledge of anatomy. Emphasis will be placed on direct observations and their interpretation in various graphic media.

SART9734
Painting From Life
School of Art
UOC6 HPW3

The aim of this course is to enable students to explore their command of life painting as a visual arts discipline whilst consolidating and extending previously acquired painting skills. Students will be encouraged to explore both the inter-relationship of form and content as it relates to the human form, and the creative possibilities of various media and techniques from a contemporary perspective. Students will explore aspects of contemporary art practice and further develop an understanding of the historical development of painting.

SART9735
Advanced Etching
School of Art
UOC6 HPW3
Pre-requisites:SART9729

This course will introduce students to advanced concepts and procedures in contemporary etching practice. Through lectures, demonstrations and projects, students will gain understanding and skills in the use of contemporary techniques in etching as a means of creating unique and original works of art. Students will be encouraged to be cognisant of current developments in contemporary art and to relate their etching activities to these developments.

SART9738
Advanced Sculpture
School of Art
UOC6 HPW3
Pre-requisites SART9732

This studio based course will extend students' knowledge and understanding of sculptural practice within a contemporary context, through a series of projects and workshops. The projects will extend the students' personal creative enquiries, foster an awareness and recognition of historical precedents and sculptural theory, and with an interdisciplinary focus, further the students' art practice. The course is intended to provide a challenging catalyst for students to develop a poetic, imaginative and exploratory approach to sculptural language, ideas and processes and to facilitate the production of sculptural works with an understanding of the work's position in relation to art history and theory and contemporary practice.

SART9740
Anatomy for Artists
School of Art
UOC6 HPW3

This course will provide a study of the human form through the investigation of comparative anatomy, skeletal structure and musculature and a perspective on the history and philosophy of anatomical images as reference to contemporary practice. A practical examination of the structure, form and function of the body will develop an understanding of the human figure. The course will also include the study of canons of proportion and cultural perceptions of the body. Emphasis will be placed on direct observations of the nude and anatomical specimens. Students will draw from the skeleton, casts and prepared specimens. A range of approaches will be covered that will encourage students to understand basic anatomical constructs. This course is designed to be relevant to a broad range of student interests from a variety of disciplines.

SART9741
Composition and Design
School of Art
UOC6 HPW3

This course will allow students to investigate the theory and application two-dimensional composition as it relates to the disciplines of painting and drawing. They will examine terminology, proportion and format, elements and principles of design and colour theory. The students will research the application of theories of composition, colour interaction and visual measurement as they refer to contemporary practice.

SART9742
Colour
School of Art
UOC6 HPW3

This course will investigate the history, theory and practice of colour as it applies to a variety of disciplines particularly painting. Emphasis will be on students' investigations into the manipulation of various elements such as space and emotion through the use of colour.

SART9743
Digital Imaging and Painting
School of Art
UOC6 HPW3

The aim of this course is to investigate the possibilities of digital media for the painter. The course will concentrate on how the contemporary painter is able to integrate digital technology into their art practice. As part of the session will be devoted to the outputting of imagery and subsequent work in the studio, the session will be divided between the computer lab and the painting studio. Previous experience in digital imaging is necessary as the student needs to concentrate on the introduction of appropriate software. This must be undertaken prior to enrolling in this course so that sufficient time can be spent on the studio work.

SART9744
Drawing/Painting Field Studies
School of Art
UOC6 HPW3

This course is designed to enable students with a particular interest in the outback environment to devote an extended and concentrated time in the field to researching a remote location through drawing and painting. By direct encounter and observations, students will deal with the natural world as an invaluable resource of ideas and inspiration particularly relevant to the focus of their major studies in drawing and painting. Students will be encouraged to investigate, identify and document new material that they can gather in the field that they feel will be most relevant to their developing work in the studio. In preparation of the field experience, students will investigate the work of contemporary artists working in similar genre.

SART9745
Custom Printing
School of Art
UOC6 HPW3

This course will provide students with a valuable professional practice opportunity of engaging with a number of visiting artists in the operating of a print editioning workshop. Students will refine their technical and production skills and be exposed to professional methodology of the editioning process. Students will work with the artists and also realize a body of their own work from concept to final production. Previous printmaking skills are essential to undertake this course.

SART9746
Advanced Custom Printing
School of Art
UOC6 HPW3
Prerequisite: SART9745.

This course will require engagement by the students at a high professional level to further their professional practice by engaging with a number of visiting artists in the operating of a print editioning studio. Students will perfect their technical and production skills and work within the professional methodology of the editioning process. Students will liase and work with the artists as well as realise a body of their own work from concept to final production to the highest professional standards.

SART9747
Artist's Books
School of Art
UOC6 HPW3

This course will enable students from a variety of backgrounds to acquire skills in the production of artists' books, folios and other limited edition publications. Examples of the different kinds of historical and contemporary artists' publications will be examined. A variety of materials, skills and techniques, both traditional and contemporary and alternative,

which are involved in book and folio production will be researched and demonstrated. Students will have the opportunity to produce an artists book which could have a relationship to their core studies.

SART9748
Screen Printing
School of Art
UOC6 HPW3

Students will be introduced to the technology and conceptual considerations related to the discipline of screen printing as a vehicle for contemporary practice. Through discussion, investigation and production, students will develop an understanding of the qualities of the original print. Students will investigate the historical precedents of these processes in the context of art practices. This course will deal with skills and techniques, experimental approaches, the relationship between the technical and aesthetic properties of prints and the ability to assess the results of one's own work.

SART9749
Printmaking
School of Art
UOC6 HPW3

This subject will provide the opportunity for students with a variety of experience to investigate many aspects of expression through the use of traditional and contemporary print media to be chosen (dependant upon availability) from the range of etching, digital imaging, lithography, paper moulding, photocopying, relief and screen printing. By application of theory and developed skills, the course is intended to provide a challenging catalyst for students to develop a poetic, imaginative and exploratory approach to print-based works in both two and three dimensions. The student will undertake a number of studio based and theoretical projects, either as separate entities or combined in installed pieces, aimed at encouraging an individual, creative and professional approach to printmaking.

SART9750
Installation
School of Art
UOC6 HPW3

This course encourages students to investigate the various forms and disciplines three-dimensional activity can take in contemporary art practice. This course is designed to allow flexibility for interdisciplinary and multimedia experimentation and specialisation in the exploration of construction, installation and space as an expressive vehicle in the context of contemporary practice. This course is studio based with an emphasis on the critical analysis of research, experiential learning and conceptual development. This discussion is centred around a rigorous studio theory program, conducted on the studio floor and in tutorials.

SART9751
Electronic Technologies
School of Art
UOC6 HPW3

This is a workshop based course which aims to provide the student with investigative and practical skills in the application of low voltage electricity to contemporary sculptural practice. Basic understanding of power source and linking will precede instruction in the use of small motors and lighting units. This will progress to practical exercises in the use of simple computer boards and an understanding of the incorporation of such specific technologies into practice. Emphasis will be placed on direct observations of the nude and anatomical specimens. Students will draw from the skeleton, casts and prepared specimens. A range of approaches will be covered that will encourage students to understand basic anatomical constructs. This course is designed to be relevant to a broad range of student interests from a variety of disciplines.

SART9752
Paper Technology
School of Art
UOC6 HPW3

In this course, students will undertake a comprehensive investigation of the characteristics and properties of paper in the broadest context, with emphasis on the wide variety of papers used by artists. Students will gain an insight into the history, making and usage of paper particularly as it applies to contemporary art practice. Through lectures, demonstrations, and projects, students will gain an understanding of the conservation of paper, handmade and casting paper processes and appropriate choice of paper for various media.

SART9753
Advanced Electronics
School of Art
UOC6 HPW3
Prerequisite: SART9751.

This advanced workshop is designed to extend students' existing skills and understanding of artistic practice at the intersection of sculpture, installation and performance with electronic technologies and digital media. The acquisition of skills and research methods in technical areas are fuelled by the students' advanced, self initiated project work. Reportage of research is required as a skill sharing strategy. A diversity of practices will be explored, ranging from movement and light sensing to digital input and imaging, to site specificity and presentation methodologies. Students will be encouraged to liaise with both industrial and research organisations to achieve goals and meet deadlines. In this course students are expected to resolve the focus of their inquiry towards a coherent body of work which incorporates investigations into theories and concepts.

SART9754
Metal Casting
School of Art
UOC6 HPW3

This workshop based course is for those students seeking to resolve investigations into theories and concepts by means of bronze casting and mould making. Through lectures, demonstrations and projects, students will investigate mouldmaking processes of increasing complexity and to cast various metals, especially bronze. The theory of metal casting will be discussed as it applies to individual work required by the student within the context of contemporary practice.

SART9756
Ceramic Shell Casting
School of Art
UOC6 HPW3

This workshop based course is an advanced studio workshop devised to extend the student's understanding, investigative skills and practical expertise in traditional and alternative metal casting technologies. Research and practice using a variety of casting techniques can be undertaken but the primary focus of this course is on ceramic shell casting. The conception and processing of the student's self initiated project work will be developed in the context of contemporary art theory and practice.

SART9757
Sculpture Field Studies
School of Art
UOC6 HPW3

This course is designed to enable students with a particular interest in the outback environment to devote an extended and concentrated time in the field to researching a remote location through drawing and a variety of sculptural practices such as performance and earth works. By experience and observation, students will deal with the natural world as an invaluable resource of ideas and inspiration particularly relevant to the focus of their major studies in sculpture/performance/installation. Students will be encouraged to investigate, identify and document new material that they can gather in the field that they feel will be most relevant to their developing work in the studio. In preparation of the field experience, students will investigate the work of contemporary artists working in similar genre.

SART9758
Special Projects - Studio
School of Art
UOC6 HPW3

Often one-off opportunities arise for the School to offer special programs of study for credit. For example, supervised international experiences (such as study tours, exhibition participation or attendance) or special projects such as professional practice in the context of such events as national or international Biennales. This course is intended to facilitate the School of Art in enriching its educational program for postgraduate students by incorporating such opportunities into the academic program. Specific s will be distributed detailing the academic content, objectives, assessment tasks and criteria, modes of teaching and learning, expectations and requirements of student participation appropriate to the event/proposal.

SART9759
Abstraction for Drawing and Painting
School of Art
UOC6 HPW3

This course will assist students to develop and extend their awareness of concepts of abstraction. Through a series of studio based projects students will gain a knowledge of historic and contemporary models of abstraction as well as an understanding of formal developments as they apply to drawing and painting.

SDES9201
Design Seminar 1
School of Design Studies
UOC6 HPW2

This course will provide a forum for discussion and debate about relevant and current issues in design. It aims to develop candidates' understanding of the range and depth of issues derived from the interaction of design with industry and culture. Guest lecturers and candidates will combine in the critical analysis of the impact that current aesthetic, philosophical, cultural, social, economic, environmental and technological issues have on the responsible solution of design projects. Guest lecturers will include industry representatives, academic researchers and distinguished practising designers.

SDES9202
Design Seminar 2
School of Design Studies
UOC6 HPW2

This course will provide a forum for further discussion and debate about relevant and current issues in design. It is aimed at further extending candidates' understanding of the range and depth of issues derived from the interaction of design with industry and culture. Guest lecturers and candidates will combine in the critical analysis of the impact that current aesthetic, philosophical, cultural, social, economic, environmental and technological issues have on the responsible solution of design projects. Guest lecturers will include industry representatives, academic researchers and distinguished practising designers.

SDES9203
Design Seminar 3
School of Design Studies
UOC6 HPW2

This course will provide a forum for further discussion and debate about relevant and current issues in design. It is aimed at further extending candidates' understanding of the range and depth of issues derived from the interaction of design practice with industry and culture. Guest lecturers and candidates will combine in the critical analysis of the impact that current aesthetic, philosophical, cultural, social, economic, environmental and technological issues have on the responsible solution of design projects. Guest lecturers will include industry representatives, academic researchers and distinguished practising designers.

SDES9204
Design Process Workshop 1
School of Design Studies
UOC6 HPW2

This course will provide candidates with an opportunity to further develop their understanding of a range of design processes such as; design approaches to problem solving, concept representation and communication techniques, specification techniques and design interface with manufacturing processes. It is aimed at extending the candidate's capacity to manipulate materials, techniques and processes towards the resolution of design projects.

SDES9206
Design Studio: Graphics/Media 1
School of Design Studies
UOC6 HPW2

This course aims to provide candidates with the opportunity to investigate advanced theoretical and practical aspects of graphics/media design. It is aimed at extending the candidate's level of understanding about new research and developments in the materials, techniques and concepts of the print, photographic and multimedia areas of graphic design. Specific attention will be paid to the application of computer imaging in the creative development of innovative concepts in graphic design.

SDES9207
Design Studio: Graphics/Media 2
School of Design Studies
UOC6 HPW2

This course aims to provide candidates with further opportunities to investigate advanced theoretical and practical aspects of graphics/media design. It will further extend the candidate's level of understanding about new research and developments in the materials, techniques and concepts of the print, photographic and multimedia areas of graphic design. Specific attention will be paid to the application of computer imaging in the creative development of innovative concepts in graphic design.

SDES9208
Design Studio: Environments 1
School of Design Studies
UOC6 HPW2

This course will involve candidates in a critical study of theoretical and practical aspects of environments design. It is aimed at developing the candidate's capacity to discern current environments design issues and to apply these understandings in sophisticated and comprehensive solutions to a range of design projects. Specific attention will be paid to the application of experimental materials and structures as well as innovative applications of traditional materials and structures; application of critical analysis to the design of modes of interaction between environmental systems both built and natural; application of CAD and other computer programs as effective tools in the research, design and development of environments projects.

SDES9209
Design Studio: Environments 2
School of Design Studies
UOC6 HPW2

This course will involve candidates in further investigation of theoretical and practical issues in environments design. It is aimed at further developing the candidate's capacity to discern current environments design issues and to apply these understandings in sophisticated and comprehensive solutions to a range of design projects. Further attention will be paid to the application of experimental materials and structures as well as innovative applications of traditional materials and structures; application of critical analysis to the design of modes of interaction between environmental systems both built and natural; application of CAD and other computer programs as effective tools in the research, design and development of environments projects.

SDES9210
Design Studio: Integrated Design Studies 1
School of Design Studies
UOC6 HPW2

This course will provide candidates with the opportunity for advanced study in the multidisciplinary nature of integrated design. It is aimed at extending the candidate's level of understanding about the way in which concepts and processes in graphics, object and environments design may be integrated to contribute to the development of complex and appropriate design solutions. Specific attention will be paid to study of the cross-disciplinary opportunities in the adaptation, development and management of materials, techniques and personnel from two or more areas of design. Specific attention will also be paid to the advanced study of computer imaging (both 2D and 3D programs) in the creative development of integrated design.

SDES9211
Design Studio: Integrated Design Studies 2
School of Design Studies
UOC6 HPW2

This course will provide candidates with the opportunity for further study in the multidisciplinary nature of design integration. It will further extend the candidate's level of understanding about the way in which concepts and processes in graphics, object and environments design may be integrated to contribute to the development of complex and appropriate design solutions. Specific attention will be paid to study of the cross-disciplinary opportunities in the adaptation, development and management of materials, techniques and personnel from two or more areas of design. Specific attention will also be paid to the advanced study of computer imaging (both 2D and 3D programs) in the creative development of integrated design.

SDES9212
Design Studio Project
School of Design Studies
UOC6 HPW2

This course will provide candidates with the opportunity to develop an individual design project that applies selected studio practices to an approved problem.

SDES9216
Design Management and Practice 1
School of Design Studies
UOC6 HPW2

This course will provide candidates with the opportunity to study the nature and role of design management in the development of a design culture. Attention will be paid to the analysis and application of design management processes to the notion of design cultures as a management goal in both commercial and institutional environments; study of the management of new technologies, materials and services; management of research and development, planning models and techniques, predictive models; research into the role of design management principles in the development of a design consciousness as an integral part of responsible design and manufacture in the Australian context. Additionally attention will be paid to a critical analysis of design practice in both consultant and design department situations; comparative analysis of design management concepts and economic and business concepts in research and design development; analysis and application of psycho/social concepts in the development of design project co-ordination models.

SDES9217
Design Management and Practice 2
School of Design Studies
UOC6 HPW2

This course will provide candidates with the opportunity to further investigate models of design management in conjunction with the development of a design culture. Attention will be paid to the analysis and application of design management processes to the notion of design cultures as a management goal in both commercial and institutional environments; study of the management of new technologies, materials and services; management of research and development, planning models, predictive models and techniques; research into the role of design management principles in the development of a design consciousness as an integral part of responsible design and manufacture in the Australian context. Additionally attention will be paid to a critical analysis of design practice in both consultant and design department situations; comparative analysis of design management concepts and economic and business concepts in research and design development; analysis and application of psycho/social concepts in the development of design project co-ordination models.

SDES9218
Design Management Project
School of Design Studies
UOC6 HPW2

This course will provide candidates with the opportunity to undertake a research project resulting in a body of data that reflects the application of various design practice and management models to individually selected design problems. Specific attention will be given to aspects of design management and practice such as information and communication design; consideration of design management in the context of a range of commerical and institutional environments including those not traditionally viewed as design locations.

SDES9740
Design Studio: Ceramics 1
School of Design Studies
UOC6 HPW2

This course focuses on the materials, techniques, processes and contexts that inform the design and production of ceramic objects. The studio program ranges across traditional, contemporary and new technologies and supports diverse outcomes from 'one-off' objects to architectural and industrial applications and small-scale studio production. Practical work is contextualised by consideration of the material, cultural, theoretical and historical issues/debates that frame contemporary ceramic practice.

SDES9741
Design Studio: Ceramics 2
School of Design Studies
UOC6 HPW2

This course provides a setting in which candidates extend and advance practical and theoretical knowledge as applied to ceramic design and studio practice. It highlights interdisciplinary contexts for ceramic design/production and (within a framework of research, critical analysis and reflection) encourages exploratory, speculative and innovative solutions to studio enquiry.

SDES9742
Design Studio: Jewellery 1
School of Design Studies
UOC6 HPW2

This course focuses on the materials, techniques, processes and contexts that inform the design and production of jewellery pieces. The studio program ranges across traditional, contemporary and new technologies and supports diverse outcomes -- from 'one-off' objects to small-scale studio production. Practical work is contextualised by consideration of the material, cultural, theoretical and historical issues/debates that frame contemporary jewellery practice.

SDES9743
Design Studio: Jewellery 2
School of Design Studies
UOC6 HPW2

This course provides a setting in which candidates extend and advance practical and theoretical knowledge as applied to jewellery design and studio practice. It highlights interdisciplinary contexts for jewellery design/production and (within a framework of research, critical analysis and reflection) encourages exploratory, speculative and innovative solutions to studio enquiry.

SDES9744
Design Studio: Textiles 1
School of Design Studies
UOC6 HPW2

This course involves the study of theoretical and practical aspects of contemporary textiles for art and design practice. The course develops the candidate's understanding of historical and contemporary textile practice, current textile design issues, textiles processes and new technologies. The studio provides a framework for facilitating learning in the candidate's elected area, to question the conditions of making, ways of interpreting, designing and informing individual practice.

SDES9745
Design Studio: Textiles 2
School of Design Studies
UOC6 HPW2

This course allows for the extended study and investigation of theoretical and practical aspects of contemporary textile for art and design practice. The course further develops the candidate's understanding of contemporary textiles practice, current textile design issues, textiles processes and new technologies. Individual studio projects provide a framework for the innovative application of materials, structures and designs, and to question the conditions of making, ways of interpreting and informing individual practice.

SDES9750
Contemporary Typography
School of Design Studies
UOC6 HPW3

Traditional divisions between reading and looking have been challenged by recent developments in typeface design and typographic layout in publication design. This course presents the opportunity for students to explore contemporary practices in the reworking of legibility and readability in typographic design through projects that interpret historical practices in typography, illustrative typography, pattern design and a self-directed project.

SDES9751
Propaganda in Graphic Design
School of Design Studies
UOC6 HPW3

Propaganda, the use of deceptive or distorted information to convince, often in a political setting, has been seen as quite different from the ideals of design, which is often discussed in terms of communication and efficiency. This course proposes that designed artefacts express specific and commercially motivated points of view which overlap with the more political forms of propaganda and persuasion. Students explore the relationships between graphic design and commercial persuasion to develop both reflective and practical understandings of the ways in which design operates to persuade. The implications of this understanding of design is considered through studio projects.

SDES9752
Experimental Design
School of Design Studies
UOC6 HPW3

Experimental design explores how practitioners in design rework the status quo of discrete disciplines of art and design. Through the development of works for exhibition contexts, students challenge boundaries of practice and reflect on the place of design in relation to other fields. The course provides students with the opportunity to consider their personal and professional experiences in design, and to consider alternative models for design practice. Students examine design approaches which question and extend current parameters of practice in the design field. Students explore experimental graphic, furniture and wearable design related in scale to the human body throughout the course.

SDES9753
Design Critique Through Practice
School of Design Studies
UOC6 HPW3

This course provides students with opportunities to explore how designers critique design orthodoxies through practice. Students analyse design criticism and design manifestos to identify world views implied by the texts. The lecture series introduces key concepts of design critique through practice, and develops studio discussions around a series of projects and course readings. The course explores the use of analogy in design including: 'design as rescue' (sustainability); 'design as science' (the design methods movement); 'design as social work' in the recent debates around 'design as care'; and 'design as good taste' evident in much popular commentary. Students explore the possibilities of practical critique in design through engagement with the conceptual underpinings of design practice and a focus on the roles of various players.

SESC6010
Descriptive Statistics
School of Safety Science
UOC3 HPW3

Introduction to the theory of statistics and to statistical techniques for describing data. Topics include measures of central tendency and dispersion, probability and probability distribution and statistical inference.

Notes: May not be taken as part of a 48UOC Masters program.

SESC6110
Physical Principles of Safety 1
School of Safety Science
UOC3 HPW3

This course introduces the principles of statics and dynamics as it applies to safety and ergonomic issues. Topics include materials handling, equilibrium and balance, biomechanics, and linear motion.

Notes: May not be taken as part of a 48UOC Masters program.

SESC6800
Fundamentals of Toxicology
School of Safety Science
UOC3 HPW3

This course provides a background to the underlying principles of toxicology. It provides an introduction to chemical, biochemical and cellular principles. This course is aimed at students who have not previously studied chemistry or biology.

Note: May not be taken as part of a 48UOC Masters program. Also offered in off-campus mode in S1 and S2.

SESC9010
Research Methods
School of Safety Science
UOC3 HPW3

This course covers issues in research methodology including research problem formulation, null and alternative hypotheses, qualitative and quantitative research designs, data analysis, presenting research data and applying research to practice. Students will be expected to be able to recognise and avoid common methodological problems in research and critically review the literature. The course does not provide a detailed coverage of statistical theory but an understanding of statistics is required.

Assumed knowledge: SESC6010

SESC9020
Occupational Health and Safety Law 1
School of Safety Science
UOC3 HPW2

This course outlines the legal regime for the regulation of occupational health and safety in Australia. It deals with occupational health and safety legislation; relevant case law; duty of care of employers, controllers of premises and suppliers and manufacturers; risk management obligations; and duty of employees. The course also deals with public policy issues regarding legal reforms of occupational health and safety.

SESC9030
Occupational Health and Safety Law 2
School of Safety Science
UOC3 HPW2

This course extends concepts of law introduced in SESC9020, and covers other workplace legislation and procedures, such as consultation obligations, reporting obligations, incident response and investigation, workers compensation, and rehabilitation obligations.

Assumed knowledge: SESC9020

SESC9060
Principles of Safety, Health and Environmental Auditing
School of Safety Science
UOC3 HPW3
Corequisite SESC9340

An introduction to planning and conducting safety, health and environmental management systems audits. ISO 19011 Guidelines for Quality and/or Environmental Management Systems Auditing. Audit frameworks, the audit process, collecting evidence, audit skills, audit reporting. Assessment for the course includes continuous assessment, role play and planning and carrying out an audit of a SHE topic.

Assumed knowledge: SESC9201, SESC9300

Note/s: Short Course mode only in combination with SESC9340 (compulsory 5 day workshop and assessable tasks completed subsequently)

SESC9091
Safety, Health and Environmental Practice
School of Safety Science
UOC6 HPW6

A workplace assessment-based course. Students are required to report on safety, health or environmental issues following visits to a number of diverse industrial sites.

Assumed knowledge: SESC9201, SESC9600

SESC9121
Fire and Explosion
School of Safety Science
UOC6

This course introduces students to the principles of combustion in fire and explosion processes. The first section deals with the control of industrial fires (liquids and gases), the second section with the control of building fires, and the third section with explosion prevention and control.

Assumed knowledge: SESC9201

Note: Short Course mode (compulsory 3-day workshop plus assessable tasks completed subsequently)

SESC9130
Noise Management
School of Safety Science
UOC3

Physical, perceptual and legislative aspects of noise; AS1269; Descriptive properties, propagation, loudness and frequency, types of noise; Measurement, decibels, hertz, octaves, time and frequency, weighting, spectral analysis; Perception, loudness, annoyance, phons, dB(A) Leq. Lbgt.; Anatomy and function of the ear, and noise injury; Audiometry exercise in measuring hearing levels; Management of noise.

Assumed knowledge: SESC9201, SESC9600

Note: Short Course mode only (compulsory 3 day workshop plus assessable tasks completed subsequently). This course may not run every year.

SESC9150
Electrical Safety
School of Safety Science
UOC3

Regulations and codes of safe practice relating to electricity; identification assessment and control of electrical hazards including electrocution,

electrical fires, static electricity, electrical wiring in hazardous areas, the effect of electric and magnetic fields; safety-related systems.

Assumed knowledge: SESC9201

Note: Off-campus mode only.

SESC9160
Safety, Health and Environment in the Construction Industry
School of Safety Science
UOC3

Examines current issues and problems in ensuring the occupational safety and health of workers in building, construction and manufacturing industry.

Topics include OHS act; legal responsibilities; implications of changes in legislation to building and construction safety; contractual relationship with sub-contractors; risk assessment and control strategies; positive performance indicators; safeguarding of plant; systems safety management; audit reviews; hazards in building and construction work; human behaviour and occupational safety and incident investigation; best practice initiatives in the construction sector.

Assumed knowledge: SESC9201

Note: Short Course mode only (compulsory 3-day and 2-day workshops plus assessable tasks completed subsequently)

SESC9201
Safety Risk Management
School of Safety Science
UOC6 HPW3
Excluded: SESC9100 and SESC9200.

Looks at principles of OHS risk management and its legal context; methods of risk identification assessment and control applied to physical hazards including, mechanical equipment, noise, vibration, ionising and non ionising radiation, electricity, materials failure, fire and explosion and construction related hazards.

Assumed Knowledge: SESC6110

Note: Also offered in Off-campus mode in Session 2, and Short Course mode in Session 1 (compulsory 5 day workshop plus assessable tasks completed subsequently)

SESC9211
Risk Management
School of Safety Science
UOC6 HPW3

Provides an overview of Risk Management following the format of the Australian Standard in Risk Management (AS/NZS4360). Tools and techniques applicable to each step of the risk management process are discussed, using examples applicable to the class.

The same risk management process is applied to manage all types of risk in all types of organisations. This course is therefore relevant as part of a wide variety of postgraduate courses, and students from any postgraduate course are accepted if numbers permit. The student selects examples for exercises to suit the industry and role in which they work (or intend to work).

At the end of the course, students should be able to use risk management tools applicable to their specific interest and have an awareness of tools used in other industries.

Note: Also offered in off-campus mode in Session 2 and Short Course mode in Summer Session (compulsory 4 day workshop plus assessable tasks completed subsequently)

SESC9221
Major Hazards Management
School of Safety Science
UOC6 HPW3

This course looks at the management of major hazardous facilities.

Australian and overseas legislation is discussed, together with the preparation of safety cases, environmental impact statements and emergency planning. Also discussed are analysis techniques that are required for these assessments - including how to quantify likelihood and consequences through the use of modelling - and the requirements for emergency plans.

Assumed knowledge: SESC9201

SESC9231
Risk Analysis
School of Safety Science
UOC6 HPW3

This course introduces methods used to analyse risk in different disciplines. Techniques covered include Fault Tree analysis and quantification, Trend analysis, Monte Carlo and other computer modelling techniques, use of risk analysis software. The methods are applied to examples which include decision-making in financial, environmental and safety management. In addition students undertake a case study selecting areas of risk of their choice.

SESC9241
Introduction to Injury Risk Management
School of Safety Science
UOC6 HPW2

Introduces students to the main concepts in injury risk management and provides an understanding of how injury differs from other public health problems. The course presents an overview of injury issues in different contexts, including transport, the workplace, sport and recreation, product safety and patient safety. It also looks at different approaches to injury intervention including regulatory, design, engineering, organisational and behavioural interventions.

Note: Short Course mode only in Winter Session (compulsory 5 day workshop plus assessable tasks completed subsequently)

SESC9261
Introduction to Environmental Risk Assessment
School of Safety Science
UOC6 HPW3

This course introduces the methods used to quantify human health and ecological risks associated with the presence of hazardous chemicals and pathogens in the environment. Environmental risks can be quantified when the following elements are known:-

The source of the chemical/pathogen posing risk/s to human and/or ecological receptors; the fate and transport mechanisms by which a chemical/pathogen moves from the source of the receptors; exposure scenarios; the dose to the receptors. These elements are evaluated during the course. Theoretical concepts used in environmental risk assessment are illustrated with simple, real-life examples. Relevant guideline documents are used to highlight the practice of environmental risk assessment in Australia, and compare it with that of countries in Europe and the United States.

Note: Also offered in off-campus mode in S1.

SESC9281
Issues and Trends in Emergency Management
School of Safety Science
UOC6

The purpose of this course is to identify the paradigms and frameworks that underpin emergency management policies and procedures, and explore their contribution and effectiveness in achieving community outcomes.

The course explores existing paradigms in emergency management and demonstrates how they drive existing emergency management practices. It considers how research findings and current and emerging technologies might inform change in emergency management paradigms.

Note: Short Course mode (compulsory 5-day workshop plus assessable tasks completed subsequently)

SESC9291
Risk Treatment
School of Safety Science
UOC6 HPW3

The course examines various methods of control and treatment of organisational risk, which have been identified, analysed and assessed using a comprehensive risk management framework. Various control and treatment options for major categories of risk include applied techniques in loss prevention, loss reduction, risk transfer and risk financing, including the application of commercial insurance and self-insurance methods.

SESC9300
Effective Behaviour in Organisations
School of Safety Science
UOC3 HPW3

Examines a range of issues related to the effective implementation of systems for the management of occupational health and safety, environmental and other organisational concerns.

Various topics in organisational behaviour and management are covered, including theoretical issues and practical applications to areas such as motivation, communication, training and consultation.

SESC9320
Effective Management
School of Safety Science
UOC3 HPW3

Covers a range of current topics in organisational behaviour and management. Theoretical issues and practical applications relevant to management of health and safety are highlighted. This includes an examination of issues such as stress, conflict, fatigue, and safety culture.

Readings are included to help you gain experience in analysing and applying the concepts and theories covered in the course, and to encourage a wider understanding of the areas explored.

Assumed knowledge: SESC9300

SESC9340
OHS Management Systems
School of Safety Science
UOC3
Corequisite SESC9060

An introduction to the management principles and the requirements of an effective OHS management system, with emphasis on the systems specified in the latest edition AS/NZS 4801 Occupational Health and Safety Management Systems- Specification with Guidance for Use.

A working knowledge of industry practices, OHS principles and relevant legislation is required.

Assessment for the course includes continuous assessment, role play and planning and carrying out an audit of a SHE topic.

Assumed Knowledge: SESC9201, SESC9300

Note: Short Course mode only, in combination with SESC9060 (compulsory 5-day workshop and assessable tasks completed subsequently).

SESC9361
Industrial Safety Management Systems
School of Safety Science
UOC6

Explores industrial safety management systems in technological industries, particularly those where safety failures have the capacity to cause injury or damage in the community, such as transportation and major hazards industries.

The industrial safety management systems specified in various legislation are reviewed, including the requirements for safety reports. Course participants then explore good practice in the components of industrial safety management systems.

Topics include governance and internal control, business continuity, safety culture, safety performance measurement, information management, process control, contractor management, asset management, maintenance management, reliability change management, and training and competency.

At the end of the course participants should be able to recognise good and bad practice in each of these areas and propose changes to improve safety.

SESC9400
Ergonomics 1
School of Safety Science
UOC3 HPW3

A basic introduction to ergonomics, emphasising the principles of designing user-centered machine-environment systems. Specific topics include definition of and justification for ergonomics, design and human error, human capabilities and limitations, introduction to anthropometry, and the reduction of musculoskeletal loading of workers.

Assumed knowledge: ANAT6151, SESC6010, SESC6110

SESC9410
Ergonomics 2
School of Safety Science
UOC3 HPW3

This course follows on from SESC9400 Ergonomics 1, and covers displays & controls, design of human-machine-environment systems, job design and work organisation, design of workplaces, the physical environment and an introduction to product design.

Assumed knowledge: SESC9400

SESC9411
Principles of Ergonomics
School of Safety Science
UOC6 HPW3

This course provides an introduction to ergonomics, emphasising the principles of designing user-centred, human-machine-environment systems. Specific topics include definition of and justification for ergonomics, design and human error, human capabilities and limitations, introduction to anthropometry and the reduction of musculoskeletal loading of workers, displays & controls, design of human-machine-environment systems, job design and work organisation, design of workplaces, the physical environment, and an introduction to product design.

Assumed knowledge: ANAT6151, SESC6010, SESC6110

SESC9421
Applied Ergonomics
School of Safety Science
UOC6

This course focuses on the application of ergonomics principles to real world problems, and the difficulties involved. It requires a knowledge of the principles of ergonomics and provides in-depth knowledge and skills in ergonomics research methodology: analysing the exact nature and extent of the ergonomics problem, and evaluating the outcome of solutions to the problem. Topics covered include ergonomics methodologies, various analysis techniques, benefit-cost & practical case studies, professional ethics, and participatory ergonomics.

Assumed knowledge: SESC9411 or equivalent

Note: Short Course mode (compulsory 5-day workshop plus assessable tasks completed subsequently).

SESC9431
Physical Ergonomics
School of Safety Science
UOC6

This course discusses various analytical tools and techniques used by ergonomists to assess or solve practical, physical ergonomics problems. It requires a knowledge of the principles of ergonomics and provides in-depth knowledge and skills in assessing the physical ergonomics aspects of work systems.

Topics include applied anthropometry, biomechanical models, electromyography, manual handling jobs with multiple tasks, and work physiology. Students gain hands-on experience with relevant equipment and software such as Mannequin, 2D and 3D SSP Programs, Energy Expenditure Program, and the revised NIOSH 1991 equation.

Assumed knowledge: SESC9411 or equivalent

Note: Short Course mode (compulsory 3-day workshop plus assessable tasks completed subsequently).

SESC9441
Ergonomics and New Technology
School of Safety Science
UOC6

This course focuses on the ergonomics issues related to the design and implementation of new technology. It assumes a knowledge of the principles of ergonomics, and in particular looks at cognitive aspects of human-computer-interaction, human error and design, usability and its assessment, user interface design, evaluation techniques, guidelines and standards, and the introduction of new systems into organisations.

Assumed knowledge: SESC9411 or equivalent

Note: Short Course mode only (compulsory 5-day workshop plus assessable tasks completed subsequently).

SESC9451
Experimental Biomechanics
School of Safety Science
UOC6 HPW3

This course commences with 4 lectures on experimental methods, instrumentation, optical measurement and data analysis methods in biomechanics. The student then undertakes a series of experiments in the areas of quantitative gait and human movement, EMG, exercise testings and impact biomechanics.

SESC9460
Biomechanics of Impact Injury
School of Safety Science
UOC3

Impact injury occurs in the workplace, on the sports field, during recreation, and in traffic accidents. The course covers mechanisms of trauma, research methods, human tolerance to impact and methods for reducing injury. It brings together biomechanics, engineering and traumatology.

Assumed knowledge: SESC6110

SESC9471
Industrial Ergonomics
School of Safety Science
UOC6 HPW3

This course discusses the principles of ergonomics and their application to engineering systems. Topics include Introduction to ergonomics, works systems design and evaluation, neuromuscular function, perceptual motor skills, biomechanics of human body movement, work physiology, anthropometry and workplace design, human information processing, human error and design, job design and work organisation, psychophysical measurements, manual materials handling, visual tasks measurements and design, environmental ergonomics, work schedules and sustained human performance (shift work), participatory ergonomics, ergonomics in manufacturing, ergonomics cost/benefits analysis.

Note: Not available to Safety Science students.

SESC9510
Occupational Hygiene Hazards
School of Safety Science
UOC3 HPW3

This course covers practical consideration of recognising and evaluating workplace hazards. Topics include identification and assessment of workplace hazards such as gases, particulates, chemicals, noise, radiation and biohazards.

Assumed knowledge: SESC9201, SESC9600

SESC9530
Personal Protective Equipment
School of Safety Science
UOC3

This course provides an introduction to personal protective equipment: protection for head, eyes, hearing, skin, respiration, feet and protection against falling; relevant standards for personal protection; personal protection programs.

Assumed knowledge: SESC9201, SESC9600

Note: Short Course mode only (compulsory 3-day workshop plus assessable tasks completed subsequently).

SESC9541
Assessment of Workplace Environment
School of Safety Science
UOC6

This is an experimental and workplace-based course. Students are required to assess ergonomics, physical and chemical hazards encountered in the occupational environment. Students design and carry out a number of practical measurement programs to assess and report on workplace environmental parameters.

Topics include measurement and analysis of noise, lighting, vibration, ventilation, air quality, thermal environment, radiation and magnetic fields; assessment of chemical hazards; floor slip resistance characteristics.

Assumed knowledge: SESC9201, SESC9600

Note: Compulsary 3-day workshop prior to the commencement of Semester plus assessable tasks completed subsequently.

SESC9550
Occupational Hygiene Controls
School of Safety Science
UOC3 HPW3

This course builds on the introduction to workplace hazards introduced in SESC9510, covering practical considerations in the control of workplace hazards such as ventilation and personal protective equipment.

Assumed knowledge: SESC9510

SESC9581
Industrial Pollution Control
School of Safety Science
UOC6

This course introduces environmental and pollution issues of relevance to people with responsibility for ensuring pollution control in industry. The course starts with an introduction to environmental assessment processes and environmental management systems then considers contaminated sites, pollution from liquid, solid and gaseous wastes and their control.

SESC9600
Occupational Health
School of Safety Science
UOC3 HPW3

Introduction to occupational health, including workplace hazards and risks, approaches to workplace safety, occupational health and safety legislation, management of workplace safety, the hierarchy of controls, occupational epidemiology and occupational rehabilitation.

SESC9620
Occupational Diseases and Injuries
School of Safety Science
UOC3 HPW3

The ways in which work can affect the health of workers. Covers occupational diseases and injuries: occupational diseases of skin, respiratory system, nervous system, reproductive system, musculoskeletal system, kidneys, and occupational cancer.

Assumed knowledge: ANAT6151

SESC9630
Occupational Medicine
School of Safety Science
UOC3

This course deals with the role of the occupational physician in practice and research. This includes health promotion, health screening, medical surveillance and biological monitoring.

SESC9651
Occupational Rehabilitation
School of Safety Science
UOC6

This course provides a scientific basis on which to base rehabilitation. The main focus is on examining methods in physical rehabilitation. Other issues, for example relating to case management, are covered briefly. Concepts and practice from areas such as exercise physiology, training/conditioning, biomechanics, medicine, physiotherapy and occupational therapy are covered in the context of the rehabilitation.

Assumed knowledge: SESC9400, SESC9620

Note:. Medical or allied health background desirable.

SESC9721
Environment and Medicine
School of Safety Science
UOC6 HPW3

Aspects of medicine bearing upon physiological consequences of pollutants. Metabolic mechanisms: chemical interactions, synergism and antagonism, photosynthesis and phytotoxicity; ozone depletion and greenhouse effects; morbidity and mortality surveys; studies of particular pollutants and environmental contaminants.

SESC9741
Environmental Management Systems
School of Safety Science
UOC6

This course describes useful approaches for organisations to fulfil their professional obligations regarding the environment. It focuses on the management of environmental issues, incorporating current legislative requirements and due diligence. In addition it addresses customer requirements, safety aspects and competitive pressure of firms.

The course responds to multidisciplinary management challenges which require integrated management systems options. A number of case studies examples are presented. The main part of the assessment of this course is a project looking at the development of an EMS for industry.

Assumed knowledge: A good working knowledge of environmental management, environmental science or environmental engineering is required for this course.

Note: Short Course mode (compulsory 3 day workshop plus assessable tasks completed subsequently).

SESC9751
Introduction to Environmental Science
School of Safety Science
UOC6 HPW3

This course describes the current and fundamental knowledge in the area of environmental sciences and is a core in the Environmental Science degrees. Covered are the current global legal frameworks that affect environmental science practice, latest modeling and research in global system and climate change, current practices and directions of environmental planning and impact assessment.

SESC9761
Environmental Auditing
School of Safety Science
UOC6

With an increase in regulation and new standards as well as stronger awareness of environment protection, industry will need to rely increasingly on environmental auditing to systematically manage its impacts. This course covers the basic elements of the different types of environmental auditing undertaken by industry with a focus on the ISO 14,010 EMS Environmental Auditing standard. Attendees learn about the various types of environmental audits undertaken and the tools required for conducting these.

The principle aims are to identify and evaluate potential environmental liabilities, risks and hazards in industry. The main part of the assessment of this course is a project looking at the application of environmental auditing to industry.

This course has been recognised by the Quality Society of Australasia (Reg No EA70) as meeting the training requirements for Environmental Auditor certification.

Assumed knowledge: A good working knowledge of environmental management, environmental science or environmental engineering is required for this course.

Note: Short Course mode only (compulsory 5 day workshop plus assessable tasks completed subsequently).

SESC9810
Toxicology
School of Safety Science
UOC3 HPW3

An introduction to chemical hazards, including disposition and biotransformation, principles of toxicological assessment and effects of exposure to toxic hazards; risk assessment aspects of workplace exposure to chemicals; hazardous substances legislation for the identification and control of chemicals.

Assumed knowledge: SESC6800 or chemistry or biochemistry

SESC9820
Chemical Safety and Toxicology
School of Safety Science
UOC3 HPW3

This course provides an outline of the toxicological, occupational hygiene and environmental aspects of chemical hazards and exposures. Atmospheric contaminants, metals, solvents, pesticides, carcinogens, hazardous wastes and dioxins are used as case studies.

Assumed knowledge: SESC9810

Note: Short Course mode in S1 (compulsory 2 day workshop plus assessable tasks completed subsequently). Also offered in off-campus mode in S1.

SESC9850
Management of Dangerous Materials
School of Safety Science
UOC3

Chemicals legislation, the dangerous goods system, the hazardous substances regulation, systems for management of hazardous wastes and systems for the management of chemicals in the workplace.

Note: Short course mode in S1 (compulsory 2 day workshop plus assessable tasks completed subsequently). Also offered in off campus mode S2.

SESC9871
Environmental and Toxicological Laboratory Science
School of Safety Science
UOC6 HPW3

A laboratory-based course which provides basic requirements of laboratory-based research, especially in chemical safety and applied toxicology. The course covers literature review, methodology, experimental design, data collection and analysis, discussion and presentation skills, through undertaking a research project.

Assumed knowledge: SESC9820

SESC9900
Project Methods
School of Safety Science
UOC3 HPW3

This course covers the development of a research project including the research proposal, research design and data analysis and the writing of the research report. Students will be expected to be able to recognise and avoid common methodological problems in research.

Assumed knowledge: SESC9010

Note: Also offered in off-campus mode in S1 and S2.

SESC9903
Report (3 Units of Credit)
School of Safety Science
UOC3

A 3 units of credit report on a topic relevant to the study program.

Note: Also offered in off campus mode in S1 and S2.

SESC9906
Report (6 Units of Credit)
School of Safety Science
UOC6

A 6 units of credit report on a topic relevant to the study program.

Note: Also offered in off-campus mode in S1 and S2.

SESC9912
Project (12 Units of Credit)
School of Safety Science
UOC12

A 12 units of credit project relevant to the study program. Students will be required to undertake an investigative project with supervision and to present a satisfactory report.

Assumed knowledge: SESC9900

Note: Also offered in off-campus mode in S1 and S2.

SLSP5001
Policy Analysis
School of Social Science and Policy
UOC8 HPW2

What is policy, and why does it matter? Examines the way in which the term 'policy' is mobilised to make sense of what happens in and around organisations, and to shape the action. Also examines the different dimensions of policy, and the significance of each for policy analysis.

SLSP5002
Information and Research for Policy
School of Social Science and Policy
UOC8 HPW2

An examination of the various sources of information available and the ways in which they are used to inform policy. This includes methods of social research, both quantitative and qualitative, the production of official statistics and social indicators, case studies and documentary research; the locations in which such information is produced (universities, think-tanks, government bureaux, etc) and the nature of the information produced (basic research, strategic research, intelligence and monitoring, etc). The political, ethical, social and economic context in which information is produced and used in policy is examined through the analysis of examples from a range of policy areas.

SLSP5004
Policy and Organisations
School of Social Science and Policy
UOC8 HPW2
Excluded: SLSP7006

Examines issues relating to the management and steering of organisations such as effective policy making, administration, strategy and leadership. It includes the provision of an understanding of the principles of new public management, strategic and corporate planning, partnerships,

participation and governance. Attention is paid to the role, location and external relationships which 'stakeholders' and 'policy communities' play in management and policy in organisations.

SLSP5015
International Development Policy
School of Social Science and Policy
UOC8 HPW2
Excluded: SLSP5030, SLSP5031

Examines what is perhaps the most important question in economic and social development today, that is - why is there a rich world and a poor world and what policies can be identified and implemented to address this problem? Examines some of the most important explanations used to explain the different rate and pattern of development within and between countries and regions such as the role of the nation state; particular social structures; patterns of capital accumulation and technological developments and the policy solutions developed from them. The local, national and international institutions through which policy is formulated, implemented, managed and monitored will also be examined. A variety of Latin American, Asian and other case studies will be used to illustrate the issues.

SLSP5017
Policy and Advocacy
School of Social Science and Policy
UOC8 HPW2

Examines policy advocacy in state/civil society relations. Studies how policy advocacy by civil society organisations contributes to democracy and considers the role of policy knowledge in advocacy. Examines the international context of policy advocacy. Considers the way in which civil society associations contribute to social capital and/or public policy.

SLSP5092
Policy Project
School of Social Science and Policy
UOC8 HPW2
Prerequisite: SLSP5001; Excluded: SLSP5091.

Students undertake individual and/or group policy research in consultation with senior policy-makers from the public, union, private or community sectors. A Major Policy Paper is presented to the client and is assessed by both the client and academic staff. The process of preparing the report may involve writing of memoranda, briefing documents, etc. The Major Policy Paper normally includes recommendations, including implementation strategies.

SLSP5501
Theory of Program Evaluation
School of Social Science and Policy
UOC8 HPW2
Excluded: SOCA5018

An outline of the nature, origins and theory of program evaluation. Debates over the nature and definition of evaluation, theories and methodologies, role of the evaluator and use of the findings of an evaluation will be analysed. A thorough understanding of these issues will equip students with an understanding of the role of evaluation and the problems encountered in conducting evaluations.

SLSP5502
The Practice of Program Evaluation
School of Social Science and Policy
UOC8 HPW2
Excluded: SOCA5018

Issues in the conduct of program evaluations including design, methodologies, consultation with stakeholders, ethical considerations, writing of evaluation briefs, proposals and reports and in the use of evaluation findings.

SOCA5010
Anthropology Fieldwork
School of Sociology and Anthropology
UOC8 HPW2
Excluded: SOCA2204, SOCI3710, GENT1204, GENT1205

Provides training in and use of ethnographic fieldwork methods in the context of a developing country with an understanding of village vs urban life and how development organisations impact. Ethnography is a part of the methodology of both sociology and anthropology as well as other social science research. Interview techniques and technologies, cultural mapping, methods of recording field data and participatory community development research are amongst the procedures to be explored. Field visits to regional, government and non-government organisations form a part of the research to understand how such institutions impact on village life.

Note: This course will be taught in November-December. Students must contact Grant McCall (email: G.Mccall@unsw.edu.au) prior to the commencement of Session Two.

SOCF5001
Theory of Couple & Family Therapy
School of Social Work
UOC4 HPW2
Corequisite: SOCF5002

Introduces the theory of systemic family therapy. Frameworks for understanding the evolution of relationship patterns will be presented, including intergenerational perspectives. An overview of the current theory of the Milan framework of therapy will be given, as this serves as a cohering basis for the Clinical Studies courses.

SOCF5002
Clinical Studies A
School of Social Work
UOC8 HPW3
Corequisite: SOCF5001

Introduces the clinical knowledge needed for the practice of couple and family therapy. There is a strong emphasis on the use of self in the therapeutic relationship. In preparation for Clinical Studies B, there is a small group program of simulated practice using supervised role-play and video analysis. Practice skills are developed for interviewing couples and families, and attention is paid to competencies in beginning, middle and ending stages of therapy. Both Clinical Studies A and Clinical Studies B use the theory and practice of the Milan framework of therapy as the main reference point, and other theory is drawn in as it relates to specific clinical situations.

SOCF5003
Clinical Studies B
School of Social Work
UOC12 HPW6.5
Prerequisite: SOCF5002

Provides clinical training as students work directly with families and/or couples using the 'live' supervision facilities of Relationships Australia (NSW). Develops theoretical and clinical understandings of systemic assessment, therapeutic mangement and systemic interviewing. Focuses on practice skills, the capacity to critically reflect on practice, and the capacity to analyse therapeutic situations.

SOCF5004
Contemporary Theory Issues
School of Social Work
UOC8 HPW2
Prerequisite: SOCF5001

Presents current theory influences in systemic therapy, including the influence of postmodernist ideas, the different uses of the metaphor of narrative in therapy, and the use of psychoanalytic ideas in systemic practice. Explores the expression of postmodernist influences in different frameworks including narrative and solution focused therapy.

SOCF5005
Research Issues
School of Social Work
UOC4 HPW2

Examines the research process and its role in the development of knowledge in couple and family therapy. Gives an overview of quantitative and qualitative methodologies. Explores values and the political context of research activity. Develops the skills for assessing and reviewing specific examples of research.

SOCF5006
Clinical Studies C
School of Social Work
UOC12 HPW4
Prerequisite: SOCF5003

Further develops the capacity to understand and analyse therapeutic process as students present their own practice in couple and family therapy for review and evaluation. Explores specific practice topics

including cross - cultural practice, work with violence and abuse, and the therapeutic relationship.

SOCW7850
Issues and Policy in Social Development
School of Social Work
UOC8 HPW2

Introduces conceptual, structural and pragmatic issues in social development and offers a knowledge base and analytical framework for working with a global perspective in Australia or overseas. Controversies in development theory are examined. Global problems are addressed via studying policies adopted to address them. A range of social theories and ideologies justifying these policies are also examined. Issues may include: the colonial legacy, poverty, population growth and movement, gender inequity, multi-national corporations, international loans and Third World debt, environmental degradation, war, refugees, indigenous peoples' rights. Relevant policy theory, including development and analysis, are introduced to help understand the various issue and policy case studies addressed. A social justice, human rights and community development paradigm is used to analyse policies and approaches to deal with these issues.

SOCW7851
Community Development
School of Social Work
UOC8 HPW2

Covers a review of the history of community development; the changing nature of community work; the concept of culture in relation to community work in developing societies; different ideological approaches to community work; an analysis of the outcomes that these approaches might have on communities and the alternative models of planning and service delivery which would evolve. Using case studies, strategies for effective community development will be identified and skills in consultation and partnership building developed. Students undertake an individual analysis of a local community development project.

SOCW7852
Politics of International Aid
School of Social Work
UOC8 HPW2

An introduction to the international aid agencies, their respective structures, roles and relationships with one another. Also provides an introduction to the impact of international economics and international politics on matters relating to international aid. Examines the workings of government and non-government aid agencies at the national and international level. This information is related to case studies which demonstrate skills to negotiate within the international aid systems, secure funding, lobby and advocate to redefine development assistance.

SOCW7853
Community Education Strategies
School of Social Work
UOC8 HPW2

Covers a range of community education strategies drawing on case studies of innovative models in Third World communities. Students consider appropriate objectives, methods, communication skills and assessment for adult learners taking into account adaptations required in different sociocultural contexts. In addition to examining the rationale, nature and scope of distance education, students are introduced to skills for developing curricula and written packages, and to the appropriate use of available technologies. Each student has the opportunity to apply educational strategies in the classroom.

SOCW7855
Program Design and Evaluation in Social Development
School of Social Work
UOC8 HPW2

Reviews the values, knowledge and skills required to design and evaluate social development programs in the international/cross-cultural contexts. Major topics include cooperation in change, methods of needs assessment, defining outcome objectives, theories of decision making, models of scheduling and implementation, theory and practice of evaluation including development of criteria, data collection and analysis, the ethics and uses of evaluation. Students engage in a program planning and evaluation exercise to apply theory covered in the course.

SOCW7856
Program Management in Social Development
School of Social Work
UOC8 HPW2

Current trends and theory in international organisational management are analysed critically for their applicability in the social development arena. Budgeting and accounting practices, staff recruitment and staff management, ethical public relations and marketing for social development settings are examined. Strategies for transferring these skills to local partner agencies, and methods of evaluating program management in funded programs are also elements studied.

Note: As this is an elective course, it will be offered only when the demand is deemed sufficient by the Head of School.

SOCW7857
Refugees and Forced Migration
School of Social Work
UOC8 HPW2

Explores the push factors that cause forced migration, the root causes of these factors, and the impacts of forced migration on the people affected. The international legal framework is examined as it applies to these groups, their needs and rights in the various stages of flight, first asylum, secondary movement, repatriation, and resettlement. The major impact of conflict as a push factor is also explored, and strategies for peace and conflict resolution are addressed.

Note: As this is an elective course, it will be offered only when the demand is deemed sufficient by the Head of School.

SOCW7858
International Social Development Project
School of Social Work
UOC8 HPW2
Prerequisite: SOCW7850 and SOCW7851

Project based on field or documentary data/information regarding an issue or problem immediately relevant to International Social Development theory or practice. Students may gather information in an international setting if that is feasible or in an international aid agency as a contribution to the work of the agency.

Note: As an elective this course will be offered only when the demand is deemed sufficient by the Head of School.

SOCW7859
Community Development Project
School of Social Work
UOC8 HPW2
Prerequisite: SOCW7850, SOCW7851

Based on field or documentary data/information regarding an issue or problem immediately relevant to Community Development theory or practice. Students may gather information in a community setting if that is feasible or in a community development agency as a contribution to the work of the agency.

Note: This course is available to students in the Master of Social Development (Community Development) program only.

SOCW7880
Refugee Women, Sexual Violence and International Protection
School of Social Work
UOC8 HPW2

Examines the protection needs of refugee and Internally Displaced women and children, and current international responses to these and the endemic experience of violence, in particular sexual and gender based violence experienced by the majority of refugee women, and the impact of this on their future resettlement and or repatriation. Links international law, current protection practice, and issues of culture and identity. It is outcomes focused, encouraging participants to develop new ways of thinking of international protection for women and children in policy, program design and implementation, based on community development principles.

SOCW7881
Resettlement as an International Protection Tool
School of Social Work
UOC8 HPW2

Examines the three durable solutions for refugees, local integration, repatriation and resettlement. Resettlement has traditionally been seen as a minor part of durable solutions and little attention has been paid to developing a body of resettlement theory. Current trends from UNHCR and the international community is to encourage more developed countries to use resettlement as a tool to provide solutions for dismantling long established refugee camps, and to provide group resettlement. Refugees

from these situations have acute resettlement needs. Encourages students to identify these needs and appropriate responses to issues such as the identification of refugees for resettlement, the resettlement process, and for adequate resettlement services in country of final destination.

SOCW7882
Refugees and Forced Migration Project
School of Social Work
UOC8 HPW2
Prerequisite: SOCW7850, SOCW7851

Based on field or documentary data/information regarding an issue or problem immediately relevant to Refugee and Forced Migration theory or practice. Students may gather information in an international refugee setting if that is feasible or in a refugee agency as a contribution to the work of the agency.

Note: This course is available to students in the Master of Social Development (Refugee and Forced Migration) program only.

SOLA9001
Photovoltaics
School of Photovoltaic and Renewable Energy Engineering
UOC6 HPW4

The use of solar cells (photovoltaic devices) as electrical power supplies based on the direct conversion of sunlight into electricity. The emphasis is placed on applications including system design and construction, although the properties of sunlight, the operating principles of solar cells and the interaction between sunlight and the cells are also treated.

SOLA9004
Solar Energy
School of Photovoltaic and Renewable Energy Engineering
UOC6 HPW4

World and Australian energy resources. General energy conversion principles and their application. Characteristic of received solar radiation. Thermal conversion and selectively absorbing surfaces. Biological methods of conversion. Fundamentals of photovoltaic generation.

SOLA9006
Solar Cell Technology and Manufacturing
School of Photovoltaic and Renewable Energy Engineering
UOC6 HPW4

A basic introduction to solar cell operation is provided leading to a study of the types of industrial processes used in large scale manufacturing. Dominant commercial cell technologies are covered in detail including evaluation of the relative strengths and weaknesses of each. A "virtual" production line is used to give students direct control of and exposure to the manufacturing environment and techniques for optimizing performance of mass produced devices. Production issues such as yields and in-line quality control are considered. Assignment work includes having students take control of the virtual production line for the purposes of performance optimization, fault diagnosis and maximizing of yields.

SOLA9009
Photovoltaics in Buildings
School of Photovoltaic and Renewable Energy Engineering
UOC6 HPW3

There is currently significant interest in reducing energy use and greenhouse gas production in buildings by designing buildings that are climate-appropriate, implementing energy efficiency measures and producing energy from renewable sources. Photovoltaics (PV) is one of the few renewable electricity generation options that can be readily used in urban areas and has no environmental impacts at the site. This course will examine the use of PV in the urban envirnoment, with a particular focus on the integration of PV modules into the building envelope. The design of energy efficient buildings, building thermal and lighting performance and solar access will be introduced as an appropriate context for the use of PV. A competency in the use of building energy simulation software will be developed. Technical issues associated with the use of PV in buildings and the urban environment, such as heat transfer processes, partial shading and mismatch and system siting, sizing and configuration will be investigated. Students will tackle urban design problems that require balancing architectural and human requirements with the functional constraints of PV technology. Examples of PV products for building and the urban environment will be studied and system performance assessment and prediction will be introduced.

SOLA9011
Biomass Energy Sources
School of Photovoltaic and Renewable Energy Engineering
UOC6 HPW4

This course will introduce a range of biomass energy sources, including forestry, wastes and crops, as well as various technologies for their conversion into useful fuels or power. The course will cover liquid and gaseous fuels, including ethanol, however, the emphasis will be on electricity generation technologies, including combustion and gasification systems, biogas and landfill gas systems, combined heat and power production.

SOLA9012
Renewable Energy Policy
School of Photovoltaic and Renewable Energy Engineering
UOC6 HPW4

This course will review the objectives and strategies of renewable energy policies world-wide. It will examine policy drivers, including environmental impact, community service obligations and industry development, as well as policy instruments and how they are applied, including taxation, legislation, tariffs, targets and incentives. The policies and strategies will be illustrated with international case studies of renewable energy programs.

SOLA9018
Special Topic Renewable Energy
School of Photovoltaic and Renewable Energy Engineering
UOC6

This syllabus changes to allow presentation of a special topic of current interest particularly by visitors with recognised expertise in the topic.

SOLA9914
Project Report
School of Photovoltaic and Renewable Energy Engineering
UOC6

SOLA9915
Project Report
School of Photovoltaic and Renewable Energy Engineering
UOC6

SOMA9001
Sound Construction 1
School of Media Arts
UOC6 HPW3

This course covers aspects of audio production relating to the production of soundtracks for film and video. Students are introduced to various conceptual, stylistic, aesthetic and philosophical approaches to the use of sound within screen-based media, with attention also being paid to the relationship of sound to other art practices. A screening and listening lecture program examines various sound/music pieces, installations and soundtracks.

SOMA9002
Sound Construction 2
School of Media Arts
UOC6 HPW3
Prerequisite: SOMA9001.

This course continues the examination of both the audio/visual relationships and sound/music genres, while expanding on the techniques and ideas taught in the previous semester. Both individual and group projects will be based around the development of sound design works that relate to screen based media, or stand alone works that explore the creative uses of sound in their own right. The relationship of sound to editing within other works within time based and interactive works will be examined. Technical knowledge of sound recording and editing will be refined, with a concentration on integrating the use of sound into the production and post production process. Further techniques such as MIDI composition and analogue synthesis will be explored.

SOMA9101
Video Construction
School of Media Arts
UOC6 HPW3

This course explores the creative use of the video medium as a means of understanding both televisual and cinematic representation and the techniques involved in production of both documentary and narrative works. The technique and grammar of the medium is explored, with students undertaking production work in studio sessions to gain a practical appreciation of the material outlined in lectures and screenings. Screenings are scheduled within the lecture program to give students a common base of experience in the history and creative aspects of the medium.

SOMA9102
Production Workshop - Development of Integrated Media Programs
School of Media Arts
UOC6 HPW3
Prerequisite: SOMA9101.

This course develops a program of integrated production methods that span production budgeting and management, scheduling and the integration of a suite of production technologies into the development of screen based programs. Students are introduced to detailed elements of the production process, such as the management of budgets, production personnel and resources, as well as the realization of creative ideas at a range of budget points. The balance of creative vision with the real world constraints of production is explored, along with the costing and scheduling of production. Students are further introduced to the possibilities of a range of production technologies that extend the creative possibilities of digital production such as compositing and effects tools, different lighting tools and production tools that extend the possibilities of low budget production. A workshop exercise is integral to the course, with all students completing a collaborative project that integrates the principles taught in the course.

SOMA9201
Three Dimensional Animation 1
School of Media Arts
UOC6 HPW4

This s a basic suite of principles and processes used in the production of three-dimensional animation. Basic concepts of modelling, lighting and texturing are covered to allow students to progress with more complex work in this medium. Because of the detail and complexity of the skills involved in this subject, students undertaking this work will be expected to devote a significant portion of their time outside of classes to progress with this work in a satisfactory manner.

SOMA9202
3D Animation Workshop
School of Media Arts
UOC6 HPW3
Prerequisite: SOMA9201.

This is an advanced course that assumes prior knowledge of 3D software. The 3D Animation Workshop provides a platform for comprehensive instruction in the disciplines required for professional short animation production. The class will also illustrate many applications for 3D computer effects and animation in the world of digital media. The 3D Animation Workshop extends on the concepts developed in the introductory sessions of 3D Animation 1.

SOMA9500
Digital Media Major Project Workshop
School of Media Arts
UOC18 HPW6
Prerequisite: SOMA9102 or SOMA9202.

This course involves the development of a major project in the field of digital media that integrates the work undertaken in the first two semesters of the Masters program in the context of a complete production. Students are asked to plan and produce a collaborative or individual exercise that follows an agreed schedule, scope and budget, which integrates the digital production processes they have been using within the masters program. Close consultation with an academic supervisor is a key component of this course, as is group work and analysis on the planning and execution of projects. Works undertaken may range from short narrative and documentary subjects, to motion graphics works, interactive or installation works and 3D animations. It is expected that a significant commitment outside of formal teaching hours will be required from students to complete this course.

SOMA9705
Lighting
School of Media Arts
UOC6 HPW3

Lighting is designed to explore the nature of light and expand the understanding of "light" in many of its forms. Light in relation to digital production, issues of the consistency of light the fall of light, lighting for multiple outcomes, the measurement of light, key lighting and light ratios. Colour temperature in relationship to available light, artificial light, and studio lighting tungsten and electronic. This course will seek to establish an understanding and appreciation of the roll light plays in the image making process.

SOMA9713
Photomedia 1
School of Media Arts
UOC6 HPW3

This studio-based course will assist students in developing the conceptual and practical abilities to produce imagery in the context of contemporary art practice. Students will be encouraged to develop their critical, analytical and investigative skills within an environment that fosters an awareness of historical precedents, theories of contemporary photography and inter-disciplinary approaches.

SOMA9714
Photomedia 2
School of Media Arts
UOC6 HPW3
Pre-requisites:SOMA9713

This studio-based course will assist students in consolidating their practical and conceptual skills into a resolved body of work that their focus of inquiry within the broad field of photo-based image production. Students are encouraged to progressively develop the ability to assess their practice within the context of contemporary art practice.

SOMA9715
Photomedia 3
School of Media Arts
UOC6 HPW3

To develop conceptual and practical abilities at a professional level in the production of imagery appropriate to a contemporary art practice.

SOMA9716
Photomedia 4
School of Media Arts
UOC6 HPW3

To develop conceptual and practical abilities at a professional level in the production of imagery appropriate to a contemporary art practice.

SOMA9717
Time-Based Art 1
School of Media Arts
UOC6 HPW3

Students will create and present conceptually and theoretically informed practical investigations into chosen time based art practices which may include: experimental film, video art, performance, installation, interactive multimedia and experimental sound. The course also encourages students to critically analyse the conceptual basis of their work and to develop technical and conceptual skills appropriate to the work. It is assumed that the student will have had an appropriate and related undergraduate training in the fine arts and possess a level of technical skill to begin practical work

SOMA9718
Time-Based Art 2
School of Media Arts
UOC6 HPW3
Pre-requisites SOMA9717

Students will continue to create and present conceptually and theoretically informed individual art work in the areas of: experimental film, video art, performance, installation, interactive multimedia and experimental sound. The course will further encourage students to critically analyse the conceptual basis of their work and continue to develop technical and conceptual skills appropriate to the development of the work. It is expected that by the end of the course the student would have developed an individual art practice to a high level and understand the context in which contemporary time based and media art work is created and presented.

SOMA9719
Time-Based Art 3
School of Media Arts
UOC6 HPW3

To develop contemporary forms of art practice from the interdisciplinary areas of installation and performance and from the technologies available to the time based areas of film, video, sound and computing; to allow ideas to develop with these means which are critically acute and appropriately informed.

SOMA9720
Time-Based Art 4
School of Media Arts
UOC6 HPW3

To develop contemporary forms of art practice from the interdisciplinary areas of installation and performance and from the technologies available to the time based areas of film, video, sound and computing; to allow ideas to develop with these means which are critically acute and appropriately informed.

SOMA9725
Introductory Interactive Multimedia
School of Media Arts
UOC6 HPW3

This course will develop knowledge and awareness of concepts and techniques involved in multimedia computing within a visual arts context. The focus of the course will be on utilising multimedia authoring tools to acquire the knowledge and skills to produce individual or collaborative projects. Emphasis is on self-development and progress by constant exploration and practice. This course is intended to provide creative opportunities and support for the interested non-specialist. The goal is to support the student in an experimental artistic practice.

SOMA9726
Introductory Animation
School of Media Arts
UOC6 HPW3

Introductory Animation is a general introduction to various techniques and methods involved with both the linear capture of pictures onto film or hard drives, and other computer animation techniques. Students will develop timing skills and investigating through workshops various approaches to timing. Through a series of projects, workshops and tutorials students will also develop a comprehensive range of approaches to computer animation.

SOMA9730
Analogue Photography
School of Media Arts
UOC6 HPW3

This course will provide an introduction to and overview of black and white analogue photographic processes. The emphasis is on the investigation of analogue photographic techniques as utilised by contemporary visual arts practitioners. The following basics are covered: overview of 35 mm camera operation; B/W film types and exposure; film processing and printing; darkroom procedures; and print finishes and presentation. Practical workshops in camera use and darkroom practice are conducted to enhance the acquisition of technical skills towards the production of photomedia based works of an increasingly professional standard

SOMA9731
Digital Imaging
School of Media Arts
UOC6 HPW3

In this studio workshop the student is introduced to the basic concepts and potential of digital imaging processes. The emphasis is on the integration of digital imaging technologies as utilised in visual arts practices. The course explores how the application of digital processes can be used for extending image visualisation, production and presentation. The student is introduced to examples of artworks by contemporary artists who have applied, or integrated, digital technologies within their work.

SOMA9736
Advanced Analogue Photography
School of Media Arts
UOC6 HPW3

Assumed knowledge of basic photographic processes and techniques is necessary for this course. Assumes student has knowledge from Undergraduate studies or Professional practice in photomedia (Completion of SOMA9730 meets this requirement) .

The course provides an introduction to and overview of colour analogue photographic processes and medium format camera operation for graduate students. The emphasis is on the investigation of analogue photographic techniques as utilised by contemporary visual arts practitioners. The following basics are covered in Graduate Analogue Photomedia: overview of medium format camera operation; colour film types and exposure; colour (type C) printing techniques; colour darkroom procedures; and colour print finishing and presentation. A demonstration of medium format camera use and workshops in colour darkroom practice are conducted to enhance the acquisition of technical skills towards the production of photomedia based works of an increasingly professional standard.

SOMA9737
Vector Graphics in Visual Arts
School of Media Arts
UOC6 HPW3

Assumed knowledge of photographic processes and digital imaging software is necessary for this course; the equivalant of SART1312.

In this studio workshop the student explores advanced photo-based digital imaging techniques, and is introduced to interrelated software suitable for the production of illustration and graphic based images, and artist's publications. Students will also be introduced to advanced scanning equipment and their requirements. The emphasis is on the integration of digital technologies as utilised in visual art practices. The course advances the student's skills for image production, visualisation and presentation.

SOMA9739
Advanced Interactive Multimedia
School of Media Arts
UOC6 HPW3
Pre-requisites:SOMA9725

This course will enable students to further develop their conceptual and technical skills in multimedia production. It will cover a variety of approaches and software for producing online work utilising the web to develop the knowledge and techniques to produce individual projects. Emphasis is on the completion of fully operational interactive projects.

SOMA9740
Narrative and Gameplay
School of Media Arts
UOC6 HPW3

This course provides a detailed examination of screen based media in both popular cinema and interactive games. Principles of narrative structure are introduced, with a detailed examination of the roles of archetype, genre and myth in the development of narrative experience. Students undertake creative exercises in the development of scenarios based on these principles.

These concepts lead into a detailed examination of the games media its history and current developments in both technology and gameplay as they relate to use experience. Different games are explored from a theoretical point of view, while students develop original scenarios for their own games.

SOMA9741
Writing for Digital Media
School of Media Arts
UOC6 HPW3

This course aims to develop the creative writing skills of students in a way that is meaningful to their work as media practitioners. Writing scenarios, genres and styles are explored through creative writing exercises, while students both produce and critique a range of different written texts that extend their skills as writers.

Screenplay and storyboarding for films are also developed, with a particular emphasis on the wholistic development of correctly formatted script materials. Students are exposed to case studies in both script and character development, and these concepts are extended into practical visualisation through storyboards.

Interactive media are considered, with specific reference to styles of interactivity, information architecture and the role of the user in interactive experiences.

SOMA9742
Introduction To Sound
School of Media Arts
UOC6 HPW3

Students will gain the conceptual and technical skills to develop soundscapes and audiovisual soundtrack work. Technically, the following elements are covered: digital sound recording, editing and mixing; sampling; synthesis and; sound design. All students will gain proficiency on the basic operation of the sound studios. Various conceptual, aesthetic and philosophical approaches to sound and sound design will be introduced through critical discussion of examples and project work.

SOMA9743
Advanced Animation and Video Graphics
School of Media Arts
UOC6 HPW3
Pre-requisites:SOMA9726

Advanced Animation and Video Graphics offers the student who had already completed Introductory Animation the chance to develop more complex techniques and projects. More emphasis is given to project management and a greater detail is developed about the particular project requirements. Also more detail is given to Composting and other Video Graphic techniques.

SOMA9744
Advanced Sound
School of Media Arts
UOC6 HPW3
Pre-requisites:SOMA9742

Advanced Sound allows postgraduate students to further develop principles, techniques and applications of sound technology and theories that have been introduced in "Introduction to Sound". Comprised of lectures, a screening and listening program, individual and group work, and consultation processes, the course expands upon techniques and ideas in soundscape; sound design and sound/music scores for audio/visual works; MIDI composition, synthesis, and surround sound. Students will develop and complete individual projects across those audio strands that are relevant to their practice.

SOMA9745
Introduction to Photographic Studio Lighting
School of Media Arts
UOC6 HPW3

This course introduces students to the basic analysis and control of natural and artificial light for photography. Students are instructed how to observe the quality of natural light for photography as a basis for learning basic photographic studio lighting techniques and their creative applications. Students require knowledge of basic B/W and colour photography; 35mm camera operation; film exposure and processing; and print production. The emphasis is on the development of new technical skills central to the production and advancement of students' work. Exercises and projects are set which focus on the production of photographic images for contemporary visual art works.

SOMA9746
Advanced Photographic Studio Lighting
School of Media Arts
UOC6 HPW3
Prerequisite: SOMA9745.

This course introduces students to advanced techniques in studio lighting and their creative applications. The course focuses on the use of artificial lighting techniques for studio lighting set-ups in addition to specific lighting techniques for portraiture and still life. The student is required to have knowledge of basic lighting techniques; B/W and colour photography; 35mm camera operation; film exposure and processing; and print production. The emphasis is on the development of new technical skills central to the production and advancement of the studentâ 's work. Projects are set which focus on the production of photographic images for contemporary visual art works.

SOMA9747
Cinematography Workshop
School of Media Arts
UOC6 HPW3

Cinematography Workshop offers students grounding in the technical operation of cameras and lighting equipment, and also explores related conceptual approaches. Attention is focused on the control of the media through an understanding of framing, lighting, film stock and professional video formats. Areas of study include camera operations, film language, exposure, lighting, camera mounts, frame speed, filters, printing, the laboratory process and, increasingly, high-definition video production processes. Classes include demonstrations and workshops, discussions and tutorials, reviews and critiques.

SOMA9749
Video Art
School of Media Arts
UOC6 HPW3

Video Art offers an engagement in the process of creating individual video art projects including the technical, theoretical, conceptual and historical understanding of the artform. Final Cut Pro digital video editing software, simple DVD authoring and the processes of creating video installations are covered within the course. Classes include demonstrations, workshops, screenings, discussions and technical instruction.

SUSD0001
Sustainable Development and the Urban Environment
Architecture Program
UOC6 HPW3

A review of innovative approaches to the planning, design and management of the 'sustainable city', with an emphasis on techniques which seek to maintain and/or improve air quality, water quality and biodiversity. Topics include principles of urban ecology and sustainable development, the ecological 'footprint' of the metropolis, water cycle management, urban design and transportation issues, urban forestry, parks systems and greenways, use of tools for assessment/evaluation. The course will be based on lectures, seminars and case studies.

SUSD0002
Resources, Materials and Sustainability
Architecture Program
UOC6 HPW3

The life cycle of building materials from the availability and acquisition of the raw materials, through processing and manufacture to on-site construction and use, maintenance and refurbishment, and eventual demolition and reuse/recycling or disposal. Consideration of environmental impacts at each stage of the life cycle, such as embodied energy, wastes generated and their disposal, and ways in which design may minimise or eliminate such impacts. Economics and management of sustainable buildings.

SUSD0003
Energy and the Built Environment
Architecture Program
UOC6 HPW3

Energy - definitions and terminology. Energy flows, balance, options, demand and supply solutions in the context of the Built Environment. Urban energy infrastructure impact, energy in transportation, global warming and environmental impact assessment. Use of tools for assessment/evaluation (performance simulation and benchmarking). Future technologies, architectural impact and regional development implications.

SUSD0004
Human Factors, Sustainability and Habitability
Architecture Program
UOC6 HPW3

The impact of buildings and urban environments on quality of life or habitability, and of values and preferences on sustainability or quality of the environment, concentrating on five fundamental human factors: environmental responsibility, health and wellbeing, comfort and amenity, security, and equity. Responsibility focuses on practitioner and community environmental ethics. Health evaluations include sick building syndromes, light quality and performance, indoor air quality, and urban thermal- and air-pollution. Comfort and amenity concentrate on the influence of user knowledge and preference on energy use and environmental impact. Security evaluates the role of environmental design and territoriality in the experience of security in buildings and urban domains. Equity aspects include affordability, accessibility, and community participation in environmental design and management.

SUSD0005
Graduate Project
Architecture Program
UOC18 HPW6

A supervised research or design project from a selected field of interest will be identified in consultation with the Program Head. A research topic may exted to areas of interest in closely related disciplines if suitable arrangements can be made for supervision. In case of a research project, its design and methodology should be well resolved prior to proceeding with the other aspects of the research. In case of a design project, a suitable design brief should have been agreed to with the supervisor prior to entering the design phase. The outcomes in either case should demonstrate high level skills and communication. The research report should not exceed 20,000 word.

SUSD0006
Design Research Methods
Faculty of the Built Environment
UOC6 HPW3

This core course aims to inform students enrolled in the Master of Sustainable Development Program (and other FBE Coursework Masters Degrees or Research Postgraduates - as an elective) of the range of research methods appropriate to the understanding and design of the built environment, and to assist them in the development of their Graduate Projects, Workbook Assignments (or Dissertations) and Design Studio Investigations. Given the complex array of interrelationships between people and their physical, ecological, economic, socio-spatial and cultural environments which need to be considered by the responsible practitioner, the Course ranges widely across the research strategies available - from observation and simulation of buildings and cities to building physics, post occupancy evaluation and statistical verification. Theoretical, empirical and phenomenological approaches are elaborated, and both qualitative and quantitative methods addressed.The course is offered in intensive mode, two 3-hour lecture/seminars a week for 5 weeks with week 6 designated as research write-up time, with no class time. The seminar periods (and computer laboratory) allow students the opportunity for interaction, discussion and practice. The outcome expected is the development of a comprehensive research proposal - based on students' areas of interest - and inclusive of a critical rationale for the Design Research Methods selected. Serves as a hypothetical basis for the Graduate Project (Research or Design).

SUSD0007
Desgin Studio
Faculty of the Built Environment
UOC12 HPW0

This course is offered to students enrolled in the Master of Sustainable Development Program (and other FBE Coursework Masters Degrees or Research Postgraduates - as an elective). The Design Studio is an opportunity for students to acquire and apply the design skills required to integrate environmental issues in architecture. The focus of the studio is the single building or group of buildings, with an emphasis on minimizing the impact of buildings on the global environment, while maintaining environmental quality within the building by using passive or bioclimatic approaches to design. This studio complements others dealing with broader urban and regional scales, offered by the Master of Urban Design and Development (MUDD) program in the Faculty of the Built Environment. On completion of the Studio, students will be able to demonstrate professional level skills in the management and application to design development of advanced computer modelling of energy use, renewable energy, thermal performance, air flow and lighting, and will have undertaken at least some physical scale modelling for analysis and visualization of wind effects, solar penetration and shading, daylighting and acoustic performance. They will be able to prepare compliance reports to support their design work, under one or more sustainability rating frameworks such as Australian Greenhouse Building Rating tool (AGBR) or BASIX, the world's first web-based planning tool designed to assess the water and energy efficiency of new residential developments.

SWCH9001
Basic Reproductive Physiology
School of Women's and Children's Health
UOC6

This course begins in the areas of genetics and molecular biology, then explores the reproductive, and other related hormonal systems, and their effect on reproduction. The male reproductive function and spermatogenesis are also reviewed. The mechanism of sexual determination, differentiation and development towards reproductive competence are examined.

SWCH9002
Contraception
School of Women's and Children's Health
UOC6

This course deals with the social, epidemiological and ethical aspects of family planning. It explores the various methods of contraception, sterilisation and pregnancy termination, enabling students to better understand possible future developments in family planning.

SWCH9004
Clinical Reproductive Medicine 1
School of Women's and Children's Health
UOC6

This course is predominantly an introduction to infertility with areas of study including epidemiology, preliminary and advanced investigation and diagnostic techniques for both female and male factors. Although not focusing on technique the role of ultrasound, endoscopic and radiological procedures will be explored.

SWCH9007

Menopause
School of Women's and Children's Health
UOC6

This course explores the historical and epidemiological aspects of the menopause. It seeks to develop an improved understanding of the physiology and pathophysiology of menopause thereby better enabling the student to provide competent.

TAHM5010
Global Perspectives in Tourism
School of Marketing
UOC6 HPW3
Prerequisite or corequisite: MARK5800 or MARK5801

Examines and discusses contemporary global tourism issues from the perspectives of government, business and customers/visitors. Issues include crisis management, recovery strategies for disaster-hit destinations, sustainable tourism, technological contribution to the global tourism industry, development of cultural and nature-based tourism, and the conflicting imperatives of economic gains vs social impacts of tourism in developing societies.

TAHM5011
Strategic Tourism Marketing
School of Marketing
UOC6 HPW3
Prerequisite or corequisite: MARK5800 or MARK5801

Through case-studies and real-world examples, students learn, evaluate and debate the strategic marketing activities adopted by private- and public-sector tourism organizations. Fundamentals of strategic marketing in tourism, such as branding, segmentation and cooperative alliances, are discussed in depth. Particular emphasis on how strategic options differ between small & large-scale enterprises and national destination & regional destination organisations. A research assignment requires students to develop a strategic marketing plan for an existing tourism operation.

TAHM5012
Creating & Managing Alliances in Global Tourism
School of Marketing
UOC6 HPW3
Prerequisite or corequisite: MARK5800 or MARK5801

The highly competitive environment in global tourism demands that tourism destinations, tourism enterprises and government-funded tourism promotion bodies develop innovative means of reducing marketing costs, optimising marketing reach and implementing more effective marketing strategies. Adopting a case-study learning approach, students are exposed to a variety of real and artificial scenarios for achieving effective alliances. The main alliances studied are those adopted by airlines, hotels and destination organisations.

TAHM5013
Destination Marketing & Management
School of Marketing
UOC6 HPW3
Prerequisite or corequisite: MARK5800 or MARK5801

Today's international and domestic tourists seek more than the traditional sun-and-surf destinations. Some of the motivational drivers that destinations now use to attract tourists in an increasingly competitive environment revolve around nature-based experiences, adventure, culture, retailing and entertainment, events, meetings and conventions. Yet for destination marketing and management organisations influencing demand represents just one side of the coin. They must also manage supply side issues: private sector investment in tourism facilities, government support of tourism promotion, service quality standards, promotion of information technology to industry and tourism industry support through market intelligence and management advice. Case-studies, guest lectures and in-depth research projects support the learning objectives of this course.

TELE9301
Switching System Design
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: TELE4363

To provide an introduction into principles, structures and methods for constructing switching systems capable of supporting data, voice, image and video transport. The focus is on the design principles as well as the methods for constructing networks which provide quality of service guarantees. A student who successfully completes this course will get an understanding of the trends, and the key switching technologies, and develop the understanding necessary to design, analyse and implement traffic and congestion control in data communication networks.

TELE9302
Computer Networks
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: TELE4352

An overview of computer networks. Issues in the data link layer: Error correction and detection, flow and error control and shared medium access schemes. Concepts in the network layer: introduction to the Internet Protocal (IP), IP addressing, classical IP subnetting technique and IP routing. Transport layer concepts: introduction to the Transport Control Protocol (TCP) and User Datagram Protocol (UDP). The operation of the different Internet applications: HTTP, DNS, FTP, SMTP and Internet multimedia streaming applications.

TELE9303
Network Management
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: TELE4354

This course complements courses in Switching Systems, and Computer Networks and gives students an understanding of the concepts of network and content management. It introduces concepts that are used in the management modern communication networks by examining SNMP in detail. Then it introduces the concepts that are used for management of mobility in these networks. Finally, it examines the concepts of content management by examining the fundamental concepts of caching, and the emerging technologies associated with content distribution networks.

TELE9337
Advanced Networking
School of Electrical Engineering and Telecommunications
UOC6 HPW3

Data transmission on telephone networks. Local area network interconnection. Analysis of protocols for data link, network and transport layers. TCP/IP protocols. Operating system views of communications; network protocol drivers, network servers. Case studies: Asynchronous Transfer Mode (ATM), MPLS, Wavelength Division Multipleting (WDM) and Multimedia Communications.

TELE9343
Principles of Digital Communication
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: TELE4333

Principles of signal time discretisation, amplitude quantisation, A/D and D/A conversion. Matched filter receiver, principles of single symbol digital signal detection and probability of bit/symbol error. Intersymbol interference (ISI), Nyquist criteria for ISI free transmission. Equalization, linear equalizar, decision feedback equalizer. Adaptive equalization, LMS algorithm (RLS adaptive algorithm - optional). Khinchin's geometrical representation of digital signals. Communication system as a signal vector space. Application of Gram-Schmidt ortogonalization procedure in telecommunications. Modulation schemes BPSK, FSK, QPSK, MSK. Probability of bit error and spectral properties of mentioned modulations. (CDMA and spread spectrum principle - optional). Principles of Information Theory. Entropy, source coding, Shannon channel capacity for discrete and continuous channels. Channel coding theory; Block, cyclic and convolutional codes; Viterbi decoding; Trellis coded modulation. Principles of soft-input soft-output decoding algorithms, turbo codes.

TELE9344
Cellular Mobile Communications
School of Electrical Engineering and Telecommunications
UOC6 HPW3
Excluded: TELE4353.

Modern communication systems from a systems point of view. Cellular mobile communication systems. Radio Propagation-loss model. The mobile fading channel. Multiple access techniques TDMA, CDMA. Modulation and coding in mobile communication systems, Equalization and channel diversity, Wireless Standards - GSM and CDMA IS-95. The concept of Spread Spectrum (SS) Communications - historical background; Major Characteristics of SS-CDMA; Direct Sequence Spread Spectrum; Basic Features of DS-CDMA Systems, PN Sequences; CDMA System Processing Gain; Synchronization in CDMA; The BER Performance of DS-CDMA System; Interference Limited Capacity of a Single Cell CDMA System; Adaptive Mutiuser Detection on Multipath Fading Channel; Diversity and Smart Antennas ;Antenna Beam-Forming, and Space Division Multiple Access ; Overview of Fundamental Concepts Used in IS-95 CDMA; Channel Coding (Convolutional Codes); Maximum Likelihood Decoding (Viterbi Algorithm); Hadamard-Walsh Orthogonal Coding (orthogonal modulation); Concatenated Coding and Block Interleaving ; IS -95 CDMA Link Capacity; CDMA 2000; Evolution of IS-95 to CDMA 2000; Conceptual Similarities and Differences Between IS-95 and CDMA 2000.

TELE9345
Adaptive Signal Processing in Telecommunications
School of Electrical Engineering and Telecommunications
UOC6 HPW3

The course is roughly in two halves. The first half covers adaptive signal processing and the second half concentrates on telecommunication applications. The adaptive signal processing material will cover a selection of topics from: algorithm construction (for both finite impulse response and infinite impulse response filters) such as LMS, EWLS, Kalman filter based algorithms and their derivatives; algorithm stability (including tracking analysis) and algorithm performance (including misadjustment). Background stochastic process material such as autocorrelations, autoregressive processes, spectra will also be included. The telecommunications component will focus in depth on applications such as equalization and mobile channel estimation, signal carrier and timing synchronization, adaptive multiuser detection in 3G mobile communication systems, adaptive CDMA RAKE receivers, adaptive or smart antennas in mobile communications. There will be a significant computational component to the course involving computer based simulation.

TELE9912
Project Report A
School of Electrical Engineering and Telecommunications
UOC6 HPW6

The project is done in a major area, under the supervision of an academic member of staff. Where the work is carried out externally, a suitable co-supervisor may be required. Projects can take many forms such as the design and construction of experimental equipment or a theoretical investigation. Work is to be carried out over two sessions. At the end of the work a comprehensive project report giving an account of the student's own research must be submitted. Information on the preparation of project reports is contained in the University Calendar.

TELE9913
Project Report B
School of Electrical Engineering and Telecommunications
UOC6 HPW6

The project is done in a major area, under the supervision of an academic member of staff. Where the work is carried out externally, a suitable co-supervisor may be required. Projects can take many forms such as the design and construction of experimental equipment or a theoretical investigation. Work is to be carried out over two sessions. At the end of the work, a comprehensive project report giving an account of the student's own research must be submitted. Information on the preparation of project reports is contained in the University Calendar.

UDES0001
Urban Design Studio
Architecture Program
UOC12 HPW6

The aim of this studio is to establish a knowledge base for commencing students upon which urban design skills can be developed. The studio commences with generic design studies investigating the paradigms and typologies if urban design to develop a vocabulary of urban space upon which later design studio projects can be built. This is followed by a conceptual project, which provides an initial opportunity of applying what has been learned to a specific urban setting. Note: Where enrolment numbers permit, students commencing in Session 2, or part-time students for whom this is the concluding studio, will undertake an alternative

project in a specific urban setting aimed as refining professional urban design skills.

UDES0002
Urban Design Studio
Faculty of the Built Environment
UOC12 HPW9

Building on the introductory generic and conceptual introductory projects, this studio investigates a large-scale and complex urban development (or re-development) area, usually in Sydney or another major urban centre in NSW. This studio commences with a broad analysis of the social, economic, environmental and regulatory factors shaping urban form followed by the development of a conceptual framework (structure plan) for future development. The detailed design of urban elements and precincts is then undertaken including the development of guidelines capable of ensuring that design intentions can be realised. Typically, this includes residential, commercial, and institutional and transport infrastructure elements. The emphasis is on creating a socially responsible, environmentally sustainable and commercially feasible urban environment with reference to current urban design priorities such as urban consolidation and ecologically sustainable development principles. Note: When enrolment numbers permit, students commencing in Session 2, or part-time students for whom this is their first studio, will undertake an alternative studio similar to that outlined for UDES0001 Urban Design Studio.

UDES0003
Urban Design Studio
Architecture Program
UOC12 HPW12
Must be enrolled in Program 8131

This studio focuses on major urban projects in international cities. The location of the project will vary from year to year and typically involves two alternative locations, one of which is usually located in the East Asian region. The projects are typically large-scale urban interventions that are complex by nature and may include financial and commercial centres, tourism and recreation development, housing areas and associated transport, services, communications, and environmental management. Central to the studio is developing an understanding of the regional context in socio-cultural, political, economic and environmental terms through expert briefings and field investigations and consideration of these factors in the urban design process and appropriateness of the design products. The studio normally involves two weeks of intensive overseas studio and field work (sometimes in collaboration with a local university) followed by 5 to 6 weeks of studio work back in Australia. Note: Travel and associated costs for this project are in addition to the course fees.

UDES0004
History and Theory of Urban Development and Design
Architecture Program
UOC6 HPW2

Over the last twenty years there has been a revolution in production, from one based in nation states, to global economic networks and informational capitalism. Over the same period, and in order to explain what is happening, critical urban theory has undergone a similar revolution. Fundamental to this change has been a movement from pure social and economic theory to incorporate the creation of spaces and places. The rate of change has been such that theoretical explanation of the world we live in has had difficulty in keeping up with the accelerating pace of social change. Using international examples of development, including from the South East Asian region, this course first builds a theoretical scaffolding that explains the forces underlying the global political economy, prior to a series of case studies of capital cities and the urban projects currently being built within them. The course therefore integrates the real world of development and urban design, with the world of theory. In the process a comprehensive picture is constructed of the growth of cities and the complexity of urban space.

UDES0006
Case Studies in Urban Development and Design
Architecture Program
UOC6 HPW4

Generic examples of urban development and design assembled from both Australia and the SE Asian region are presented and analysed in order to assess the validity of the objectives, the effectiveness of the process, and the costs and benefits of the results in improving the city and the welfare of its citizens. The major object is to demonstrate through practical examples how major developments are conceived, financed, designed and built.

UDES0007
Planning and Urban Development
Architecture Program
UOC6 HPW2

Understanding the relationship between processes of urban development and regulatory systems is central to urban design. This course deals broadly with nature of the property market, the development industry and systems of planning law and administration and how they interact in the context of major urban projects. It also outlines the various methods for developing guidelines that ensure that urban design intentions can be successfully realised. These issues are explored from both an international and local perspective using examples and case studies.

UDES0009
Urban Landscape and Heritage
Architecture Program
UOC6 HPW2

This course critically examines the role of landscape architecture and heritage conservation in the making of the modern city. While it distinguishes between nature and artifice (something created from human labour) it recognises that the earth is now both commodified and urbanised. As a consequence, the landscape and history of the city have become central to the human condition in direct proportion to the modification, manipulation and loss of these key components of urban identity. Therefore, a fundamental knowledge of the relationship between development impacts, heritage conservation and environmental sustainability is critical to an understanding of contemporary urbanisation. The course explores the relationship between ecology, history and urban morphology, showing how theoretical constructs within the discipline have changed with the changing landscapes of production and consumption which now characterise the cities of the world.

UDES0010
Communication in Urban Design
Faculty of the Built Environment
UOC6

Focuses on two of the main communication modes of urban design - publication and exhibition. Skills in writing, editing, graphic design, photography, publishing, exhibition design and management are developed through the preparation of the annual MUDD publication and exhibition.