

# 4

## Subject Synopses



# SUBJECT SYNOPSES

## Gardens Point campus

This section provides synopses of the subjects offered on the University's Gardens Point campus. The synopses are presented in alpha-numeric order according to their codes.

### Subject coding and numbering

The subject code is of the format XXX999. The first two characters indicate the Department, School or Faculty administering the subject. The third character indicates the level of the course in which the subject is normally taught.

### Subject Coding

AC Accountancy  
AR Architecture and Industrial Design  
AS Science  
BE Biology  
BG Construction Management  
BS Business  
BT Built Environment  
CE Civil Engineering  
CH Chemistry  
CM Communication  
CS Computing Science  
EE Electrical and Electronic Systems Engineering  
EN Engineering  
ES Applied Geology  
HS Health Science  
IN Information Technology  
IS Information Systems  
LP Planning and Landscape Architecture  
LW Law  
MA Mathematics

ME Mechanical and Manufacturing Engineering  
MN Management  
MS Medical Laboratory Science  
NS Nursing  
OP Optometry  
PH Physics  
PN Public Health and Nutrition  
SV Surveying  
IF Interfaculty

### Subject Numbering

N Masters Degree  
P Graduate Diploma  
B Bachelors Degree  
D Diploma  
A Associate Diploma (all schools except Engineering)  
T Associate Diploma in Engineering Faculty  
S Special Subjects

### Prerequisite and co-requisite subjects

For definitions of the terms prerequisite and co-requisite subject(s) refer to Rule 1.10.2 of the Student Rules, Policies and Procedures in this Handbook.

[R] = Repeat-requisite; the prerequisite or co-requisite requirements may be satisfied by attempting the subject – a passing grade is not essential. A student is deemed to have attempted the subject if all assessment requirements have been attempted when registered for the subject. If failed, the repeat-requisite must be repeated at the first opportunity.

### ■ ACB110 ACCOUNTING I

Introduction to accounting; recording business transactions; adjustments; preparing financial statements; merchandising operations; accounting systems; specialised journals; cash; internal control; non-current assets; receivables; payables; inventories; sources and applications of funds; analysis and interpretation of financial statements.

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB115 ACCOUNTING II

Partnerships; cash flow statements; introduction to company accounting; introduction to tax-effect accounting; preparation of financial statements; alteration of share capital; issue and redemption of debentures; funds statements; investments; introduction to consolidations; analysis and interpretation of financial statements.

**Prerequisite:** ACB110

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB140 BUSINESS LAW

The components of the Australian legal system and the judicial process; the way legal decisions are made; a study of contract law.

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB180 ACCOUNTING FOR MANAGERS

Introduction to recording business transactions; preparation of financial statements; accounting for inventory control accounts and subsidiary ledgers; structure of organisations and company accounts, analysis and interpretation of financial statements; the managerial accounting costing process; cost accounting systems; standard costing and variance analysis; managerial accounting and decision making.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB181 ACCOUNTING INFORMATION SYSTEMS I

The functions, activities and structure of organisations and the basic concepts of information and decision making; examination of the nature and role of the two general accounting systems which are found in an organisation – the Financial Accounting Information System (F.A.I.S.) and the Managerial Accounting Information System (M.A.I.S.); the procedures and techniques involved in the F.A.I.S. and the management planning and control system.

**Credit Points:** 9    **Contact Hours:** 2 per week

### ■ ACB212 COMPANY ACCOUNTING

Company formation; accounting for company income tax (tax-effect accounting); liquidation; acquisition of assets (including companies); consolidated financial statements; equity accounting; and disclosure in company financial statements.

**Prerequisite:** ACB115

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB220 COST ACCOUNTING

Cost accounting terminology; costing systems and cost estimation techniques.

**Prerequisite:** ACB110

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB230 FINANCIAL MANAGEMENT I

Valuation; financial mathematics; capital budgeting; CAPM (Capital Asset Pricing Model); WACC (Weighted Average Cost of Capital); and introduction to the concept of risk; portfolio theory.

**Prerequisite:** ACB115 and MNB252

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB231 AUSTRALIAN CAPITAL MARKETS

The Australian Capital Markets; institutions and behaviour; development of financial market mathematical skills.

**Prerequisite:** MNB251

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB240 LAW OF BUSINESS ASSOCIATIONS

The law relating to the establishment, operation, and dissolution of business associations; the forms of business associations; partnerships, joint ventures, trusts, companies and voluntary associations.

**Prerequisite:** ACB140

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB280 HEALTH ADMINISTRATION FINANCE

Fund/accrual accounting; financial administration in Commonwealth and State Government; financial management in the health industry; financial analysis; planning and budgeting, working capital management in the health industry; health care performance and evaluation.

**Prerequisite:** ACB383 or ACB110

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB281 BUILDING FINANCIAL MANAGEMENT I

The accounting process and accounting systems in the Building Industry; the nature of accounts, liabilities, and proprietorship; the accounting equation and balance sheet, ledger accounts and the double entry system, the accounting period concept, and profit determination; different forms of ownership and the basic nature of taxation; budgeting.

**Credit Points:** 4    **Contact Hours:** 2 per week

### ■ ACB282 MANAGERIAL ACCOUNTING PRINCIPLES

Budgeting, standard costs and variance reporting for manufacturing and non-manufacturing firms; managerial performance reporting, decentralised business operation, and capital budgeting; inventory planning, control and valuation; relevant costs and decision making, project control.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB310 ACCOUNTING THEORY & PRACTICE

The evolution of accounting theory; profits (determination and disclosure, revenue and expense recognition); assets (definition, recognition, measurement and classification); extractive industries; liabilities (definition, recognition, measurement and classification); leases; foreign currency translation; and joint ventures.

**Prerequisite:** ACB212

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB311 AUDITING

The audit environment; legal liability of auditors; professional ethics; study and evaluation of audit planning and programming, evidence, internal control theory and review techniques; audit program applications; revenue, receivables, cash, inventory; audit in EDP environment and evaluation of EDP controls; computer-assisted audit techniques, computer fraud, sampling techniques; the audit report.

**Prerequisite:** ACB212

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB312 AUDITING & PROFESSIONAL PRACTICE

The audit approach; planning an audit; verification of the balance sheet and profit and loss statement trade debtors, inventory, non-current assets, cash, investments, taxation, capital and retained profits; audit sampling theory techniques and applications; and other issues of current professional interest.

**Prerequisite:** ACB311

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB320 GOVERNMENT ACCOUNTING

Objectives, concepts and principles of government accounting, accountability, management control, budgeting; revenue and expenditure accounting; illustration of government accounting systems at all levels of government, comparative government budgeting and accounting systems; accounting information systems, internal audit and efficiency audit.

**Prerequisite:** ACB110

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB321 MANAGERIAL ACCOUNTING

Development of budgets; responsibility accounting; special decision making; transfer pricing; VP Planner; case study exercises; variance analysis; investigation of variances; inventory planning and control; project planning and control and strategic management; agency theory.

**Prerequisites:** ACB220, ACB230

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB322 FINANCIAL MODELLING

Supply and demand for financial information cross-sectional and time series analysis; bankruptcy prediction; empirical issues and evidence; debt ratings and financial information; financial analysis models; distress analysis and loan decision. An IFPS project is also included in the course.

**Prerequisite:** ACB230

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB330 GOVERNMENT FINANCE

An introduction to government finance, sources of public income, public expenditures, investment and debt; taxation objectives principles and Australian practices; instrumentalities of economic accountability, intergovernmental financial relations, government finance and economic policy, new financial legislation and institutions.

**Prerequisites:** ACB320, MNN106

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB331 FINANCIAL MANAGEMENT II

Firm decisions regarding dividends; capital structure; working capital and leasing; market efficiency; portfolio management; the nature and applications of options; takeovers and international finance.

**Prerequisite:** ACB230

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB332 PORTFOLIO & SECURITY ANALYSIS

The operation of Australia's financial markets; use of Stock Exchange data, to calculate betas and form investment portfolios.

**Prerequisite:** ACB230

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB335 INSURANCE RISK MANAGEMENT

Risk classification; measurement and analyses of risk; types of insurance policies available; the evaluations of an insurance program.

**Prerequisites:** ACB110, ACB230

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB336 INTERNATIONAL FINANCE

International financial markets; overseas finance; exchange rate; risk management; international investment; legislation.

**Prerequisites:** ACB230, ACB231

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB340 TAXATION LAW AND PRACTICE

Introduction to the Australian taxation system; the elements in calculating taxable income- assessable income and allowable deductions; the treatment of eligible termination payments, capital gains tax, trading stock and specific allowable deduction provisions (including substantiation); calculation of tax payable; and fringe benefits tax.

**Prerequisite:** ACB240

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB341 COMMERCIAL & SECURITIES LAW

Specific types of contract – sale of goods, hire purchase and agency etc; bailment.

**Prerequisite:** ACB140

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB342 COMPANY LAW & PRACTICE

The practical implementation of the accounting, auditing, meeting and managerial requirements of the Companies Code; the outworking of the law relating to insolvent and financially troubled companies; and the peculiar difficulties of the takeover provisions and the protection of minority interests.

**Prerequisite:** ACB240

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB343 TAXATION OF BUSINESS ENTITIES

The income tax treatment of the various business entities and classes of taxpayer; the principles governing the taxation of international transactions; the administration of taxation legislation; the imposition of non-income business taxes.

**Prerequisite:** ACB340

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ ACB344 TAXATION & PROFESSIONAL PRACTICE

Indirect and related business taxes; tax planning and client relationships; sales tax, stamp duty, payroll tax, workers compensation and land tax, tax planning, and client relationships.

**Prerequisite:** ACB340 **Co-requisite:** ACB343

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB345 FINANCIAL INSTITUTIONS - LAW

The general processes of the legal system; legal structures of financial institutions, bank-customer relationship; Cheque Act, negligent advice; Credit Act.

**Prerequisite:** ACB140

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ACB350 FINANCIAL INSTITUTIONS - LENDING

The principles and practice of lending; how loans are analysed in a banking environment; the legal relation-

ship between financial institutions and their customers.

**Prerequisite:** ACB230

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACB351 FINANCIAL INSTITUTIONS – MANAGEMENT**

Strategic planning; managing interest rate risk; liquidity; capital structure costing services; performance measurement; responsibility accounting and motivation; management of funding decision; management of the loan portfolio and liquidity; differential cost analysis and transfer pricing.

**Prerequisites:** ACB230, ACB220

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **ACB352 COMPARATIVE FINANCIAL SYSTEMS**

Introduction to the operations of important overseas capital markets.

**Prerequisites:** ACB231, ACB230

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACB360 COMPUTER SECURITY & AUDIT**

The impact of EDP on controls and auditing, general EDP controls, EDP application controls, generalised audit software, static and dynamic computer-assisted auditing techniques, special EDP environments and computer fraud.

**Prerequisite:** ACB311    **Co-requisite:** ACB311

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACB380 LAW & COMMUNICATION**

The institutions of the law, ordering the law – public and private; the fashioning of law – cases, precedent, legislation, delegated legislation interpretation, facts and the law, legal reasoning, the law library; limits on freedom of expression – torts and crimes – defamation, obscenity, laws and regulations affecting advertising – broadcasting, television and press, contempt of court.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACB381 PUBLIC ADMINISTRATIVE LAW**

The range of controls exercisable by common or statute law over governmental decision-making processes, where the validity of such processes is not dependent on special constitutional considerations and where it does not involve a question of mere liability under the existing categories of tort or contract law.

**Prerequisites:** MNB181, MNB183

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACB382 INTRODUCTORY ACCOUNTING**

The accounting equation and the double entry principle; recording business transactions; end of period adjustments; financial statements and closing entries; accounting for merchandising operations; specialised journals and subsidiary ledgers; cash controls; accounting for partnerships; accounting for companies; interpretation of financial statements; setting up an accounting system for a legal practice.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACB383 ACCOUNTANCY FOR ADMINISTRATORS**

Double entry accounting; general journal; ledgers; trial balance; overview of financial statements; worksheet preparation; accounting for merchandising operations; specialised journals and subsidiary ledgers and cash controls.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACB480 PERSONAL & CORPORATE FINANCE**

The Australian financial environment from both a personal and corporate point of view; goals and functions of finance; methods of project evaluation; evaluation and selection of investment projects, management of working capital; leverage; cash forecasting and cash management; financial statement analysis.

**Credit Points:** 4    **Contact Hours:** 3 per week

■ **ACB481 FINANCIAL MANAGEMENT FOR ENGINEERS**

Introduction to the theory and practice of financial management in Australia; the nature of business finance and firm objectives; business structures and the organisation of the Australian capital markets; sources of long-term and short-term finance; the investment of firm funds in working capital and fixed assets; portfolio management theory.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **ACB999 SPECIAL TOPIC – ACCOUNTANCY**

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACN110 PROFESSIONAL YEAR MODULE – ACCOUNTING**

The nature, methodology and development of accounting theory; incentive problems and contracting solutions associated with the issue of debt and equity; contracting explanations for external financial reporting; accounting policy choice and the value of the firm, and accounting and the political process.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

■ **ACN111 FINANCIAL ACCOUNTING HONOURS**

See ACN110.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACN112 ADVANCED COMPANY ACCOUNTING**

Accounting for intercompany investments; relevant Australian and overseas accounting standards, in particular, standards involving goodwill, business combinations, investments, consolidation, equity accounting and accounting for joint ventures; changes in ownership of shares; mutual shareholdings; foreign subsidiaries; different classes of shares and funds statements.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACN114 ACCOUNTING RESEARCH**

The research methodology used in the field of accounting; the use of certain research techniques in order to assist students in their research dissertation and preparation of research papers. The subject aims to develop a capacity to analyse and evaluate the literature in accounting research publications, and skills in research methodologies for undertaking individual research in accounting. This subject is a prerequisite for ACN950 Dissertation and should, therefore, normally be attempted immediately prior to enrolment in ACN950 Dissertation.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACN118 INTERNATIONAL ACCOUNTING**

Examination of accounting and auditing functions in the context of multinational corporations; environmental influences on accounting practices; accounting for changing prices; taxation; foreign currency translation; multinational transfer pricing and performance evaluation; role and impact of interna-

tional accounting standards and auditing guidelines from IFAC and relationship to Australian accounting and auditing standards; financial reporting and the analysis of foreign financial statements.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN119 COMPANY SECRETARIAL PRACTICE

The role, obligations and liabilities of the company secretary; different methods of raising public funds and the listings requirements on the main and second board; company charges with emphasis on statutory provisions and floating charges; aspects of insolvency; the role of provisional liquidators; schemes of arrangement.

**Credit Points:** 12

#### ■ ACN120 PROFESSIONAL YEAR MODULE – AUDIT & EDP

See ACN125.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

#### ■ ACN121 COMPUTER AUDITING

The fundamental principles of the practice of computer auditing; the auditor and the computer; the study and evaluation of internal control in a computerised application; the general and application controls applicable to an accounting application; the audit trail in computer data processing and applicable computer audit tools and techniques. In discussing these topics consideration will be given to both mini and micro computer systems.

**Prerequisite:** ACN125

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN122 AUDIT SAMPLING

Statistical sampling methods proposed for and employed in the performance of audits; the audit sampling process; auditor decisions and risk of error; attribute; variable and probability proportional-to-size sampling.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN123 INTERNAL AUDITING

The techniques generally used by the internal auditor; the need for efficiency or value-for-money auditing; the role the internal auditor must play in large organisations (public and private).

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN124 AUDITING HONOURS

The nature of auditing research; the role of auditing; independence; reporting; liability; fraud detection; audit process; risk; materiality; internal control; analytical review; computer auditing, and auditing standards.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN125 AUDITING STANDARDS & PRACTICE

An examination of relevant auditing standards and their implications for practice; development of an analytical approach; the ability to exercise professional judgement to audit problems.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN126 FINANCIAL REPORTING

The requirements for the preparation and presentation of financial statements in accordance with various professional and statutory reporting requirements; analysis and interpretation of financial statements.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN127 EXTERNAL REPORTING ISSUES

The consideration of a number of contemporary issues in external reporting. Various practical accounting and reporting issues covered include: accounting for extractive, long-term construction contracts; segment reports; foreign currency translation; leasing; tax-effect accounting; cash flow statements and accounting for off-balance sheet financing. Appropriate statements of accounting standards (both Australian and overseas); relevant discussion papers published by the Australian Accounting Research Foundation.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN151 FINANCE HONOURS

Capital markets, consumption and investment; investment decisions; market equilibrium; the capital asset pricing model; arbitrage pricing theory; capital structure (theory and evidence); dividend policy (theory and evidence); efficient capital markets (theory and evidence).

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN152 ADVANCED CAPITAL BUDGETING

The use of case studies to understand the theory and practice underlying the firm's investment and financing decisions; topics include capital investment analysis; adjusted present value; retirement decisions; unequal lives; cost of capital; estimating beta; capital rationing; valuation of new issues; mergers and takeovers.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN153 INTERNATIONAL FINANCE

The finance function in the context of multinational corporations and overseas financial markets; foreign currency translations in a reporting and decision-making context; multinational transfer pricing; performance evaluation; an introduction to international financial markets; exchange risk exposure; multinational diversification; remittance to parent companies (dividends, loan repayments); finance of export trade; host country legislation and its impact on multinational companies.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN155 FINANCIAL MODELLING

The techniques of financial modelling (forecasting, risk analysis, optimisation); model specification, model structure and programming the model; the use of the computer in cash management, financing and investment planning; sensitivity analysis and simulation; solving practical problems using computers, electronic spreadsheets, and modelling applications.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN156 FINANCIAL RISK MANAGEMENT

Emphasis will be placed on how security prices are determined and on market behaviour. Equal emphasis will be placed on institutional detail and the valuation methods used in practice. Finally students will be introduced to applied research into share price behaviour. Topics covered include the efficient market hypothesis; portfolio theory; the capital asset pricing model; the valuation of fixed interest securities; the valuation of common shares; the valuation of options, warrants and convertible securities.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ACN170 PROFESSIONAL YEAR MODULE – TAXATION

See ACN171 and ACN172. Assessable income; allowable deductions; taxation of individuals and

business entities; administration and avoidance provisions; introductory international taxation. Includes the taxation topics prescribed by the Institute of Chartered Accountants in Australia for study by candidates enrolled in that body's professional year program.

**Credit Points:** 12 per semester

#### ■ ACN171 ADVANCED TAXATION

A conceptual analysis of the Australian income tax system in order to give perspective and meaning to the considerable body of technical law; income and capital gains, deductions, tax accounting, entities, avoidance and administration; an in-depth treatment of some complex practical problems raised by the Income Tax Assessment Act and related legislation.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN172 INTERNATIONAL TAXATION

Principles of Australian income tax law and practice as they apply to situations and transactions with an international element. The root principles of jurisdiction, residence and source; substantive provisions – resident earning overseas income and non-resident earning Australian income; and tax planning arrangements and applicable anti-avoidance legislation.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN174 LIQUIDATIONS & RECEIVERSHIPS

The legal rules and standards governing insolvency; the role of liquidators and receivers; the procedural and documentary steps involved in liquidations and receiverships.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN175 COMMERCIAL LAW HONOURS

The rules governing local and foreign takeovers and mergers; an examination of prominent takeovers that have recently occurred; the managerial and taxation aspects of takeovers; participation in seminar on relevant takeover issues.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN176 INDIRECT TAXATION

Taxes relevant to the conduct of a business other than taxes directly imposed on a taxpayer's income and capital gains. The taxes considered come under the general heading of indirect taxes as the burden of such taxes does not fall fully on the person who pays the tax, but is shifted to another person, eg. the ultimate consumer of goods and services. Specific taxes covered include sales tax, payroll tax, card tax and stamp duty.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN177 TAXATION POLICY HONOURS

The Australian taxation system as it has evolved under the policy-making powers of the Australian Government; in terms of its degree of concordance with traditionally recognised tax policy objectives; specific forms of taxation are appraised; tax reform proposals are critically assessed.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN178 TAX PLANNING

Application of technical expertise in income tax and other revenue laws to specific tax planning situations including employment, retirement, investment, business and professional practice; analysis of the various incentives offered by the Government under the Income Tax Assessment Act and by way of grants and other forms of assistance; the professional responsibilities of the tax practitioner, and judicial, statutory

and professional responses to tax avoidance and evasion.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN231 MANAGERIAL ACCOUNTING HONOURS

The current research in management accounting; topics include: cost estimation; behaviour and statistical techniques; advanced variance analysis and investigation; agency theory; contingency theory and cost allocation; advanced transfer pricing; structure of the firm and its impact on managerial accounting; contemporary developments.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN232 MANAGERIAL ACCOUNTING ISSUES A

The theoretical issues associated with the design, operation and evaluation of management accounting systems; issues surrounding the firm's planning and control decisions; analysis of some of the newer concepts and techniques currently available to contemporary management. The subject will consist of formal seminars, problem solving and case studies.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN233 MANAGERIAL ACCOUNTING ISSUES B

The practical managerial accounting issues currently facing contemporary management. The subject will consist of formal seminars and presentations by the students, problem analysis and solving, and case studies. Topics include: advanced budgeting techniques, program budgeting, and variance investigation.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN810 FINANCIAL ACCOUNTING I

An introduction to accounting; recording business transactions; adjusting the accounts and preparing financial statements; completion of the accounting cycle; accounting systems and specialised journals; cash and cash controls; accounting for receivables and payables; accounting for merchandising operations and inventories; non-current assets; partnerships; companies; accounting for non-current liabilities; investments; statement of sources and applications of funds; analysis and interpretation of financial statements.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN813 ACCOUNTING PRINCIPLES

Accounting concepts and principles; development of the profit and loss account and balance sheet; reporting aspects of the balance sheet; asset and liability recognition and management; cost/volume/profit analysis; manufacturing costs; budgeting; and special managerial decision making.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ ACN834 BUSINESS LAW & ETHICS

An introduction to business law and to morality in the business context; interpretation of statutes, law of torts, contract law, industrial law and the utility of business structures; morality in the business community; power of moral persuasion, including who has such power and why, and the use of such power.

**Credit Points:** 12 **Contact Hours:** 4 per week

#### ■ ACN835 FINANCIAL MANAGEMENT

Introduction to the world of finance and financial management. Topics will include: the finance function, the role of the financial manager; the Australian financial environment; sources of funds; present and future value; time value of money; financial mathe-

matics; cost of funds; the firm investment decision; investment evaluation techniques; cash budgeting; working capital management; capital budgeting; dividend policy, and financial structure policy.

**Prerequisite:** ACN813

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ACN950 DISSERTATION**

**Prerequisite:** ACN114

**Credit Points:** 24

■ **ACN997 SPECIAL TOPIC – COMMERCIAL LAW**

Will be offered as required and when the necessary experience is available.

■ **ACN998 SPECIAL TOPIC – MANAGERIAL ACCOUNTING/FINANCE**

Will be offered as required and when the necessary experience is available.

■ **ACN999 SPECIAL TOPIC – PUBLIC ACCOUNTING**

Will be offered as required and when the necessary experience is available.

■ **ACP111 ACCOUNTING PRINCIPLES I**

This subject aims to develop the students' ability to interpret and use corporate financial statements. The subject is concerned with both the preparation and the use of financial accounting data and emphasises the reconstruction of economic events from published accounting reports. The subject, although predominantly about accounting, is directed toward a management rather than an accounting viewpoint.

**Credit Points:** 12

■ **ACP213 QUALITY COST ANALYSIS**

The subject aims to be able to relate programs in quality assurance to an overall cost control strategy in order to achieve the goals of the business as expressed in its periodic budget, and be able to administer the cost of quality assurance as a part of a control and recovery program which is indicated by variances from budget and as part of a program for increasing cost effectiveness. Students are introduced to the terminology used in accountancy and the accounting reporting cycle. Emphasis is given to understanding the nature of cost objectives, operational costing, CVP analysis and the variance analysis framework.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **ARB189 WRITING FOR DESIGNERS I**

The writing process: style, accuracy and simplicity in writing; the editing process. To develop students' ability to research, plan, write and present tertiary-standard written communications.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB190 WRITING FOR DESIGNERS II**

Writing for the design professional; review of organisation and mechanics; types, formats, styles and review of professional documents; problems of technical style, bibliographic conventions and use of graphics.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB191 THE HUMAN ENVIRONMENT I**

The dimensions and movement of the human body, and its perceptual systems, as an essential preliminary to the design of all artefacts for human use. The course will consist of lectures and studio exercises. Lecture topics include: static and dynamic anthropometry; human sensory systems; introduction to ergonomics;

applications of anthropometrics and ergonomics to design.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB192 THE HUMAN ENVIRONMENT II**

Human needs and the influence of selected interpersonal and physical variables on human behaviour; the characteristics and dynamics of group behaviour; communication process, types, and networks; concepts of power, leadership and conflict; observation of behaviour: research methods, interpretation and presentation of research; environmental stressors and their mediation by individual differences.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB193 DESIGN I**

Lectures and studio work focusing on design definition; perception; elements and principles of design; effects of colour, texture, contour, pattern; human dimensions; anthropometrics; elements of aesthetics. A series of exercises develop basic skills to apply basic design principles, and to solve simple design problems. Descriptive geometry; architectural graphics and rendering: freehand drawing and sketching.

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **ARB194 DESIGN II**

See ARB193.

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **ARB195 TECHNOLOGY I**

Together, these subjects promote an understanding and develop a basic knowledge of materials, structures and construction in domestic scale buildings. Materials: The manufacture, supply, storage and application in buildings of timber and wood products, paints and clay products, concrete, ferrous and non-ferrous metals, plastics. Construction: Conventional construction of simple, single-storey buildings; footings and floors, wall and roof framing, load bearing masonry, roofing, cladding. Experimentation/Workshop: A series of experiments in heat, light and sound. Use of tools and machinery in wood and metals. Structural testing of materials.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB196 TECHNOLOGY II**

See ARB195.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB197 HISTORY OF THE BUILT ENVIRONMENT I**

The development of man's artificial environment and its relationship to ideas, technology and the fine art from the earliest times to the present.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB198 HISTORY OF THE BUILT ENVIRONMENT**

See ARB197.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB288 DESIGN SCIENCE II**

Continuation of ARB289.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB289 DESIGN SCIENCE I**

A study of the principles of science and their implications on the design of buildings and spaces. The application of these principles in the conceptual stages of design allowed by laboratory tests and computer evaluations of design proposals. The subject is divided into a series of modules, each related to potential studio design exercises.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB290 INTRODUCTION TO COMPUTING II**

Computers as tools for drafting; line graphics; plotting; computer-aided drafting; symbol libraries; dimensioning; computer drafting and office organisation; comparison of available software packages.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB291 THE HUMAN ENVIRONMENT III**

The social and cultural development of Australian urban environments, with particular reference to the local built environment. The study of human functioning in urban environments. Theory: privacy, personal space, territoriality, environmental meaning and cognition, cognitive maps and wayfinding, intercultural and intracultural differences. Application via examination and analysis of an urban environment with respect to its sociocultural function.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB292 THE HUMAN ENVIRONMENT IV**

The interaction of formal organisations and institutions especially the organisation of work and government and the built environment; small group theory and the effective group; work and motivation. Management styles; bureaucracy, its character and influence; social analysis and social forecasting; social interest groups in a pluralist society; mechanisms and processes of compromise; Australia's government system as relating to public policy and the electoral system; modern society and the individual.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB293 DESIGN III**

The concepts of design process to develop a systematic methodology in architecture design; scope of design; Reitman's State Transformation model; problem-solving methods; precedence diagrams; testing; general design heuristic; the art of design. Planning objectives and techniques, privacy and convenience, intelligibility, forms and order, history of planning techniques, the vertical dimension, safety, external constraints.

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **ARB294 DESIGN IV**

A series of architectural projects of single storey to low rise buildings of domestic or semi-domestic nature. Use of media for presentation of architectural projects; use of colour, shade, shadow in architectural drawings; 3D presentation and modelling.

**Credit Points:** 8    **Contact Hours:** 4 per week

■ **ARB295 BUILDING CONSTRUCTION I**

Building construction of domestic and semi-domestic buildings with upper floors; excavation, retaining walls, culverts; site and soil investigations, footings, frames and load bearing, construction of low-rise buildings; roofing of medium and large spans; environmental factors, building defects and remedies.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB296 BUILDING CONSTRUCTION II**

See ARB295.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB297 PRINCIPLES OF STRUCTURES I**

The basic principles of structures as applicable to elements of architecture, industrial design, interior design and landscape architecture. The study is qualitative and a minimum of mathematics is used. Emphasis is given to visual and conceptual appreciation of structures.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB298 PRINCIPLES OF STRUCTURES II**

The principles and their application to building structures in timber and masonry. Priority is given to structural concepts, and structural design is limited to approximation of overall dimensions.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB299 INTRODUCTION TO COMPUTING I**

The computer as a tool; introduction to micro-computer hardware and software; architectural application overview, specialised graphics hardware, files, computer access, and operating systems; simple computer graphics production symbols, colour control, printer control, transformation and deformations.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB386 LAW OF THE BUILT ENVIRONMENT**

Laws, regulations and their interpretation; a review of the Australian and Queensland Acts, local authority by-laws and regulations of statutory authorities as they affect the built environment; legal aspects of land and land transfer; introduction to professional liability, design registration, patents and copyrights.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB387 ENVIRONMENTAL IMPACT STUDIES**

Ecological impacts of built environment developments such as roads, railways, power lines, buildings; impact of processes of developments upon natural resources, vegetation, soils, hydrology, air purity etc; secondary effects of development such as fire, feral animals, weeds, added nutrients, tramping, etc; rehabilitation of disturbed ecosystems; maintaining urban habitats and wildlife. Field work will form part of this subject.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB388 DESIGN SCIENCE IV**

Continuation of ARB389. Principles governing control of noise and aural conditions in buildings; basic acoustic design and noise control in buildings. Artificial lighting of interiors, lamp characteristics, colour rendering, modelling, lighting quality, simplified lighting design methods, and external lighting.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB389 DESIGN SCIENCE III**

Thermal performance of buildings; energy conservation and low energy design; calculation of heat flow and indoor temperatures under steady state and fluctuating conditions; quantitative monitoring of thermal performance of building elements.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARB391 BUILDING SERVICES I**

This subject is designed to develop an understanding of domestic building services and their integration in the design and construction of small buildings. It covers supply, connection and reticulation of electricity, gas, water and telephone services and relevant outlets and appliances. Sewerage, sullage and stormwater drainage as applicable to domestic buildings. Domestic waste disposal.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARB392 BUILDING SERVICES II**

Mechanical electrical and hydraulic services and their integration in the design and construction of major buildings.

**Credit Points:** 4    **Contact Hours:** 2 per week

**■ ARB393 BUILDING DESIGN V**

The building as object, surface, volume, space, and sequence; expression of buildings; criteria of good design in terms of style, function, form, structure, services, context, environment, society, and other relevant issues; design ethics and values; a series of architectural projects of low to medium rise with emphasis on industry and commerce; integration with architectural science; flow charting; building type analysis; computers in design; three-dimensional modelling; computer-aided planning analysis and environmental control analysis, climate analysis, integration with design process.

**Credit Points:** 10    **Contact Hours:** 5 per week

**■ ARB394 BUILDING DESIGN VI**

See ARB393.

**Credit Points:** 8    **Contact Hours:** 4 per week

**■ ARB395 BUILDING CONSTRUCTION III**

Contemporary construction, concentrating on non-domestic buildings and furthering the understanding of the links between structural theory, building science, construction and design.

**Credit Points:** 2    **Contact Hours:** 1 per week

**■ ARB396 BUILDING CONSTRUCTION IV**

See ARB395.

**Credit Points:** 2    **Contact Hours:** 1 per week

**■ ARB397 PRINCIPLES OF STRUCTURES III**

The principles and their application to building structures in steel; structural properties of mild steel and high tensile steel; structural framing and connections; structural systems in steel: beams and columns, portal frames, space frames, trusses, tensile structures, approximate sizing.

**Credit Points:** 4    **Contact Hours:** 2 per week

**■ ARB398 PRINCIPLES OF STRUCTURES IV**

The principles and their application to building structures in reinforced concrete; structural behaviour of reinforced concrete; basic theory of reinforced concrete beams and columns; structural elements systems in reinforced concrete: post-and-beam, one and two-way slab, T and L-beam, waffle slab, flat slab, flat plate; columns; frames; framing, walling and roofing in reinforced concrete; approximate sizing.

**Credit Points:** 4    **Contact Hours:** 2 per week

**■ ARB491 HISTORY OF ARCHITECTURE & ART III**

Early colonial architecture; Victorian Australia; Gothic and Classical revival in Australia; the Australian house; modern architecture in Australia; conservation and preservation; Australian landscape and its influence in architecture.

**Credit Points:** 2 per semester

**Contact Hours:** 1 per week

**■ ARB493 DESIGN VII**

Masters of the twentieth century in Europe and the U.S.A. and their architectural styles, design philosophy and influence; architects in Australia and their influence in Australasian architecture; major design projects including brief, design, construction, services and landscape; a series of architectural projects of medium to high-rise construction with emphasis in workability and compliance with codes, by-laws and regulations.

**Credit Points:** 10 per semester

**Contact Hours:** 5 per week

**■ ARB495 PROFESSIONAL STUDIES I**

The concepts and writing of building specifications; how to interpret and to apply the Standards Association of Australia Codes and other standards; acquisition of the skills and knowledge to use computers as management tools; estimating and accounting; financial aspects of professional practice; building legislation: the law as a constraint in architectural practice; computer applications: the skills and knowledge to use computers as management tools.

**Credit Points:** 8 per semester

**Contact Hours:** 4 per week

**■ ARB497 ADVANCED TECHNOLOGY**

The aim of these subjects is to develop an initial understanding of mechanical, electrical, electronic and special services and the integration in the design and construction of major buildings and to understand the approximate sizing of service requirements. Subsequently to understand construction methods and specification of complex and high-rise buildings. Emphasis is on case studies.

**Credit Points:** 4 per semester

**Contact Hours:** 2 per week

**■ ARB591 HISTORY OF ARCHITECTURE & ART IV**

A global perspective of development of art and architecture of regional interest with particular emphasis on non-European traditions. Architectural development in regions such as the Far East, South East Asia, the Pacific, and South America are offered and students are to select one region for study in each semester. The topics include planning of settlements, indigenous architecture, materials and techniques in building construction, social, cultural, economic, religious, and western influence. Modernisation, current architecture issues.

**Credit Points:** 2 per semester

**Contact Hours:** 1 per week

**■ ARB593 DESIGN VIII**

Architectural criticism; main themes selected for design and their realisation, convenience, clarity, intelligibility, expression, technology, context form. Post-occupancy evaluation. Testing methodology, analysis and evaluation of building performance, user-oriented design. A series of architectural projects of medium to high-rise buildings involving general building briefs and programs, environmental impact issues, and post-occupancy analysis.

**Credit Points:** 10 per semester

**Contact Hours:** 5 per week

**■ ARB595 PROFESSIONAL STUDIES II**

Building economics: the economics of buildings, building financing and feasibility; studies of building projects. Practice management: methods of management in architectural practice. Legal studies: the legal problems in architectural practice. Contracts: the nature of building contracts and their application.

**Credit Points:** 8 per semester

**Contact Hours:** 4 per week

**■ ARB597 ELECTIVE I**

Students who wish to carry out further studies in architecture may choose from the prescribed fields of study, one for each semester. Students are directed by tutors to carry out surveys, experiments, or such work as required and are to present their findings in seminars and in written reports. Students may also substitute the requirements of this subject by an ap-

proved subject on campus, or offered at an approved institution.

**Credit Points:** 4 per semester

**Contact Hours:** 2 per week

#### ■ ARB693 DESIGN IX

Contemporary architectural theories and ideas and their influence in architectural design and practice. The process of brief, functional and space programming of architectural design projects. An introduction to urban values, design principles and landscape/townscape, to acquire skills in civic and formal planning, and techniques to evaluate urban quality. A comprehensive project of groups of complex buildings is used as a design vehicle to develop planning skills, including brief formation and building programming, quality evaluation, planning, and presentation.

**Credit Points:** 18      **Contact Hours:** 9 per week

#### ■ ARB695 PROFESSIONAL STUDIES III

Alternative methods of building procurement with particular emphasis on management of all phases of the building project. This subject is designed to assist students to reach a high level of professional competence and to prepare them for the Practice Examination set by the Board of Architects, Queensland under 'The Architects Act, 1962', and subsequent amendments.

**Credit Points:** 4 per semester

**Contact Hours:** 2 per week

#### ■ ARB697 ELECTIVE II

Students carry out studies on approved topics of their nomination to sufficient depth. The work shall demonstrate the student's ability to define and to logically analyse proposition, and to conduct research to prove its validity. The submission is normally presented in the prescribed written form with illustrations and/or drawings.

**Credit Points:** 11 per semester

**Contact Hours:** 4 per week

#### ■ ARP501 INTRODUCTION TO FACILITIES MANAGEMENT

The concept of facilities programming and management. The notion of human behaviour over time and the monitoring of building performance as the major focus in the day to day management of facilities in a realistic working environment.

**Credit Points:** 8      **Contact Hours:** 2 per week

#### ■ ARP502 ENVIRONMENTAL COMMUNICATIONS

A series of lectures, site visits and projects relating to the design and application of alphabets and factors influencing perception of them in signage systems, display and exhibition, the design of exhibition and display systems, transportation, materials and specifications associated with their construction.

**Credit Points:** 13      **Contact Hours:** 5 per week

#### ■ ARP503 WORKPLACE DESIGN

A series of lectures, seminars and projects concerned with physiological, psychological, and sociological aspects of the workplace, involving furniture systems, equipment and services.

**Credit Points:** 12      **Contact Hours:** 5 per week

#### ■ ARP504 PROFESSIONAL PRACTICE & MANAGEMENT FOR INTERIOR DESIGNERS I

The role and responsibilities of the industrial designer in professional practice: job administration, liability, design protection, designer and client relationships;

communication management and organisation of project.

**Credit Points:** 11      **Contact Hours:** 4 per week

#### ■ ARP505 PROFESSIONAL PRACTICE & MANAGEMENT FOR INTERIOR DESIGNERS II

A series of seminar/tutorials, case studies and assignments concerned with such topics as: task scheduling; planning systems and control models; program evaluation and review techniques; critical path monitoring; organisational development; personnel recruitment and staffing structures; organisational models; union and labour relations.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ ARP600 BUILDING EVALUATION & BRIEF DEVELOPMENT

Formulation of the client's brief, definition of the design problem and exploration of design methodologies. Evaluation of building types, suitability of spaces to functions.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ARP601 FILM, TV & DESIGN FOR THEATRE

Introduction to the basic language, technology and procedures of film and video production, roles of production and design teams, script analysis, preproduction planning, story boarding, set design and construction, modelmaking, make up design, lighting and camera work. This will be given through a series of lectures, visits and projects.

**Credit Points:** 16      **Contact Hours:** 6 per week

#### ■ ARP602 CONSERVATION OF HISTORIC INTERIORS

A series of lectures, visits and a design project, covering the role and ethic of conservation in interior design.

**Credit Points:** 16      **Contact Hours:** 6 per week

#### ■ ARP603 HISTORIC TECHNOLOGIES

An introduction to the interior and building technologies required by a practising interior designer working on conservation, restoration and recycling projects. Knowledge gained in this subject will be applied in 'Design of Historic Interiors'.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ARP613 ADVANCED ERGONOMICS I

Man-machine system and their relations with living and working environment; the importance of ergonomics (human factors) criteria and their application to industrial design. The course consists of series of seminars relevant to case studies concerned. Typical case studies are concentrated on the ergonomic evaluation of consumer products.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ ARP623 ADVANCED ERGONOMICS II

Systematic ergonomic evaluation methods and their application to design problems. Lectures and seminars relevant to case studies concentrated on the ergonomic evaluation of the working and living environment, eg, key-punch operator work station, bus driver work station and ergonomic evaluation of an assembly line.

**Prerequisite:** ARP613

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ ARP642 CASE STUDIES

This subject consists of a series of seminars dealing with case study evaluation by practising designers; study of different evaluation methods and techniques;

the application of evaluation methods through individual case studies. All design factors of manufactured products are evaluated in depth.  
**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARP652 DESIGN MANAGEMENT & DECISION THEORY**

This subject covers: meaning of the design process, control and the design process, complexity of design problems, types of contracts, design and business, project team, design responsibility and design management, design documentation, concept of design evaluation and management action, application of design theory to design management.  
**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARP653 PROFESSIONAL PRACTICE**

This subject explores the role and responsibilities of the industrial designer in professional practice. Lectures cover: job administration, liability, design protection, designer and client relationships.  
**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARP671 HISTORY, THEORY & CRITICISM OF INDUSTRIAL DESIGN**

This subject reviews the development of industrial design and its relationship to ideas, technology and arts, and the development of industrial design from eighteenth century to the present day. It also covers the study of Australian inventions and their impact on product design in Australia.  
**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ARP672 INDUSTRIAL DESIGN I**

■ **ARP673 INDUSTRIAL DESIGN II**

This course consists of studio work in which students design a wide range of products or systems. The emphasis will be on projects generated from local industry and community. The complexity and depth of the design project will increase systematically according to the semester level.

**Prerequisite:** ARP672 for ARP673  
**Credit Points:** 16 (both) **Contact Hours:** 6 per week (both)

■ **ARP674 INDUSTRIAL DESIGN RESEARCH I**

This course consists of the topic selected by a student and approved and supervised by the industrial design staff. Examples of topics are: microsurgical equipment design, bushfire safety equipment, mobile dental clinic in isolated regions, and interactive display in psychological testing.  
**Prerequisite:** ARP673

**Credit Points:** 20    **Contact Hours:** 8 per week

■ **ARP675 INDUSTRIAL DESIGN RESEARCH II**

This course depends on the topic selected by a student in the previous semester. Students are responsible for the program as a part of their project work, which will be approved and supervised by Industrial Design staff.  
**Prerequisites:** ARP672, ARP674

**Credit Points:** 20    **Contact Hours:** 8 per week

■ **ARP676 ADVANCED CAD FOR INDUSTRIAL DESIGNERS I**

CAD in the design process. 2D and 3D application of appropriate CAD programs. Development of a design project through the interactive use of CAD and related engineering programs as an aid to design analyses and finalisation.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ARP677 ADVANCED CAD FOR INDUSTRIAL DESIGNERS II**

CAD/CAM in the design, analysis, and manufacturing process. 3D solid modelling, finite analyses, and CAM will be employed. A project will be taken from first concept through final documentation. The presentation, technical description, engineering analyses, and finalisation to Computer Numerically Controlled (CNC) testing and prototype production of a small product.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ASB101 LEARNING AT UNIVERSITY**

A series of seminar/workshops run by the Learning Unit designed to assist students to investigate what learning at a tertiary institution involves. The aim of the subject is to introduce students to learning for understanding and integration, rather than simply for reproduction. Students with at least one subject in common will be grouped together, so that material from this subject can be used to help students explore approaches to advanced reading and critical thinking skills in an applied manner.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **ASB200 INTRODUCTORY METEOROLOGY**

The earth's atmosphere; heat transfer processes; the gas laws; the physics of water vapour; wind theory; atmospheric stability and instability; precipitation; atmospheric electricity; synoptic meteorology; atmospheric optics.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ASB300 COOPERATIVE EDUCATION I**

■ **ASB400 COOPERATIVE EDUCATION II**

The opportunity for science students to complete practical work, related to their course, in a commercial environment under the joint supervision of an industry supervisor and an academic adviser. The student will be placed with an approved employer. An academic adviser will obtain reports from the student and his or her work supervisor at regular intervals. The student will be required to complete a progressive assessment program. The student's results will be determined on the basis of reports, continuous assessment, and the employer's report.

**Prerequisite:** Completion of 4 semesters of a standard full-time degree-level course, normally with a GPA of not less than 4.5 overall.

**Credit Points:** 24 per semester

■ **ASP701 INFORMATION RETRIEVAL SKILLS**

This subject, taught by the Division of Academic Support (in collaboration with Faculty staff in Modules 2 and 4), includes a relevant literature review. Module 1 – Retrieving Information; Module 2 – Evaluation of Information; Module 3 – Organising Information; Module 4 – Thesis Preparation. This subject is assessed on a pass/fail basis.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ASP702 COMPLEMENTARY STUDIES**

The unit is tailored to suit individual students – studies include a selection from: participation in research seminars; oral communication skills; written communication skills; formal coursework in occupational health and safety, scientific and industrial ethics, philosophy and methodology of science, and science policy and research funding options; development of research management strategies; preparation of a scientific paper/report; and coursework material from

other accredited courses as directed by the project supervisor and Head of Department. Assessed on a pass/fail basis.

**Credit Points:** 8 per semester

**Contact Hours:** 6 per week

#### ■ ASP703 STUDIES IN GLOBAL SYSTEMS A

Topics of current global concern to mankind from the perspectives of each of the participating disciplines (Biology, Geology and Chemistry) including: the enhanced greenhouse effect, ozone depletion, acid rain, pollution, soil erosion, toxic wastes and their disposal, sea level changes, and the laws and treaties which relate to them. Note: Students undertake either ASP703 or ASP704, not both.

**Credit Points:** 9      **Contact Hours:** 3 per week

#### ■ ASP704 STUDIES IN GLOBAL SYSTEMS B

See ASP703.

**Credit Points:** 6      **Contact Hours:** 2 per week

#### ■ ASP705 ADVANCED MICROSCOPY TECHNIQUES

This subject describes, and allows students to practise, preparative techniques relating to transmission (TEM), scanning transmission (STEM) and scanning (SEM) electron microscopy. Techniques include specialist fixation and staining (negative and position), thin sectioning, critical point drying/freeze drying, replica production, sputter coating and metal shadowing. Each technique is applied to a range of specimens and students familiarised with the use and manipulation of each type of microscope. The analytical capabilities of each instrument are also taught and used.

**Credit Points:** 9      **Contact Hours:** 4 per week

#### ■ BEA004 TAXONOMY

Investigation and identification of local flora and fauna; use and construction of keys. The concepts of systematics, classification, taxonomy and nomenclatural procedure are introduced in short lectures and tutorials associated with the practical exercises.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA011 ANIMAL PHYSIOLOGY

This unit introduces the general physiological processes which sustain life, and develops an understanding of animal-environment interactions.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA016 AQUACULTURE TECHNIQUES

Topics covered include: water quality monitoring; culture methods for microscopic food organisms; disease and parasite identification and treatment; and a variety of techniques associated with spawning, rearing, handling and stock assessment.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA021 PLANT PHYSIOLOGY

An introduction to the important aspects of whole-plant physiology, including nutrition, water relations, photosynthesis, translocation and stress physiology.

**Prerequisite:** BEA108

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA026 PLANT CELL TISSUE CULTURE

Topics covered include techniques, equipment and media used in plant tissue culture, the role of plant growth regulators, and micropropagation. The significance of organogenesis, somatic embryogenesis and genetic variability in plant tissue culture are discussed. The lecture program is supported by appropriate laboratory exercises.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA060 HYDROBIOLOGICAL TECHNIQUES

An introduction to the characteristics of aquatic ecosystems. Students gain practical experience using methods, equipment and instrumentation to: estimate population abundance, distribution, biomass and productivity; determine community structure and diversity; determine physical characteristics and morphology and assess water quality. Compulsory field studies form a significant part of this subject.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA090 EXTERNAL PROJECTS I

This elective subject enables students to submit studies carried out as part of their normal employment for credit in the course. Design and assessment of the experimental work program is carried out by the employer in conjunction with a supervisor appointed by the Head of Department/delegate.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA099 EXTERNAL PROJECTS II

See BEA090.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA108 INTRODUCTORY BIOLOGY

An introduction to the classification of organisms. Examination of the morphology, anatomy, reproduction, life-history and physiology of selected species.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA198 MICROSCOPY TECHNIQUES

The use and roles of various types of optical microscopes; microscope accessories for counting, measuring, drawing and photography; procedures for preparing specimens for examination and histological/histochemical study.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA200 BIOLOGY B

This unit extends the basic concepts presented in Introductory Biology and also includes aspects of mendelian genetics, gene expression and cell differentiation, as well as reproduction and development in selected animals and plants.

**Prerequisite:** BEA108

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA202 CELL STRUCTURE & FUNCTION

A general course in cell biology including the living cell and its processes, structure and function. Photosynthesis, respiration, intermediary metabolism will be emphasised. Elementary molecular genetics will be outlined.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA297 BIOLOGICAL DATA HANDLING

Application of statistical procedures to surveys, sampling and design of experiments. Recognition of problems arising from variability in results and particular data type. Methods of data collection, checking, analysis and presentation are discussed. An introduction to the use of computer software packages is included.

**Prerequisite:** MAA251

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BEA339 INTRODUCTION TO BIO CULTURE

This subject introduces students to techniques of algal culture and plant tissue culture. Topics include nutrition, continuous production techniques, and the use of growth regulators to control growth. The role of environmental factors in controlling growth also is discussed. This subject will provide the theoretical

basis for students undertaking electives in aquaculture techniques and/or plant tissue culture.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEA349 COMPUTER APPLICATIONS IN BIOLOGY**

An introduction to microcomputers and applications-software such as wordprocessing, data bases, spreadsheets, and computer graphics for report presentation. This subject is not oriented towards any specific computer language.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEA398 ANIMAL & PLANT TECHNIQUES**

Care and maintenance of animal and plant resources, both micro- and macroscopic. Animal handling, maintenance of glasshouse resources, culture collections and sterile techniques, preparation of specimens for permanent collections and the maintenance of such collections.

**Credit Points:** 12      **Contact Hours:** 4 per week

■ **BEA403 ENVIRONMENTAL BIOLOGY**

Ecosystems and energy flow. Productivity, decomposition and nutrient cycling. Niche, species packing, diversity, colonisation and community structure. Short compulsory field trips form an integral part of the unit.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEA405 POPULATION BIOLOGY**

A general course in population biology including: structure and dynamics of populations, evolution and differentiation in populations; the relationships between the genetics, energetics and dynamics of populations leading to particular life-history strategies are emphasised. Field excursions are a compulsory part of the subject.

**Co-requisite:** BEA498

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEA498 FIELD TECHNIQUES**

Activities include surveying, soil and climatic measurements, assessment and sampling of animal and plant populations, evaluation of spatial changes in plant and animal communities in relation to environmental gradients. Skills are gained not only in sampling and analytical techniques, but also in the establishment and running of a field camp. An extended field excursion is a compulsory part of the subject.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEA499 APPLICATIONS IN ELECTRON MICROSCOPY**

This subject deals with the roles played by various forms of electron microscopy in the biological sciences and presents an introduction to the basic techniques and their limitations.

**Prerequisites:** BEA 108, BEA 198

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEB103 BIOLOGY IA**

A course of lectures and tutorials dealing with fundamental biological principles and phenomena. Content includes nutrient procurement, transport systems and mechanisms, energy transformations, population and community biology, reproduction and basic genetics.

**Co-requisite:** BEB149, unless Senior Biology has been undertaken.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEB104 BIOLOGY IB**

A program of practical work presenting aspects of applied biology, plant and animal physiology and basic genetics including bacterial transformation.

**Co-requisite:** BEB149 unless Senior Biology has been undertaken.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **BEB149 INTRODUCTORY BIOLOGY**

A companion subject to BEB103 and BEB104, designed for students who have not studied Senior Biology. It presents an overview of organisms with emphasis on the relationship between structure and basic biological function, including nutrition, excretion, reproduction and inheritance.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **BEB150 BIOLOGY**

An introduction to biology for students with no previous experience in the discipline. An overview of form and function in animal and plant systems; patterns and mechanisms of inheritance; fundamental ecological principles.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEB201 CELL BIOLOGY**

A program of lectures and tutorials chiefly concerned with the molecular biology of eucaryotic cells, their structure, function, systems, metabolism and differentiation. The molecular basis for genetic manipulation and other current advances based in molecular genetics is introduced.

**Prerequisite:** BEB149 or Senior Biology

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEB207 BIOLOGICAL SYSTEMS**

This unit introduces general systems theory as a unifying concept in biology and its application to the study of simple biological systems. Emphasis will be placed on modelling techniques with an introduction to computer simulation of simple systems.

**Prerequisite:** BEB149 or Senior Biology

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEB303 BIOLOGY II**

Comprises a study of form, function and classification with examples drawn from major plant and animal taxa.

**Prerequisite:** BEB103

**Credit Points:** 6      **Contact Hours:** 6 per week

■ **BEB321 PLANT PHYSIOLOGY I**

This unit develops an understanding of the functional systems of plants and provides an introduction to environmental physiology and plant tissue culture.

**Prerequisites:** BEB103, BEB201

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEB324 CROP SCIENCE I**

An introduction to the biology of crop plants with an emphasis on those species of importance in tropical and subtropical agriculture. Topics will include morphology; functional anatomy; ecophysiology; life history; classification and identification of the more important families of crop plants.

**Prerequisite:** BEB103

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BEB357 POPULATION & SYSTEMS ECOLOGY**

A broad theoretical background in the major concepts of plant and animal ecology. It will form the foundation subject for the Population Studies sub-major. Topics include: the ecology of single populations;

interactions within and between populations; population regulation; adaptation; management; behavioural and community ecology; energetics and biogeography.

**Prerequisite:** BEB207 **Co-requisite:** BEB358  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB358 EXPERIMENTAL DESIGN

This subject is offered in two sections. The first section of ten lecture-tutorials involves multiple and curvilinear regression, chi-squared goodness of fit, multiway analysis of variance, multiple range tests. The second section builds a practical extension on the theoretical basis of statistics, using experimental situations commonly met with in biology.

**Co-requisite:** BEB357  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB366 BIOLOGY & SOILS

The subject is an important basis for studies in both aquaculture and terrestrial ecology. Attention is given to the characteristics of soils, soil classification, and the factors (parent material, climate, topography and biota) which determine soil development. The structure and productivity of plant and animal communities, and the distribution of species are shown to be dependent on biogeochemical pathways, regulated by the soil, and on other conditions influenced by the substrate (including water quality). Consideration is given to the distribution of major soil types in relation to effective management of terrestrial and aquatic biota.

**Prerequisite:** BEB103  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB388 AQUACULTURE I

A largely practical subject which introduces students to a range of methods and techniques associated with the commercial production of aquatic animal species in hatcheries and on aquafarms. Topics covered include: water quality measurement and management; intensive production of food organisms; induction of maturation and spawning; nursing and rearing larvae and fry; feeding; diagnosis and treatment of health problems; handling and husbandry.

**Prerequisite:** BEB103  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB390 FIELD STUDIES I

A field-based subject in which students use the background information gained from BEB357 and BEB444 to sample biological populations. Field Studies I will focus on methods applied to terrestrial populations and may include extended field trips.

**Prerequisite:** BEB357 **Co-requisite:** BEB444  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB411 ANIMAL PHYSIOLOGY

The subject provides and develops an understanding of the functional systems of animals and provides an introduction to environmental physiology.

**Prerequisite:** BEB103  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB423 PLANT TISSUE CULTURE I

This subject introduces students to the techniques and physiological basis of plant tissue culture. Topics covered include: culture media, organogenesis, somatic embryogenesis and micropropagation. It introduces a range of techniques used in research and commercial laboratories.

**Prerequisite:** BEB321  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB424 CROP SCIENCE II

Principles of crop production including factors affecting crop growth, management and productivity. The important crops will be studied with an emphasis on tropical and subtropical species.

**Prerequisite:** BEB324  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB429 VEGETATION STUDIES

This unit introduces many of the techniques used in vegetation mapping. Basic topics covered include: vegetation classification, floristics, sampling techniques, field surveying techniques and aerial photo-interpretation. There are several compulsory field excursions.

**Prerequisite:** BEB103  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB435 GENETICS

This unit is an introductory subject in basic genetics. Topics covered include: reproduction and the genetic code, the molecular basis of genetics and Mendelian genetics; genotype-phenotype interactions and quantitative genetics; the genetics of prokaryote and simple eukaryote organisms; evolution and natural selection.

**Prerequisites:** BEB103, BEB201  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB444 POPULATION ANALYSIS

The methods used to estimate important population parameters and characteristics; the underlying theory of methods and the most appropriate circumstances for use of different methods.

**Prerequisites:** BEB357, BEB358  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB447 ENVIRONMENTAL MONITORING

A course in the skills of environmental measurement concerning ecosystems. The lecture course is supported by field work in several environments using a range of instrumentation to delineate environmental profiles.

**Prerequisites:** BEB357 or BEB444  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB490 FIELD STUDIES II

A field-based subject in which students use the background information gained in BEB357 and BEB444 to sample aquatic populations. This subject may include extended field trips.

**Prerequisites:** BEB357, BEB444  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB500 SELECTED TOPICS I

Students complete a study on a specific topic. Such study involves selected reference material and may also include a lecture program or project work.

**Prerequisite:** BEB357  
**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ BEB523 PLANT TISSUE CULTURE II

The subject explores several aspects of plant tissue culture in some detail. Topics covered include cytogenetics and protoplast biology as well as aspects of the biochemistry of plants growing in tissue culture.

**Prerequisite:** BEB423  
**Credit Points:** 12 **Contact Hours:** 5 per week

#### ■ BEB535 POPULATION GENETICS

This unit is an extension of Introductory Genetics and examines in detail the genetics of populations. Topics covered include: the genetic structure of populations

and processes of evolutionary change; natural selection, inbreeding and co-adaptation; species and speciation theory; ecological genetics and the genetics of behaviour. Students may be required to undertake semester-long project topics on relevant practical or theoretical problems.

**Prerequisite:** BEB435

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ BEB560 PROJECTS I

This unit develops a student's capacity for managing his/her own work and for persistence within a circumscribed subject area. Projects emphasise specific investigatory skills in reviewing, collating, interpreting and presenting data; contribution to a seminar is usually required. Projects, supervised by various staff members, are graded individually. The Head of Department coordinates assessment, and may request external assessment. Projects are to be selected by the 12th week of the fourth semester of the course. There are a number of compulsory field trips. This unit normally leads into BEB660 Projects II.

**Prerequisites:** BEB303, BEB357

**Credit Points:** 16      **Contact Hours:** 6 per week

### ■ BEB563 BIOLOGICAL RESOURCES

A conceptual basis for aspects of ecosystem management related to naturally occurring materials and ecosystems subject to interactive use within the economy. Limitations on specific exploitation of natural resources are identified and linked with relevant aspects of land tenure, administration and law. Strategies leading to sustained yield and conservation are contrasted with those resulting in resource degradation.

**Prerequisite:** BEB103

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ BEB588 AQUACULTURE II

A course in theoretical and applied aspects of warm-water aquaculture. Subject content includes the design and operation of production facilities; water quality requirements and management; the biology of commercially important species; reproduction and its control; nutrition, feeding and growth; diseases and their control; methods of production improvement; polyculture; case studies.

**Prerequisite:** BEB388

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ BEB600 SELECTED TOPICS II

As a final semester subject, provides students with an opportunity to complete a detailed study on a specific topic. The study will normally be based on project work and may include a lecture program.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ BEB621 PLANT PHYSIOLOGY II

Lectures are designed to follow the sequence of biochemical events during life history of a plant. Topics covered include: starch and oil mobilisation during seed germination, biosynthesis of cell membranes, cell pigments (carotenoids, chlorophylls), and plant cell walls; photosynthetic assimilation of nitrogen and sulphur (overview of biosynthesis of all amino acids); biosynthesis of so-called secondary plant products, eg, terpenoids, flavonoids, and the lignin component of wood; biosynthesis of starch and oils in new seeds. Laboratory classes emphasise techniques of value to plant biochemical research.

**Prerequisite:** BEB423 or MSB450

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ BEB653 POPULATION MANAGEMENT

The principles of biological population management; subject deals with natural populations and three forms of management; pest control, harvesting, and conservation. Field trips and computer simulations will be used to investigate management methods.

**Prerequisite:** BEB444

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ BEB655 CASE STUDIES

Students apply knowledge and skills gained from other subjects to examine a selected population management problem. Students will work in teams and use field, laboratory and library research to develop a consultant-style report. The topics available will be set by staff but could include a range from environmental impact assessment to pest control.

**Prerequisite:** BEB444

**Co-requisite:** BEB653

**Credit Points:** 12      **Contact Hours:** 5 per week

### ■ BEB660 PROJECTS II

This elective unit may be undertaken by students who have taken BEB560 Projects I and who have the Head of Department's permission to continue project work. The student either: continues a project undertaken in BEB560, or involves one or more additional projects aimed at developing to a greater depth aspects of the subject matter of experimental subjects previously completed, such projects being established for either individuals or groups. Assessment is conducted as for BEB560. Individual programs for BEB660 are to be determined by the 12th week of the fifth semester of the course. There are a number of excursions.

**Prerequisite:** BEB560

**Credit Points:** 16      **Contact Hours:** 6 per week

### ■ BEB680 HYDROBIOLOGY & AQUACULTURE

Aquatic biology and aquatic ecosystem management with particular reference to aquatic farming; water quality measurement; criteria and management; nutrient cycles; the composition and biology of aquatic communities; primary and secondary productivity and their control; trophic relationships and energy flow.

**Prerequisite:** BEB303

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ BEP700 PROJECT - BIOLOGY

All students undertaking Honours are required to select and undertake, in consultation with a supervisor, a substantial project in an appropriate area. Each project will be assessed on the basis of an extensive written report and an oral presentation.

**Credit Points:** 40

### ■ BEP701 ADVANCED PLANT PHYSIOLOGY & BIOCHEMISTRY

Aspects of plant physiology and biochemistry of current research interest will be covered, expanding upon material in the third year Plant Biochemistry subject. Students will select from a reading list, present seminars and undertake advanced practical work.

**Credit Points:** 9      **Contact Hours:** 4 per week

### ■ BEP703 DATA HANDLING, INTERPRETATION & BIOMETRICS

The subject covers the efficient organisation and manipulation of data using techniques available through personal computer software. Data manipulation programs are developed to facilitate the

application of commercial software to the analysis and interpretation of experimental data.

**Credit Points:** 9    **Contact Hours:** 4 per week

#### ■ **BEP704 ADVANCED STUDIES IN POPULATION MANAGEMENT**

Topics include: pest control and economics; chemical pesticides and their uses; biological control agents; autocidal control and genetic control; use of pheromones, attractants and repellents; resistant varieties, cultural and ecological control; physical methods of control; integrative pest management; quarantine. Conservation management; National Parks and protected areas management; legislation.

**Credit Points:** 9    **Contact Hours:** 4 per week

#### ■ **BGB005 MEASUREMENT OF CONSTRUCTION I**

Introduction to Quantity Surveying including the work of the Quantity Surveyor and his relationship with other members of the building industry. A study of mensuration and formulae involved in the calculation of length, area and volume. Detailed study and instruction in the process and methods of taking off and billing quantities in the trades roofer, and roof plumber, plasterer, pavior, tiler and terrazzo worker, joiner, ironmonger, glazier and painter.

**Prerequisites:** BGB151, BGB154

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ **BGB006 MEASUREMENT OF CONSTRUCTION II**

Detailed study and instruction in the process and methods of taking off and billing quantities in the trades excavator, concreter, bricklayer and blocklayer and carpenter.

**Prerequisite:** BGB005

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ **BGB009 MEASUREMENT OF CONSTRUCTION III**

Detailed study and instruction in the process and methods of taking off and billing quantities in more complex building solutions in the trades excavator, concreter, bricklayer and blocklayer, underpinning, pier and beam RC frame and suspended slabs.

**Prerequisites:** BGB254, BGB006

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **BGB010 MEASUREMENT OF CONSTRUCTION IV**

Detailed study and instruction in the process and methods of taking off and billing quantities in the trades asphalters and built up roofing, demolisher, mason, structural steel and precast concrete.

**Prerequisite:** BGB009

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **BGB013 BUILDING SERVICES I HVAC**

Minimum standards of ventilation required by the regulatory authorities – fans, centrifugal and axial flow and their applications. Ductwork and accessories, details of layout construction and installation. Requirements for human comfort in air-conditioning. The ASHRAE Comfort Chart; the principles of refrigeration. Types of air-conditioning systems and their composition; cost, application, construction and installation. Heating – fuel types, efficiency, capital and annual costs. Effect of building ordinances on design and installation of air-conditioning and ventilation systems.

**Co-requisite:** BGB253

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **BGB014 BUILDING SERVICES II – ELECTRICAL**

Electricity supply and distribution. High and low tension supply. Measuring current, cut-outs, intake and distribution. Internal distribution. Large supply installation, sub-station. Fuse gear and switch gear. Wiring systems and circuits. Conduit and cables. Joint boxes, multi-box switching. Heading circuits. Earth connections. Protection of conduit, conductor and accessories against mechanical damage, weather, dampness, fire electric shock. Fibre optic cables in building supervisory systems. Assessment of maximum demand and voltage drop. Earth tests. Tools and handling equipment. Fastenings and supports. Measurement, control and lighting equipment. Accessibility and protection. Domestic, industrial and commercial appliances. Testing and fault locating.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **BGB103 MATERIAL SCIENCE I**

Properties, manufacture, use and analysis of timber, steel, concrete, and clay products, including investigation into their strength, density, hardness, porosity, plasticity, elasticity and deterioration. Investigation and protection of materials against corrosion and fire.

**Co-requisite:** BGB254

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **BGB104 MATERIAL SCIENCE II**

The aim of this subject is to develop an understanding of the physical and chemical properties of materials and how they affect the construction and structural qualities. It covers laboratory and field testing of bricks, mortar, brickwork, concrete, timber, steel. Investigation and protection of materials against corrosion and fire.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **BGB131 MEASUREMENT OF CONSTRUCTION IA**

Subject description as for BGB005.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ **BGB143 STRUCTURES I**

Equilibrium of forces. Shear forces and diagram, bending moments and diagram, loading on structures and loading code, truss analysis and force diagram, stress and strain, tension and compression members, bending theory, design of timber beams, columns and connections, design of steel beams and columns, introduction to indeterminate structures.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **BGB144 STRUCTURES II**

See BGB143.

**Prerequisite:** BGB143

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **BGB151 CONSTRUCTION I**

Materials and methods – the uses of materials and construction in single and two-storey domestic structures – site information and investigation, foundations, columns, upper floors, external and internal walls, finishes, etc. Environmental, structural and aesthetic requirements of these structures taking account of the constraints such as costs, dimensional requirements, statutory regulations, life and adaptability and manufacturing and erection requirements. Draughting – preparation of typical details and working drawings. Environmental science – study of the factors and technology involved in creating comfort situations in varying climatic zones and their effect on building construction.

**Credit Points:** 12    **Contact Hours:** 6 per week

### ■ BGB154 CONSTRUCTION II

Continuation of BGB151. This subject is designed to develop an understanding of the properties of materials, and how they behave in the manufacturing and construction process and how these considerations relate to form and structure. It includes a studio and practical back-up to the lecture program. Students will be required to prepare working details of building components, coordination of building elements for specific building use.

**Prerequisite:** BGB151

**Credit Points:** 14      **Contact Hours:** 7 per week

### ■ BGB161 BUILDING STUDIES I

The uses of materials and construction in single and two-storey domestic structures – site information, substructure, columns, upper floors, external and internal walls, finishes, etc. Environmental, structural, aesthetic, cost, statutory, dimensional, manufacturing and erection requirements. Factors in creating comfort situations in various climatic zones and their effect on building construction. Draughting – preparation of typical details and working drawings. Physical and chemical properties of materials such as timber, steel, concrete and clay products and how they affect their construction and structural qualities.

**Credit Points:** 14      **Contact Hours:** 5.5 per week

### ■ BGB162 BUILDING STUDIES II

The uses of materials and construction in single and two-storey domestic structures under the elements – staircase, roof, internal and external walls, windows, doors, finishes; fireplaces. Environmental, structural and aesthetic requirements, taking account of constraints such as costs, dimensional requirements, statutory regulations, life and adaptability and manufacturing and erection requirements. Draughting – preparation of typical construction details and drawings.

**Prerequisite:** BGB161

**Credit Points:** 9      **Contact Hours:** 3.5 per week

### ■ BGB164 BUILDING SERVICES IA

A study of macro services to the community including water supply, sewerage, power, gas, telephone and other public services. Requirements of headworks and reticulations. A study of sanitation, septic tanks, absorption and transpiration beds, stormwater and sewerage disposal and garbage and refuse disposal. Hydraulic engineering services associated with buildings. Water supply (including fire fighting and hot water), sewerage and sanitary plumbing with a study of relevant Acts and laws, including sizing and testing of main and gravity fed services.

**Credit Points:** 6      **Contact Hours:** 2.5 per week

### ■ BGB166 URBAN ECONOMICS

An explanation of economic and financial aspects of the property and construction industries. This will cover the environment in which these industries operate, their structure, operation and control and the financial aspects of development projects.

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BGB172 CONSTRUCTION II

The properties of materials, and how they behave in the manufacturing and construction process and how these considerations relate to form and structure. It includes a studio and practical back-up to the lecture program. Students will be required to prepare working details of building components, coordination of building elements for specific building use.

**Prerequisite:** BGB151

**Credit Points:** 6      **Contact Hours:** 4 per week

### ■ BGB173 MATERIAL SCIENCE I

Properties, manufacture, use and analysis of timber, steel, concrete, and clay products including investigation into their strength, density hardness, porosity, plasticity, elasticity and deterioration; investigation and protection of materials against corrosion and fire.

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BGB174 MATERIAL SCIENCE II

The physical and chemical properties of materials and how they affect the construction and structural qualities; laboratory and field testing of bricks, mortar, brickwork, concrete, timber, steel; investigation and protection of materials against corrosion and fire.

**Prerequisite:** BGB173

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BGB175 STRUCTURES I

Equilibrium of forces; shear forces and diagram; bending moments and diagram; loading on structures and loading code; truss analysis and force diagram; stress and strain; tension and compression members; bending theory, design of timber beams, columns and connections; design of steel beams and columns; introduction to indeterminate structures.

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BGB176 STRUCTURES II

This subject is a continuation of BGB175.

**Prerequisite:** BGB175

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BGB243 LAW I – BUILDING ACTS & REGULATIONS

Procedure in passing and resolving Acts, regulations and by-laws. Procedure in collecting information on regulations and by-laws. Knowledgeable site representatives. A detailed study of the 1975-1981 Building Act, Appendix 4 to the Building Act, and Standard Building By-laws, which control the design and construction and building works in Queensland, with particular emphasis on Building Codes referred to in the By-laws. A study of the Health Act, Factories and Shops Act, Liquor Act, Acts Interpretation Act, Fire Safety Act and Town Planning Acts.

**Co-requisite:** BGB254

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ BGB245 MEASUREMENT OF CONSTRUCTION IIB

Detailed study and instruction in the process and methods of taking off and billing quantities in the trades of excavator, concreter, bricklayer, blocklayer and carpenter for simple buildings.

**Prerequisites:** BGB151, BGB154

**Co-requisite:** BGB253

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ BGB246 MEASUREMENT OF CONSTRUCTION IIB

Detailed study and instruction in the process and methods of taking off and billing quantities in more complex building solutions in the trades excavator, concreter, bricklayer and blocklayer in simple basement, underpinning, pier and beam, R.C. frame and suspended slabs. Detailed study and instruction in the process and methods of taking off and billing quantities in the trades asphaltier and built up roofing, demolisher, mason, structural steel and precast concrete.

**Prerequisites:** BGB253, BGB245

**Co-requisite:** BGB254

**Credit Points:** 8      **Contact Hours:** 4 per week

**■ BGB247 MATERIAL SCIENCE III**

Elements of material sciences: introduction to atomic structure and bonding and its effects on a material's engineering property. Elementary metallurgy of iron and steel. Non-ferrous metals and alloys. Joining of metals, fatigue, creep, brittle and ductile fractures, corrosion and protection. Properties, manufacture, use and analysis of fibrous cement, wood products, ceramics, polymers, paints, sealants and mastic products. Investigation into the material's strength, density, hardness, porosity, plasticity, elasticity, deterioration, optical, electrical, thermal and acoustic properties.

**Prerequisites:** BGB103, BGB104

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB253 CONSTRUCTION III**

Extending the scope of Construction I and II to include a range of structures from industrial single to multi-storey residential buildings. Study management, planning, and coordination necessary for successful construction including site layout, site establishment and material handling processes. Construction draughting and detailed drawings. Site visits and/or workshop.

**Prerequisites:** BGB154, BGB103, BGB104

**Credit Points:** 10      **Contact Hours:** 5 per week

**■ BGB254 CONSTRUCTION IV**

An extension of Construction I, II and III, dealing with multi-storey commercial buildings.

**Prerequisite:** BGB253

**Credit Points:** 12      **Contact Hours:** 6 per week

**■ BGB257 STRUCTURES III**

Analysis of indeterminate structures, frame analysis, moment distribution, design of steel connections and structures, concrete columns and walls, composite beams, theory of prestressed concrete, brickwork and concrete masonry design, design of retaining walls, substructures and foundations. Use of computers in structural design.

**Prerequisites:** BGB103, BGB104, BGB143, BGB144

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB258 STRUCTURES IV**

See BGB257.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB261 BUILDING STUDIES III**

Study of the materials and construction of a range of structures from industrial single to multistorey residential buildings – substructure, columns and upper floors, staircases, roof, external and internal walls, windows and doors, finishes, fire protection and fittings. Environmental, structural, aesthetic, cost, statutory, dimensional, manufacturing and erection requirements. Draughting – preparation of typical details and working drawings. Material science – physical and chemical properties of materials such as non-ferrous metals and alloys, fibrous cement, ceramics, polymers, paints and sealants and how they affect their construction and structural qualities.

**Prerequisite:** BGB162

**Credit Points:** 12      **Contact Hours:** 5 per week

**■ BGB262 BUILDING STUDIES IV**

An extension of Building Studies III, dealing with multi-storey commercial buildings. It also looks at design appraisal – effect of design on user comfort, safety, energy usage, orientation, materials, layout, services, ageing and aesthetic composition.

**Prerequisite:** BGB261

**Credit Points:** 12      **Contact Hours:** 5 per week

**■ BGB263 VALUATIONS I**

Concept of value and the methods and reasons for, and factors affecting the valuation of land and buildings. Property inspection procedure and report writing. Role of property within the investment market. Study of leasehold valuation, the concept of profit rent, sinking fund theory and the effect of tax. Valuation tables. Compound interest theory, determination of present value and the sum of an annuity, sinking fund theory. Principles of discounting, including tax adjusted tables. Investment method of valuation, including the determination of annual outgoings. The valuation of perpetual, fixed and varying income, mortgage calculation. Analysis of market information in determining yields and values.

**Credit Points:** 5      **Contact Hours:** 2 per week

**■ BGB268 VALUATIONS II**

See BGB263.

**Prerequisite:** BGB263

**Credit Points:** 7      **Contact Hours:** 3 per week

**■ BGB264 BUILDING SERVICES IIIA**

Transportation of people and goods – passenger, goods and service lifts – planning disposition, control systems and construction. Regulatory requirements, approximate traffic calculations. Escalators and moving walks – use, widths and ratings, regulatory requirements, and construction. Planning and scheduling of lift contracts and ancillary building work. Cost of lifts and their effect on the cost of buildings. Fire protection – sprinklers, detectors, alarms, extinguishers. Telephone and sound systems. Intrusion alarm systems. Clock and time systems.

**Prerequisite:** BGB262

**Credit Points:** 3      **Contact Hours:** 1.5 per week

**■ BGB301 PMI – ADVANCED CONSTRUCTION METHODS**

The main thrust of the subject will be to broaden the education and experience of students by setting them construction and site management problems which are typically encountered by a project manager. Alternatively or in conjunction with the above, case studies will be carried out by the students on projects which have unusual construction problems or techniques. Problems and case studies will cover areas such as: site planning organisations for small, medium and large projects. Material handling and site equipment selection.

**Prerequisite:** BGB254

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB341 BUILDING & CIVIL ENGINEERING CONSTRUCTION**

Civil Engineering techniques commonly used in excavation of large project sites, involving bulk excavation, earth and rock retaining systems, and rock excavation and explosive handling. Discussion on dewatering and techniques of pile driving, bored pier and special foundation construction. Problems faced in the demolition of structures, particularly those associated with prestressed concrete construction. Roadworks – techniques, stabilised construction and surface sealing and associated bridge construction. Particular attention is given to the need for falsework and temporary works and their effect on cost.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB342 LAW II – PRINCIPLES & PROPERTY**

Introduction to legal principles and process – the legal system and process. Sources and divisions of the law. Rules of precedent. Interpretation of statutes and

regulations. Legal practice and procedure. Law of property – ownership and possession. Estates and interests in land. Easements, rights and restrictive covenants. Party walls, boundary walls, fences and encroachments.

**Credit Points:** 3      **Contact Hours:** 1.5 per week

### ■ BGB343 ECONOMICS OF THE CONSTRUCTION INDUSTRY

Branches of economics. Applied economics. Features of the macroeconomy. Demand, supply, prices and stocks. Market structures, competition, collusion, integration and concentration. Real property markets, tenure, markets and sub markets. Structure of the construction and housing industries, composition and characteristics. Demand for dwellings, the deposit gap, public housing, rental markets. Pricing mechanism, application to land, contract and speculative projects etc. Cost analysis, cost components in housing, problems of rising costs and effects of time delays etc. Finance industries, types and use of finance, use of gearing, risk considerations, cash flow, causes of failure of developer and builder firms.

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BGB345 HYGIENE & SANITATION

Subject description as for BGB164.

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ BGB361 BUILDING SERVICES IIA

Heating venting and air-conditioning. Requirements for human comfort and the principles of refrigeration. Minimum standards of ventilation. Types of air-conditioning systems and their composition, application, layout, construction and installation. Component parts – fans, ducts and accessories. Heating fuel types, efficiency, capital and annual costs. Effect of building ordinances on design of systems. Electrical: high and low tension supply and distribution. Large supply installations, substations. Fuse and switch gear. Wiring systems and circuits. Conduits, cables, joint boxes and earth and protection. Maximum demand and voltage drop. Tools and handling equipment. Measurement, control and lighting equipment. Testing and fault locating.

**Co-requisite:** BGB261

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ BGB362 PROPERTY MARKETING

Characteristics of the Australian property market, the nature of the marketing problems. The marketing plan: the mix, implementation of plan and sales forecast; pricing decisions, approach to selling; consideration of sales particulars and auction catalogues. Promotional decisions: determination of budget size; media decision and sales promotion; technological advances and market changes. Real estate brokerage and the application of marketing principles to residential, commercial, industrial, special and overseas properties. Negotiation skills development.

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ BGB363 VALUATIONS III

Valuation net of tax, the effect on value of income and corporation taxes. Valuation of freehold and leasehold interests, including surrender and renewal value. The valuation of life interests. Cost of capital concepts. Internal rate of return, depreciation, future capital sums, cost in use. Alternative valuation models: equated and equivalent yields approaches to valuing growth investments. Equated rents. The Land Act and the Valuations Land Act. Valuation for statutory rating, insurance and mortgage. Apprecia-

tion of accounts. Advanced methods of valuation of residential, commercial and industrial property accounting for current legislation. Valuation of specialised properties: licensed premises, hotels, service stations and entertainment properties.

**Prerequisite:** BGB268

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ BGB364 VALUATIONS IV

See BGB363.

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ BGB367 REAL ESTATE ACCOUNTING I

Principal issues in financial accounting – period vs project income determination, inventory valuation and costs of goods sold, introduction of asset valuation theories, depreciation, intangible asset determination, effects of taxation. Analysis and interpretation of financial statements – multiple factors in interpretation, analysis principles for business brokerage. Asset valuation – conventional bases for valuation, current cost, replacement cost, general price level changes, effects in depreciation and taxation. Business structures – sole trader, partnerships, companies and appropriate accounting procedures. Business analysis and assessment of value for business brokerage. Project accounting, contracts, part-payments, interim project determination, development costs.

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BGB368 REAL ESTATE ACCOUNTING II

Budgeting and cost accounting, the production function, decision and control aspects of production, cost accounting, cost flows, cost types, cost classification, costing systems, standard costing and variance analysis, flexible budgets and budgetary control, performance and evaluation. Company finance – objectives of the finance function, use of financial indicators, debt equity sources of funds, financial versus capital structure, financial risk and gearing, cost of capital. Cash flow management – decision making using cash flow management techniques viz purchase vs lease etc. Working capital management and short term investment criteria. Capital budgeting for an on-going business. Project sorting and budgeting.

**Prerequisite:** BGB367

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ BGB401 BUILDING ECONOMICS & COST PLANNING

The concept of cost control – building outputs and costs; comparison of cost planning and approximate estimating. Cost implication of design variables – perimeter/floor area ratio; size of building; circulation space; storey height. Effect of site conditions on building costs; cost implication of prefabrication and standardisation. Approximate estimating – types and uses. Measurement of variations; adjustment of prime cost and provisional sums. Cost analyses, indices and data, applications and use of cost analyses; cost data; worked examples covering the preparation and adjustment of cost plans. Progress payments, rise and fall calculations and final accounts. Bill of quantity and bulk checking techniques.

**Prerequisites:** BGB446, BGB540

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BGB403 BUILDING MANAGEMENT I

Management in principle – planning, leading, organising, controlling and applied communication. Fundamentals of management. Roles of policy maker

and executive. Accountability. Communication. Problem solving. Organisation structures and relationships, formal and informal structures, latest trends in organisation. Management in practice – building industry participants – client to builder, and their possible relationship and operational sequence. Systems in the building industry. Contract management and head office – small and large contracts. Management job description – contracts, plant, estimating, purchasing, planning and accounting heads. Contract terminology. Types of tenders and contracts. Controlling incoming work – securing contract.

**Co-requisite:** BGB253

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BGB404 BUILDING MANAGEMENT II

A study of more advanced management principles and their application to site administration and management.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BGB405 PROJECT EQUIPMENT & SAFETY

Study of the Construction Safety Act 1971 – 73 and regulations. This includes fixed, mobile and portable equipment, hoarding, gantries, scaffolding and other miscellaneous gear. Crane, hoist and other relevant codes. Responsibilities and certification of site operatives. Safety problems in erection, demolition and excavation work. Accident investigation, analysis and preventive techniques. Frequency and severity rates and training, management responsibilities.

**Co-requisite:** BGB254

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BGB406 BUILDING FINANCIAL MANAGEMENT II

Search and selection of construction projects. The discount rate – the cost of capital, and return on investment. Cash flows and contract mark-up. Risk, uncertainty and inflation in capital investment decisions. Analysis and interpretation of financial statements. Sources of funds and classifications in the structure of funds. Bidding theory and strategy. Prescribed payments taxation system.

**Prerequisites:** ACB281, BGB403

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BGB440 LAW III – BUILDING CONTRACTS

The aim of this subject is to provide students with a greater understanding of the law relating to building and engineering agreements, and of practices relating in the building industry. It includes contract law – elements, formation and discharge of a contract. Contents of a valid contract – misrepresentation, collateral contract implied terms. Contract documents and their interpretation. Remedies for breach of contract. The building contract process: consideration of the major provisions in Australian Standard Forms of Building Contract.

**Credit Points:** 3 per semester

**Contact Hours:** 1 per week

#### ■ BGB442 VALUATIONS & DILAPIDATIONS

The nature of value. Effect of supply and demand of land and buildings. Investment value and occupational value. Types of landed property, the incidents of their tenure, the outgoing, and comparison with other forms of investment. Rates of interest required from different types of property. Calculating rental value and net income and capitalisation of net income. Use of valuation tables. Liability for dilapidations. Mean-

ing and liability for legal and equitable waste. Implied, express contract covenants and statutory obligations to repair between landlord and tenant. Landlords' remedies for breach of covenant to repair. Liability for injuries to third parties.

**Credit Points:** 4 in Semester 1, 2 in Semester 2

**Contact Hours:** 2 per week in Semester 1, 1 per week in Semester 2

#### ■ BGB443 BUILDING SERVICES III

Transportation of people and goods – passenger, goods and service lifts – planning disposition, control systems and construction. Regulatory requirements, approximate traffic calculations. Escalators and moving walks – use, widths and ratings, regulatory requirements, and construction. Planning and scheduling of lift contracts and ancillary building work. Cost of lifts and their effect on the cost of buildings. Fire protection – sprinklers, detectors, alarms, extinguishers. Telephone and sound systems. Intrusion alarm systems. Clock and time systems. Acoustics.

**Co-requisite:** BGB253

**Credit Points:** 5    **Contact Hours:** 2.5 per week

#### ■ BGB444 MECHANICAL & ELECTRICAL ESTIMATING

Outline of the various mechanical and electrical systems and the parameters influencing their design and application. Types of estimates and tenders. Break-down of preliminaries. Trade awards and wage rates. Take-off procedures under major sections of works including costing and estimating make-up calculations. System costs in relation to total building, floor area, operating and maintenance cost, builders allowance for each system.

**Prerequisites:** BGB013, BGB014

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BGB446 ESTIMATING I

Building trades award and wages rates. Hourly rate build up for equipment and trade services. Calculation of preliminaries for a small suburban project.

**Prerequisites:** BGB006, BGB245

**Co-requisite:** BGB254

**Credit Points:** 5    **Contact Hours:** 2.5 per week

#### ■ BGB451 COMPUTER SOFTWARE APPLICATIONS I

The series of lectures in this subject is to be used to study in depth the preparation of Bills of Quantities using various commercially available computer software packages. The student will be given hands-on experience in the following: set up of base accounts, trades, headings, etc; measurement input; editing, correction and data manipulation; report generation in various Bill of Quantities formats; pricing using estimated and/or tendered rates; elemental analyses; team leader responsibilities; the use of computers in the measurement of non-traditional contractual systems; and specification and preamble development;

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BGB452 COMPUTER SOFTWARE APPLICATIONS II

This subject covers the preparation of cost plans/estimates using various computer software packages, and includes set-up of base accounts including parameter specifications; elemental and detailed estimate measurement; editing, correction and data manipulation; report generation and formatting; development of labour constants, standard rates and standard items; pricing, tendering, spreadsheet ap-

plication. It also deals with contract administration software packages, encompassing set-up of base accounts; variation control, rise and fall and final accounts; and progress payments and cash flow forecasts.

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **BGB461 MEASUREMENT OF CONSTRUCTION V**

Detailed study and instruction in the process and methods of taking off and billing quantities in complex basement and foundation work in the trades underpinning, excavator, concreter and all types of piling systems. Study and instruction will also be applied to complex structural systems in suspended slabs and walls.

**Prerequisite:** BGB010

**Credit Points:** 3      **Contact Hours:** 1.5 per week

■ **BGB462 MEASUREMENT OF CONSTRUCTION VI**

Detailed study and instruction in the process and methods of taking off and billing quantities in the trades plumber and drainer.

**Prerequisite:** BGB345

**Credit Points:** 3      **Contact Hours:** 1.5 per week

■ **BGB464 VALUATIONS V – RURAL**

The background to farming in Australia; Government impacts on road and rail development and rural subdivision. Bases of value: rural property values; the valuation process; data collection, collation and analysis; soils. Valuation of crown leaseholds. Property inspections and descriptions.

**Prerequisite:** BGB363, LPP441

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **BGB465 INVESTMENT DECISIONS & FINANCIAL STRATEGY I**

Corporate financial system in Australia: concepts and techniques of financial evaluation, risk management, financing of investments. Investigation of investment strategies related to fixed property; the structure and use of rates of return; the examination of cash flow over time techniques; risk analysis applied to property; the structure of detailed risk and return viability studies; portfolio theory applied to property computer applications.

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **BGB466 INVESTMENT DECISIONS & FINANCIAL STRATEGY II**

See BGB465.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BGB520 SPECIFICATIONS**

The compilation of specifications complementing other architectural documents. Definitions, objects and purpose of a specification. Specification as a contract legal and working document; relationship to the Bill of Quantities and drawings; schedules; reference material and specification writing. The use of 'Master' specifications; outright and performance specifications and preparation of specified Bills of Quantities.

**Prerequisite:** BGB254

**Credit Points:** 3      **Contact Hours:** 1.5 per week

■ **BGB524 MEASUREMENT OF CONSTRUCTION VII**

Detailed study and instruction in the process and methods of taking off and billing quantities in the trades of mechanical and electrical engineer, external works and preliminaries. Detailed study and instruction in the process of Bill of Quantity presentation and

the prospects for computer usage in Bill of Quantity preparation.

**Prerequisites:** BGB013, BGB014, BGB443

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **BGB526 POST CONTRACT SERVICES I**

An in-depth study in the method of adjustment of provisional items in the contract; a study of rise and fall entitlements under various formulae, methods of preparing valuation certificates for progress payments, and modern cost control techniques used on jobs during the construction period including review of relevant contractual clauses applicable to all items within semester study. An in-depth study of various aspects of Quantity Surveying practice including adjustment to the contract sum for variations, feasibility studies and different types of contractual arrangement and selection of contractors.

**Credit Points:** 5      **Contact Hours:** 2.5 per week

■ **BGB529 PM2 – QUANTITATIVE TECHNIQUES**

Review of statistical methods. Data recording and presentation technique. The weighted index. Probability and expected value. Frequency and probability distribution. The normal distribution – control charts. Regression and multiple regression. Work study technique. Value analysis in building design and production. Operation research: linear programming – graphical, simplex, transportation and assignment methods. Dynamic programming. Decision making under conditions of certainty and uncertainty. Decision trees.

**Prerequisites:** BGB403, BGB404

**Credit Points:** 5      **Contact Hours:** 2.5 per week

■ **BGB540 ESTIMATING II**

Build up of a typical rate for the following trade items: demolition, dewatering, piling, underpinning, shoring/formwork to columns, beams, walls and slab systems/reinforcement tying and fixing; concrete placing rates; precast erection; scaffolding, gantries, hoists and cranes etc. Calculations of preliminaries for country and city project.

**Prerequisites:** BGB009, BGB010, BGB246, BGB446

**Credit Points:** 5      **Contact Hours:** 2.5 per week

■ **BGB543 LAW 4 – TORTS & ARBITRATION**

An introduction to the law as it affects the construction industry. Law of tort – negligence, professional negligence, duty of care, liability, occupiers liability, nuisance, fraud and conversion. Arbitration – nature of comparison with actions at law. Reference by consent. The arbitration agreement, parties subject matter, appointment of arbitrators or umpire. Conduct of an arbitration; powers and duties of an arbitrator. Rules of evidence. Validity of publication and enforcement of an award. Costs.

**Prerequisite:** BGB440

**Credit Points:** 3      **Contact Hours:** 1.5 per week

■ **BGB547 PM3 – CONSTRUCTION PLANNING TECHNIQUES I**

This subject is designed to develop skills in the application of construction planning and control techniques. It includes bar charts. Critical path networks – arrow and precedence diagrams. Updating, control and reporting techniques. Line of balance. Resource levelling. Least-cost optimisation. Multiple activity chart.

**Prerequisite:** BGB254

**Credit Points:** 5      **Contact Hours:** 2.5 per week

■ **BGB548 PM4 – CONSTRUCTION PLANNING TECHNIQUES II**

The advanced application of quantitative techniques to construction planning and control. Planning and control for various types of projects. Expediting contracts. Misuse and abuse of planning. Flowline scheduling. Legal problems associated with CPM. Simulation techniques.

Prerequisite: BGB547

Credit Points: 8 Contact Hours: 4 per week

■ **BGB550 PM5 – PROJECT COST CONTROL**

This subject is designed to develop skills in the financial planning and cost control of the construction project. It deals with a variety of topics including the development time relationship, cost consequences of design decision. Preconstruction budget, budget management, materials control. Performance analysis. Trend evaluation. Forecasting techniques. progress reports. Cost reports. Financial status reports. Computer applications in expenditure. Control and forecasting. Equipment policy. Equipment economics. Maintenance management. Contract administration including maintaining records, processing payments, negotiating extensions and prolongation claims, rise and fall, prescribed payments, sundry administration.

Credit Points: 6 Contact Hours: 3 per week

■ **BGB552 OFFICE MANAGEMENT**

A study of scale of fees and professional charges, code of ethics, letters of engagement, law involving the quantity surveyor and his client, professional indemnity, professional image and status. Office management and procedures.

Credit Points: 2 Contact Hours: 1 per week

■ **BGB561 PROPERTY MAINTENANCE I**

Technological, legal and financial factors in property maintenance, including taxation issues. It encompasses the nature and importance of building maintenance – concept of building maintenance, liability for defects. Capital, maintenance and running costs. Quality control. Government policy. Planning of maintenance including inspections, long and short term. Maintenance policies, cycles and profits, maintenance audits, maintenance manuals. Building stock age and conditions, statistics. Maintenance standards – application, attitude, quality control, responsibility. Statutory requirements – Building Act, defective premises, Factories Act, fire precautions, health and safety. Cost control – estimates and budgets, performance measures. Life cycle costing.

Prerequisites: BGB164, BGB361, BGB269

Credit Points: 4 Contact Hours: 2 per week

■ **BGB562 PROPERTY MAINTENANCE II**

See BGB561.

Credit Points: 6 Contact Hours: 3 per week

■ **BGB563 VALUATION – ADVANCED I**

Capital taxation as it affects property transactions. Valuations for development land tax, capital transfer tax and taxation of capital gains. Consideration of fiscal policy and tax planning as they affect the public and private property sectors. Valuations resulting from compulsory purchase with particular reference to land taken, part taken and where no land is taken. Residential and business disturbance claims. Compensation resulting from adverse planning decisions. The compensation and betterment problem. Law and valuation. The Land Court, professional liability.

Prerequisites: BGB363, BGB364

Credit Points: 5 Contact Hours: 2 per week

■ **BGB564 VALUATION – ADVANCED II**

Valuation in the development sphere, with emphasis on the valuer's role in the development process; the structuring of development schemes in the private and public sectors with specific consideration of partnership schemes. Development potential and the effect of equity sharing schemes, capital budgeting, finance. A study of investment appraisal techniques and their application in the property sector. Portfolio management in the public and private sector, including selection, lease management, property maintenance and performance measurement. The conflict between investment theory and the problems/objectives of operational estate management. The valuation of corporate assets for organisational and balance sheet purposes. Consideration of the valuer's role and responsibilities. The treatment of depreciation of fixed assets for accounting purposes.

Credit Points: 5 Contact Hours: 2 per week

■ **BGB565 TIME MANAGEMENT**

Bar chart, critical path networks – arrow and precedence diagrams. Updating, control and reporting techniques. Line of balance, production planning. Resource management.

Prerequisite: BGB161

Credit Points: 8 Contact Hours: 3 per week

■ **BGB567 REAL ESTATE PRACTICE I**

These subjects explore in detail real estate practice, conveyancing, real estate law, marketing and office administration.

Credit Points: 4 Contact Hours: 2 per week

■ **BGB568 REAL ESTATE PRACTICE II**

See BGB567.

Credit Points: 5 Contact Hours: 2.5

■ **BGB569 PROJECT COST MANAGEMENT I**

Principles of project cost planning and control from project inception through design, pre-tender, tender, post contract and final account phases. Principles of measurement and preparation of Bills of Quantities, the pricing of construction work including preliminaries and overheads. An introduction to building economics and cost planning. Comparison of cost planning and approximate estimating. Cost implication of design variables – perimeter/floor area ratio, size of building/circulation space, storey height, column spacing, floor space and loadings. Variations, adjustment of prime cost and provisional sums and final accounts. Progress payments.

Prerequisite: BGB162

Credit Points: 5 Contact Hours: 2 per week

■ **BGB601 FORMWORK DESIGN & CONSTRUCTION**

Objectives in formwork building, quality, safety, control. Formwork planning – re-use, materials and hardware, cost, hire or buy, erecting and stripping, scheduling. Types of materials, facings, finishes, hardware and fasteners. Loads and pressures on slab, beams, column and wall forms. Form design and design tables. Formwork drawing and detailing. Building and erecting formwork, architectural forms, precast concrete. Special techniques and pre-stressing. Proprietary formwork systems. Falsework will be designed in conjunction with the above but will only involve simple support beam or axially loaded props; more complex support systems will not be dealt with.

Prerequisite: BGB144 Co-requisite: BGB253

Credit Points: 4 Contact Hours: 2 per week

**■ BGB606 PM8 – LAND DEVELOPMENT STUDIES**

The structure, operation and control of the land development industry including the politico-economic framework, land use plans and approval mechanisms of potentially subdivisible land, financial aspects of development projects, and trends and prospects in the house development industry.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB623 PM6 – BUILDING DEVELOPMENT TECHNIQUES I**

Feasibility, market and location surveys. Cost analysis. Evaluation techniques, conventional and discounting. Cash flows and sensitivity analysis. Authorities, development restrictions, services, profitability, commercial assessment, land values, options. Purchase – terms, legal documentation, consolidation, surveys. Commissioning design team-building use, facilities, quality, staging. Instruct consultants, analyse alternatives, value engineering, marketability, income and outgoings, commercial assessment from sketch through to working drawings. Cost and time control from sketch design to completion. Tender procedures and negotiations, contract documentation. Leasing, brochures, publicity, letting agents, targets. Authorisation of construction payments, monthly reports, coordination meetings. Financing projects and cash flow.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB624 PM7 – BUILDING DEVELOPMENT TECHNIQUES II**

See BGB623.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB626 LAND DEVELOPMENT STUDIES**

Subject description as for BGB606.

**Prerequisites:** BTB663, LPB441, LPB444

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB642 APPLIED COMPUTER TECHNIQUES**

An evaluation of the range of commercial and non-commercial computer programs designed for the construction industry.

**Prerequisites:** BGB548

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ BGB643 LAW 5 – COMMERCIAL LAW**

An introduction to the law as it affects the construction industry. Sale of goods, hire purchase. Negotiable instruments. Insurance law. Partnership law and general principles of company law. Bankruptcy and liquidation.

**Credit Points:** 3

**Contact Hours:** 1.25 per week

**■ BGB647 COST PLANNING & COST CONTROL I**

The significance of construction economics for the client, the professions, the industry and society. Historical development, need for main aims of cost control. Comparing cost planning and approximate estimating. Cost implication of design variables – shape, size, perimeter, storey height, etc. Cost implications of construction methods, of site and market conditions, of prefabrication and industrialisation. Types of approximate estimates. Cost analyses, indices and data. Cost in use, maintenance and running

costs, the life of buildings and components, effect of taxation and insurance.

**Prerequisites:** BGB005, BGB006, BGB009, BGB010, BGB446, BGB461, BGB462, BGB524, BGB540

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BGB648 COST PLANNING & COST CONTROL II**

See BGB647.

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ BGB653 POST CONTRACT SERVICES II**

See BGB526.

**Credit Points:** 5      **Contact Hours:** 2.5 per week

**■ BGB656 BUILDING RESEARCH**

History of building research. The definition of research. Australian and international building research organisations. The nature of the building industry and implications for research. Financing research. Future developments in building research. Research management. The research process. The development and presentation of a bibliographic report.

**Prerequisite:** BGB341

**Credit Points:** 9 per semester

**Contact Hours:** 4.5 per week

**■ BGB661 ELECTIVE RESEARCH PROJECT I**

The subject is designed to develop an ability to disseminate and evaluate information and specialised knowledge and to acquire an understanding of research methodology. It encompasses the definition, history, financing, future prospects and management of research. Students may either select a research subject, test its workability, develop working procedures, prepare an outline for the study, draft the preliminary section and after a series of critiques, present a bibliographic report, or carry out a case study or project based upon an unusual or complex process within a relevant professional area, prepare a report and give an oral presentation.

**Credit Points:** 8      **Contact Hours:** 4 per week

**■ BGB662 ELECTIVE RESEARCH PROJECT II**

See BGB661.

**Credit Points:** 8      **Contact Hours:** 4 per week

**■ BGB663 PROJECT DEVELOPMENT PROCESS I**

An overview of the project development process from inception to occupancy as a prelude to detailed study of discrete parts of the process. Subject description as for BGB623/4.

**Credit Points:** 5      **Contact Hours:** 2 per week

**■ BGB664 PROJECT DEVELOPMENT PROCESSES II**

See BGB663.

**Credit Points:** 5      **Contact Hours:** 2 per week

**■ BGB665 PROPERTY MANAGEMENT I**

Principles and techniques in property management in the private and public sectors. The management of a property department in an organisation with a large property holding. Management of property portfolio in the private and public sectors. The characteristics and choice of alternative forms of ownership and interests. The management of residential, retail, industrial and commercial buildings. Main statutory provisions relating to above tenancies. Tenancy agreements, management records and accounts. In-

insurance. Cash flow and credit control. Property brokerage – principles and practices.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BGB666 PROPERTY MANAGEMENT II**

See BGB665.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **BGB667 APPLIED COMPUTER TECHNIQUES**

The subject is designed to give students hands-on experience and to demonstrate contemporary commercial software. On completion of the subject, students should be able to evaluate a range of commercial and non-commercial computer programs designed for the property development and construction industry. It covers accounting and cost control packages; feasibility studies, etc.; maintenance packages; and CPM, network analysis techniques.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **BGB668 LAW 6 – VALUATION OF LAND**

The aim of this subject is to provide students with a better understanding of the basis upon which valuations of land are made for the levy of rates and taxes and the assessment of compensation for compulsory acquisition. It encompasses review of land, fixtures, plant, improvements, tenure, interests of land. Valuation – market, capital, unimproved, annual and site values. General principles – assessment of value. Valuation methods – urban and rural lands. Goodwill and business disturbance. Compensation upon compulsory acquisition. Mines and mineral bearing lands. Licensed premises. Valuation of strata title property. Valuer as an expert witness. Valuation appeals procedures.

**Co-requisite:** BGB563

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **BGP412 PROPERTY MAINTENANCE**

Nature and importance of building maintenance; maintenance standards; statutory requirements; cost control and taxation.

**Credit Points:** 6 per semester

**Contact Hours:** 2 per week

■ **BGP414 TIME MANAGEMENT II**

This subject is designed to develop an understanding and a high level of competence in the design of planning and control techniques for all stages of project management. It is expected that students will understand basic planning techniques. The subject covers updating, control and reporting techniques. Using CP networks. Resource, time and cost analysis of CPM and PERT. Production planning and control using line of balance/flowline techniques. A critical examination of CPM and case studies on its misuse and abuse in contracts. Development of basic planning to produce detailed repetitive production planning of project components and elements, including cycle times and balancing. Planning for various project types and its processes, including systematic analysis of methods, techniques and alternatives. Use of multiple activity charts in planning and monitoring progress, and material handling time analyses in repetitive projects.

**Credit Points:** 6      **Contact Hours:** 2 per week

■ **BGP417 DESIGN MANAGEMENT**

The aim of this subject is to provide the student with an understanding of the nature of design and a knowledge of all factors which influence the process of design. It includes planning, managing and controlling the design process from inception to detail documentation; decision sequences in design; appreciation of the consequence of design decisions on the total project; the interrelationships

between architectural design and engineering and services design requirements; briefing techniques; cost control; and building maintenance manuals.

**Credit Points:** 6      **Contact Hours:** 2 per week

■ **BGP422 ADVANCED VALUATIONS**

Introduction to valuation, its purposes, the need for valuation, ethical and legal responsibilities. Land identification and title. Value – theory of value, economic base of value, retail value, principles of real estate. Basic valuation concepts and methods. Valuation of vacant land, improvements, valuation of improved land, subdivisonal land. Valuation for rating and taxation. Techniques for valuation of residential, single and multi occupier, urban including commercial, high rise, industrial, goodwill and businesses, shopping centres, rural including crops, plant machinery, irrigation, livestock. Acquisition – law and procedures. Compensation and assessment.

**Credit Points:** 6      **Contact Hours:** 2 per week

■ **BGP426 PROJECT DEVELOPMENT**

Site selection/acquisition. Securing the land. Authority negotiation and approvals. Authority approvals. Resource planning. Acquisition/procurement. Project coordination. Construction management. Commissioning and occupation. Property management. Project finalisation. Post control evaluations. Project management objectives of cost time and quality. Process overview. Project stages. Management principles. Feasibility/justification. Preliminary brief. Development objective, motivation and needs. Feasibility studies. Project feasibility/justification. Finance for projects. Marketing.

**Credit Points:** 6 per semester

**Contact Hours:** 2 per week

■ **BGP429 COST MANAGEMENT & ECONOMICS**

Financial statements. Investment decisions. Economic evaluation. Financing decisions. Life cycle costing. Control systems. Management accounting and reporting. Information systems. Cost planning theories and techniques. The economy.

**Credit Points:** 6 per semester

**Contact Hours:** 2 per week

■ **BGP430 CURRENT ISSUES**

This subject is to be seen very much as an integrative study area. There are two main strands of integration: the integration, under the project management umbrella, of areas already studied; and the integration of recent and topical developments in the area of project management. Areas may include: quality management, buildability, value analysis, case studies, industrial relations, computer applications and selection, technology, information systems IT and AI, international project management, simulation exercises (Arousal, Bicep), recent developments in law, and englobal land development. It is expected that many of these topics will be covered by guest speakers from industry or presented in the form of seminars.

**Credit Points:** 9 per semester

**Contact Hours:** 3 per week

■ **BGP431 PROJECT MANAGEMENT I**

This subject is designed to introduce the student to basic theory in the areas of communication, management and organisation as it applies to the project situation. It encompasses communication – process, skills, environment, applications; management theory and organisation theory.

**Credit Points:** 6      **Contact Hours:** 2 per week

**BGP432 PROJECT MANAGEMENT II**

Negotiation. Project team building. Motivation theory. Construction and project leadership. Change. Strategic management and planning. Personnel. Decision-making strategies. Stress management.  
**Credit Points:** 6      **Contact Hours:** 2 per week

**BGP433 PROJECT MANAGEMENT LAW**

Introduction to the legal system. Law of tort. Contract law. Elements of contract. Contents of valid contract. The building contract process. Legal issues and problems associated with project management contracts. Arbitration. Property law. International law. Agency law. Local Government law. Statutory regulations. Industrial relations.  
**Credit Points:** 6 per semester  
**Contact Hours:** 2 per week

**BGP434 TIME MANAGEMENT I**

The use of planning techniques for project control. The emphasis will be on practical assignments applicable to the proposed situation. Critical path method for planning. Precedence networks. Activity on the arrow. Time scaled networks. Bar charts. Resource loading and levelling. Line of balance. Introduction to computing packages.  
**Credit Points:** 6      **Contact Hours:** 2 per week

**BGP437 FIELD TRIP**

An experiential field trip of 5 days duration in an adventure style environment. The emphasis will be on team building, working in a stressful environment, communication skills, personal discovery and extension, and building trust and relationships. The activities will be oriented to achieving greater awareness of and competence in the above areas.  
**Credit Points:** 12      **Contact Hours:** 5 days

**BGP438 REAL ESTATE INVESTMENT & ECONOMICS**

Financial analysis of real estate investments. Taxation, tax exemption on financing. Capital budgeting. Debt and equity ponding. Measures of value. Capitalisation. Portfolio analysis. Syndication cash flow and appraisal techniques. Application of micro and macroeconomics to property market. Economic theories related to locational choice. Land economic theory. Economic factors influencing real estate investment. Business cycles, growth trends, demographic analysis.  
**Credit Points:** 6      **Contact Hours:** 2 per week

**BGP439 PROPERTY MANAGEMENT**

Economic and feasibility studies related to various properties. Land valuation and technique. Legal aspects including strata letter and tenancy law. Sources of finance. Taxation. Cash flow and forms of ownership. Management of lease hold rental and home unit property. Marketing aspects. Insurance. Obsolescence, maintenance and replacement. Feedback for future proposals.  
**Credit Points:** 6      **Contact Hours:** 2 per week

**BGP440 RESEARCH METHODOLOGY**

This subject is to enable the student to apply recognised research techniques to the production of his/her dissertation. It covers structure of a dissertation and format. Referencing. Hypotheses. Different methods of investigation. Formation of questionnaires, interviews etc. Sampling, sample size.  
**Credit Points:** 3      **Contact Hours:** 2 x 7 weeks

**BGP441 STATISTICS**

Collection and presentation of data. Probability and probability distribution. Normal, t F and chi distributions, statistical estimation and tests of hypotheses based on these. Introduction to non-parameter tests of hypotheses. Regression and correlation.  
**Credit Points:** 6      **Contact Hours:** 2 per week

**BGP442 DISSERTATION**

The dissertation may be of a research or investigative nature on any approved area related to project management. Suitable topics will be discussed and arranged with course members each year. Each student will be assigned a supervisor and will be examined by means of a dissertation by that supervisor and another member of staff prior to review by the external examiner.  
**Credit Points:** 19.5 per semester  
**Contact Hours:** 2 per week

**BTB100 INTRODUCTORY DESIGN I**

The greater part of the course will consist of studio work in freehand and mechanical drawing techniques, applied to a variety of subject matter at different environmental scales. Topics covered include: contour, texture and tone; depth perception, optical illusions and the principles of perspective; techniques of perspective drawing; the organisation of the visual field and the gestalt 'laws of pragnanz'; pattern in two and three dimensions; visual interest and attention; visual dynamics; and principles of scale drawing.  
**Credit Points:** 16      **Contact Hours:** 8 per week

**BTB101 THE HUMAN ENVIRONMENT I**

The aim of this subject is to provide a basic understanding of the dimensions and movement of the human body, and of its perceptual systems, as an essential preliminary to the design of all artefacts for human use. The course consists of lectures and studio exercises. Lecture topics include: static and dynamic anthropometry; human sensory systems; introduction to ergonomics; applications of anthropometrics and ergonomics to design.  
**Credit Points:** 4      **Contact Hours:** 2 per week

**BTB102 HISTORY OF THE BUILT ENVIRONMENT I**

The course reviews the development of man's artificial environment and its relationship to ideas, technology, and the fine arts from the earliest times to the seventeenth century.  
**Credit Points:** 6      **Contact Hours:** 3 per week

**BTB103 ENVIRONMENTAL STUDIES I**

Man's place in nature. Some concepts of ecology – concept of the ecosystem, energy in ecosystems, interactions in the natural environment. Population, resources and pollution – the ecology of populations, man as part of the ecosystem, diversity as an ecological resource, resilience of natural systems, systems of overloading. Structure and function of essential biological systems. Environmental health.  
**Credit Points:** 2      **Contact Hours:** 1 per week

**BTB110 APPLIED MATHEMATICS FOR DESIGNERS I**

Applications of plane and solid geometry in design revision of basic geometry; symmetry; construction and packing of solids; spherical geometry and its applications. Applications of trigonometry in design; revision of basic trigonometry; calculation of heights, distances, areas and volumes. Data collection and analysis in design; introduction to statistics; use of

computers in data analysis; elements of computer programming.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **BTB113 ENVIRONMENTAL SCIENCE**

Composition of the atmosphere and atmospheric process including climate; air pollution and smog; water cycles, the composition of lakes and oceans; sea-level changes and water pollution as a global issue; carbon, nitrogen and phosphorous cycling and terrestrial, aquatic and atmospheric links; introduction to human population and demographic trends in developed and developing countries; distribution and trade in renewable and non-renewable resources; trends in the use of land; implications of urbanisation for rural land management; the city as an ecosystem – local and regional environmental impacts; natural resource management and conservation.

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **BTB132 LIGHT & COLOUR STUDIES**

This subject extends the study of colour vision, colour harmony and contrast, mixing and the application of colour; examines a range of contemporary theories relating to the use of colour in design; and introduces the study of the qualitative effects of lighting on form and colour in interiors. Lecture topics include the physiological-psychological basis for colour relations and examine the range of techniques used to apply these theories in the design professions.

**Credit Points:** 8      **Contact Hours:** 2 per week

■ **BTB135 MAP & AIR PHOTO INTERPRETATION**

Types, sources, uses and availability of maps and air photos, map reading, understanding of contours, land form and use of sections; methods and techniques of map production; introduction to photogrammetry and use of stereoscopes; introduction to remote sensing. Material will be covered by lectures, workshops, visits to map and air photo source organisations. Evaluation and assessment will be by assignment and practical workshop(s).

**Credit Points:** 2      **Contact Hours:** 1 per week

■ **BTB151 INTRODUCTION TO TECHNOLOGY**

This subject aims to provide basic knowledge on applied technologies, and how they relate to industrial products and systems. The subject consists of series of lectures covering in a broad sense: different technological issues and their application in the content of technological evolution; factors related to technological changes; appropriate technologies.

**Credit Points:** 2      **Contact Hours:** 1 per week

■ **BTB200 INTRODUCTORY DESIGN II**

Studio work: simple three-dimensional design tasks at a variety of scales, and illustrating tasks associated with the five professions. Workshop and fieldwork will be related to studio exercises. Studies of the professions: a seminar course in which the work and roles of architect, industrial designer, landscape architect, urban and regional planner and interior designer will be explained and discussed by staff and practitioners and related to current work in the studio and to teaching in History of the Built Environment II.

**Prerequisite:** BTB100

**Credit Points:** 18      **Contact Hours:** 8 per week

■ **BTB201 THE HUMAN ENVIRONMENT II**

This subject encourages the understanding of human behaviour by examination of relevant theories and processes, and skill acquisition and practical applica-

tion to daily life. It encompasses basic research principles, perception, learning processes, motivation and problem solving. Communication, characteristics and dynamics of group and interpersonal interactions. Stress and anxiety management. The role of the self-concept and locus of control in transactions with the world in general.

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **BTB202 HISTORY OF THE BUILT ENVIRONMENT II**

A continuation of History of the Built Environment I. History of the following from circa 1600 AD: ideas, art, and three of the following (one of which must be the student's major discipline) – Town and Country Planning, Landscape Architecture, Architecture, Interior Design, Industrial Design.

**Credit Points:** 10      **Contact Hours:** 5 per week

■ **BTB203 ENVIRONMENTAL STUDIES II**

A continuation of Environmental Studies I, covering the natural environment and its interactions with people. It looks at man's place in nature. Some concepts of ecology – concept of the ecosystem, energy in ecosystems, interactions in the natural environment. Population, resources and pollution – the ecology of populations, man as part of the ecosystem, diversity as an ecological resource, resilience of natural systems, systems of overloading. Structure and function of essential biological systems. Environmental health.

**Credit Points:** 2      **Contact Hours:** 1 per week

■ **BTB204 APPLIED SCIENCE FOR DESIGNERS II**

In laying the foundations of a scientific understanding of the physical environment and the technology by which it can be adapted to human use, this subject covers chemistry for environmental design; basic chemical properties of commonly occurring materials, natural and artificial; common chemical processes in buildings and artifacts.

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **BTB209 APPLIED LAND SCIENCE FOR DESIGNERS**

This subject is concerned with establishing the foundations of a scientific understanding of the earth's surface. It includes earth science and climatology for environmental design; land forms and their origins; introduction to the physical properties and behaviour of soils and rocks in relation to the design professions.

**Credit Points:** 2      **Contact Hours:** 1 per week

■ **BTB210 APPLIED MATHEMATICS FOR DESIGNERS II**

Applications of plane and solid geometry in design: revision of basic geometry; symmetry; construction and packing of solids; spherical geometry and its applications. Applications of trigonometry in design: revision of basic trigonometry; calculation of heights, distances, areas and volumes. Data collection and analysis in design; introduction to statistics; use of computers in data analysis; elements of computer programming.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **BTB220 ERGONOMICS I**

To develop a scientific and research approach to problem solving and implementation of principles during the design education, this subject studies different aspects of human factors with an emphasis on their application to human-equipment interface.

**Credit Points:** 2      **Contact Hours:** 1 per week

### ■ BTB235 INTRODUCTION TO INTERIOR TECHNOLOGY

The subject has two purposes: to introduce the student to the elements of construction systems and construction materials and how these elements relate to form and structure; and to develop skills in measuring, surveying and recording information in existing spaces in buildings. Lectures deal with basic structural systems and building carcass. Construction materials and finish materials are differentiated. Instruction in techniques of measuring and recording existing structures including the use of tapes, levels, photography, photogrammetry and the recording, storage and use of surveyed information.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ BTB300 DESIGN I

Lecture topics include: Scope of problem solving theory; Reitman's State Transformation Model; special characteristics of design problems; the task environment, the problem space, the solution space and their representation; problem difficulty, recognition and algorithmic methods; generate-and-test methods; heuristics; creativity and innovation; and general psychological theories of creativity. The theoretical base also encompasses theories of and development in art, design and perception. The studio exercises, to which most of the in time is devoted, are aimed at a range of problems within specific boundaries to focus on the systematic processes of design rather than on questioning the environmental implications of these processes.

**Prerequisite:** BTB200

**Credit Points:** 18      **Contact Hours:** 8 per week

### ■ BTB301 THE HUMAN ENVIRONMENT III

The role of social, cultural, and historical variables in human-environment interactions. The social and cultural development of Australian urban environments, with particular reference to the local built environment. The study of human functioning in urban environments. Theory: privacy, personal space, territoriality, environmental meaning and cognition, cognitive maps and wayfinding, intercultural and intracultural differences. Application via examination and analysis of an urban environment with respect to its sociocultural function.

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ BTB303 ENVIRONMENTAL STUDIES III – EVALUATION

The characteristics and elements of spaces – form, size, scale, contextual relationships, furnishings, fittings, and uses; the needs of living vegetation in external and internal urban spaces – light, air, soil, water, support, management problems; techniques of evaluation of spaces relevant to the various disciplines – Architecture, Urban and Regional Planning (similarities and differences in techniques, approaches, and terminology will be highlighted); graphic-based assignment with class discussion on specific requirements.

**Credit Points:** 2      **Contact Hours:** 1 per week

### ■ BTB306 VISUAL COMMUNICATION I

A practice-based program will be followed with specialised, formal lecture inputs related to the development of methodologies. The program will concentrate on the achievement of a professional standard in basic techniques of production documentation whilst allowing further individual development in the more 'legitimate' aspects of artistic expression.

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BTB307 DESIGN SCIENCE I

A study of the principles of science and their implications on the design of buildings and spaces. The application of these principles in the conceptual stages of design allowed by laboratory tests and computer evaluations of design proposals. The principles governing quantity and quality of light and daylight in buildings. Manual and computerised calculation of daylight factors. Testing of model interiors in artificial sky. Solar variation, solar loads, solar paths and solar charts. Design for sunlight and shade. Manual and computerised projection of solar shadows and reflections. Testing of models on heliodon.

**Credit Points:** 2      **Contact Hours:** 1 per week

### ■ BTB310 BUILDING CONSTRUCTION I

Lecture topics will include: introduction to common building materials, their properties and behaviour in use; the building as a system; technical innovation and its influence and design and performance; the influence of occupancy, environmental factors, materials and erection procedures in the choice of a construction method; elements of the small building and their function in the building system; historical and contemporary methods of construct small timber framed and masonry buildings. Studio work will consist of exercises in construction drawing related to the lecture topics. Lectures and studio work will be complemented by site visits and workshop practice.

**Credit Points:** 16      **Contact Hours:** 6 per week

### ■ BTB315 MANUFACTURING TECHNOLOGY I

The course will consist of lectures and studio work. Lecture topics will include: metals, glass, ceramic, wood technologies in relation to product construction. The relationship between the properties of materials and the industrial processes available for their fabrication. Applications of the study of materials, processes and their fabrication to product design including product development, systems and specifications for manufacture will be the subject of studio exercises.

**Prerequisite:** BTB220

**Credit Points:** 12      **Contact Hours:** 6 per week

### ■ BTB320 ERGONOMICS II

The aim of this subject is to develop a scientific and research approach to problem solving and implementation of principles during the design process. This subject studies different aspects of human factors with an emphasis on their application to human-equipment-interface. The course will consist of lectures, and laboratory exercises. Lecture topics will include systems and people; person-machine-system models; human capabilities; hearing and signal detection theory; vision.

**Prerequisite:** BTB220

**Credit Points:** 6      **Contact Hours:** 2 per week

### ■ BTB331 FURNITURE & FITTINGS I

The course will consist of lectures and field studies. Topics will include: introduction to fabrics and textiles in interior design; wall to wall carpeting, materials, properties and fixing methods; curtains and blinds, materials, properties, methods of installation and control; upholstery, materials, properties and techniques; the role of fabrics and textiles in interior design.

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ BTB335 INTERIOR TECHNOLOGY I

Upgrades the technical drawing skills developed in BTB235 and introduces students to the building codes and by-laws regulating the design and construction of building interiors at the domestic level; addresses

various technological issues such as the evolution of building materials and the evaluation of material performance and suitability.

**Credit Points:** 14    **Contact Hours:** 5 per week

#### ■ BTB340 SITE MEASUREMENT

Introduction to basic equipment for site measurement – levels, staffs, chains and tapes, prismatic compass, optical prism, clinometer, range poles and their use in horizontal and vertical measurement. Introduction to recording of field data and the preparation of measured site drawings from recorded data. Theory and technique will be introduced in lectures and applied in the field with a site measurement exercise. Evaluation and assessment will be based on the field work.

**Credit Points:** 4    **Contact Hours:** 1 per week

#### ■ BTB341 SITE PLANNING THEORY

Exploration of open space theory at regional and local scales; definition of spatial characteristics by edges, nodes, landmarks, districts and paths. Sense of place; structure and form; legibility; imageability etc; human responses and expectations and their effects on site planning decisions. The subject is taught through lectures, seminar, and application in Design I. Evaluation and assessment will be by assignment and contribution to project work in Design I.

**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ BTB343 INTRODUCTION TO THE PROFESSIONS

The concept of professionalism and contemporary social expectations of the environmental design professions. Current issues and controversies in environmental design and planning in Australia including resource conservation and degradation, and coastal, city centre and inner city development. Roles and ranges of employment within the two professions. Organisation and activities of the professional institutes. The powers, responsibilities and day to day activities of landscape architects and urban and regional planners in different forms of private and public employment. The future directions, potentials and job opportunities of the two professions.

**Credit Points:** 3    **Contact Hours:** 1 per week

#### ■ BTB344 ORAL PRESENTATION

Formal oral presentation techniques including meetings, conferences, interviews and speeches (informative and persuasive). Evaluation and assessment is by verbal report and presentation.

**Credit Points:** 3    **Contact Hours:** 1 per week

#### ■ BTB345 INTRODUCTION TO ECOLOGY

Basic plant taxonomy, classification and the physiological processes of plants; the interrelationships of plants, animals (including man) and the environment; populations and population regulation; limiting factors, inter and intra specific competition and predation; life history patterns in plants and animals; the concept of the niche; resources, competition and dynamics of plant communities; ecosystems and ecosystem energetics.

**Credit Points:** 8    **Contact Hours:** 4 per week

#### ■ BTB346 GRAPHIC COMMUNICATION

A practice-based program will be followed with specialised, formal lecture inputs related to the development of methodologies. The program will concentrate on the achievement of a professional standard in basic techniques of production documentation whilst allowing further individual development in the more 'legitimate' aspects of artistic expression.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ BTB400 DESIGN II

This subject aims to develop the design process in order to facilitate the capacity for application of available technologies and philosophies, consistent with encouragement of individual freedom in the forging of intrinsic and innovative approaches in seeking design solutions; to develop a rigorous and systematic methodology in the sciences and arts that constitute the design process; to concentrate attention on problems within specific parameters so that students are exposed to and involved in design rather than the broader area of problem solving; and to instil an appreciation of design as a capability of human beings.

**Prerequisite:** BTB300

**Credit Points:** 20    **Contact Hours:** 6 per week

#### ■ BTB401 THE HUMAN ENVIRONMENT IV

Organisation of society; bureaucracy; other approaches to organisation and their structure; directing society; the roles of government and private enterprise; theories of power in society; Federal governments; the Australian example; three tiers of government; Australian constitution; Parliamentary democracy and procedures in State and Federal governments; Queensland State administration; role of local government, especially in Queensland; quangos and statutory authorities; pressure groups and lobby groups and their influence in the Built Environment arena; examples of interactions between government and built environment professions.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTB403 ENVIRONMENTAL STUDIES – ENVIRONMENTAL IMPACTS

The impacts of particular types and processes of development; environmental impacts related to land uses, land and building development, production and use of consumer products, construction materials and processes; environmental criteria for future land and product development.

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ BTB406 VISUAL COMMUNICATION II

To concentrate on graphic applications in the specific professional areas represented by the School and to allow exploration of areas of particular individual interest and ability, emphasis is placed on development and application of skills and techniques previously covered and computer graphic techniques relevant to professional applications.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTB407 DESIGN SCIENCE II

Continuation of the aims and principles as described in Design Science I. Basic design for hot humid climates. Principles governing air flow through and around buildings and spaces. Natural ventilation. Introduction to airflow in cities. Testing of airflow through and around models. Basic design for hot arid climates and for cold climates. Macro and micro climatic conditions and their evaluation for design. Manual and computerised climatic evaluation.

**Prerequisite:** BTB307

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ BTB408 DESIGN SCIENCE

The quantity and quality of light and daylight in buildings; solar variation in cities and in and around buildings; macro and micro climatic conditions are considered and their evaluation for design. Throughout the course as each of these units are covered students are given opportunity to conduct experiments and test models. The subject consists of

lecture and practical work used for assessment in conjunction with assignment work.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ BTB409 COMPUTER TECHNIQUES

Development of understanding, awareness, and appreciation of the use of computers in a variety of areas as aids in data analysis and presentation, and of basic skills to input, manipulate, and analyse output; the appropriate use of computers and statistical analysis of data in decision making in physical, social and economic areas; the range of information systems; usefulness of the computer as a tool in landscape architecture and planning; the variety of areas where information systems and statistical analysis can assist decision making. The subject will be orientated towards actual use of computers to ensure student experience in all phases of the process (input, manipulation, output, analysis and presentation).

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ BTB410 BUILDING CONSTRUCTION II

The course will be conducted by the case study method, with lectures and studio work. Case studies will be selected to develop understanding of construction in breadth and depth. Each case study will be introduced by lectures explaining the system characteristics of the problem, the human and environmental factors which constrain the solution, and the technical systems which have been developed to deal with problems of this type. Students will then develop their own solution for a particular case in the studio. Lectures and studio work will be complemented by field studies and workshop practice.

**Prerequisite:** BTB310

**Credit Points:** 10      **Contact Hours:** 5 per week

#### ■ BTB411 LANDSCAPE ECOLOGY

The broad division of the earth in relation to climate and soils – bionics, formations, alliances, associations and societies; the ecosystem concept and its development and application at various geographic scales; the plant community as an expression of ecosystems; energy and water balance; concept of community ecophysiology and growth equations; vegetation classification in Australia and its functional significance; ecological biogeography of Australian vegetation; classification of landscape – concepts of biogeographic regions, provinces, land systems and land units; landscape structure – patches and corridors and the ideas of matrix and network; analysis of landscape structure and function; significance for nature conservation planning; landscape ecology and the practice of planning and landscape architecture.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ BTB414 POPULATION & URBAN STUDIES

Within this subject students are introduced to urbanisation and its definition. Aspects of urban structure including size/function relationships, concentric zone theory, Hoyt's Settlement patterns and problems of rural settlements are discussed. The dynamics of urban areas: the relationships and requirements of urban activities (especially residential, work, and leisure activities); theories of city form and change; the problems of the CBD; the CBD fringe, and the urban/rural fringe. Case studies of Australian settlements.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ BTB415 MANUFACTURING TECHNOLOGY II

The course will consist of lectures and studio work. Lecture topics will include application of principles

of engineering mechanisms to products/systems in current technology. Analysis of the performance of mechanical, electrical, hydraulic and pneumatic mechanisms in relation to product evaluation and performance criteria. Application of engineering mechanisms and product performance check lists to design problems will be the subject of studio exercises.

**Credit Points:** 12      **Contact Hours:** 6 per week

#### ■ BTB420 ERGONOMICS III

Different aspects of human factors with an emphasis on their application to human-equipment-interface. The course will consist of lectures, and laboratory exercises. Lecture topics will include: psychomotor skills, human information processing. Human machine interfaces, displays, controls and tools, human machine system properties, feedback, and controls, workspace design, noise, stress, vibration, legal aspect, safety and product liability.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ BTB431 FURNITURE & FITTINGS II

The manufacture, assembly and fabrication of furniture, fittings and components. Lectures include the expected performance of materials and furniture items, and will focus on functional, maintenance, life span, economic properties.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ BTB435 INTERIOR TECHNOLOGY II

The subject will comprise lectures, tutorials and studio work complemented by site visits. The subject will deal with industrialised interior finishes, and construction of joinery and fittings and their interaction with the building shell and services. The notions of interior maintenance, life span economics will be introduced.

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ BTB440 INTRODUCTION TO ECONOMICS

An introduction to the basic economic problem of scarcity. Production possibilities are outlined together with various types of economic regimes. A simple macroeconomic circular flow model is introduced. The household and trading sectors are outlined together with the role of government. Business cycles, inflation, unemployment, saving and investment are introduced and discussed. The second part of the subject deals with microeconomic concepts. The market system and associated concepts of demand, supply and price equilibrium are developed.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ BTB441 SITE PLANNING TECHNIQUES

Introduction to the processes of site planning and detailed site design that lead to defensible and accountable solutions; role and objectives of survey and analysis phases; types of information required and the methods of processing the resultant data; data analysis, its scope and documentation; the use of data analysis to generate and evaluate possible problem solutions in conceptual form as a basis for strategic and master planning and the value of these processes as a long-term mechanism for adaptation of master planning to meet changing needs.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ BTB442 QUANTITIES & COSTS

Measurement and costing of time, resources, and materials for professional services, production of documents, and implementation of projects. The techniques and tools available for both preliminary and detailed measurement and costing and their control.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ BTB444 APPLIED NATURAL SCIENCES

This subject looks at continued or altered land use that is safe and healthy as human habitat and able to resist deteriorating agencies by remaining in tune with natural processes. Applied studies in geology and geomorphology, climate and micro-climate, soils and hydrology, and broad soil and plan community associations. The influences of these systems collectively and separately on environmental design decisions. Lectures and field work are integrated with design studios and technology studies. Evaluation and assessment are by assignment and application in related study areas.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ BTB451 ARCHITECTURAL INTERIOR SYSTEMS I

Lighting and acoustic considerations, human sensory and behavioural needs. An outline of systems and guidelines for selection and professional judgement.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ BTB500 DESIGN III

As the growth of design abilities is largely dependent upon practice and experience, the program will continue to maintain the major time allocation to studio and workshop exercises. Studies in theory will form an integral part but will be cross-referenced with other subject areas that give emphasis to the methodologies inherent in the roles of the professions represented by the School. The study program will allow for the exploration of optional design topics by students.

**Prerequisite:** BTB400

**Credit Points:** 20      **Contact Hours:** 6 per week

#### ■ BTB506 VISUAL COMMUNICATION III

This subject concentrates on processes and techniques employed in the production of three-dimensional aids to design and presentation. The course will consist of a series of studio exercises in the production of rough mock-ups as an aid to the design process; scale model-making and choice of materials.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ BTB510 BUILDING CONSTRUCTION III

The course will be conducted by the case study method, and predominantly by studio work. Case studies will be selected to develop a thorough understanding of the construction of non-domestic buildings of intermediate size. Each case study will be introduced by lectures explaining the system characteristics of the building type, the human and environmental factors which constrain the solution, and the building systems which have been developed for the building type. Students will then develop their own set of solutions for a particular case. Studio work will be complemented by field work.

**Prerequisite:** BTB410

**Credit Points:** 17      **Contact Hours:** 6 per week

#### ■ BTB511 LANDSCAPE CONSTRUCTION

This subject aims to introduce students to materials and methods commonly used in landscape construction; and to develop skills in construction detailing and preparation of construction documents. Topics covered include the common building materials; an understanding of foundation soils; basic services of site stormwater drainage, water and electrical services; applied systems including paving, steps and ramps; and construction for planting and small water features.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ BTB517 BUILDING SERVICES I

Supply, connection and reticulation of electricity, gas, water and telephone services and relevant outlets and appliances. Sewerage, sullage and stormwater drainage as applicable to domestic buildings. Domestic waste disposal.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ BTB527 DESIGN SCIENCE III

Continuation of the aims and principles described in Design Science I. Thermal performance of buildings. Energy conservation and low energy design. Calculation of heat flow and indoor temperatures under steady state and fluctuating conditions. Quantitative monitoring of thermal performance of building elements. Principles governing control of noise and good hearing conditions in buildings. Basic acoustic design of auditoria. Calculation of reverberation and noise reduction.

**Prerequisite:** BTB407

**Credit Points:** 3      **Contact Hours:** 1 per week

#### ■ BTB531 FURNITURE & FITTINGS III

The aesthetic and practical possibilities of the decorative crafts for interior design. The course will consist of lectures, field studies, and studio and workshop exercises. Lecture topics will include: general principles of ornamental design; decorative metalwork; stained glass; decorative ceramics; plasterwork; carved and inlaid woodwork; lacquer work; printed fabrics and papers; tapestry and embroidery.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ BTB535 INTERIOR TECHNOLOGY III

This subject continues Interior Technology I, with an emphasis on commercial construction systems and the impact of regulations. High-rise buildings are examined, the planning of tennacles, partitioning, and furniture systems. Special considerations for shopping centres, theatres, medical clinics, taverns and restaurants are highlighted.

**Credit Points:** 16      **Contact Hours:** 6 per week

#### ■ BTB543 ENVIRONMENTAL STUDIES V – IMPACT ANALYSIS

The technical, administrative, and legal aspects of environmental analysis. Need for environmental analysis. Aids to analysis – vegetation mapping, pollution and use indicators. Techniques of analysis, projections and predictions. Social and economic aspects of environmental impact analyses. Administrative and legislative bases of environmental and economic impact assessment. Roles of various disciplines in environmental impact analyses.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ BTB546 LAND DEVELOPMENT I

This subject is designed to illuminate the political, economic, and physical contexts of land development, and establish an understanding of the land development process; to study environmental services and utilities at the broad scale and their effects on land development; to examine the necessary design criteria for these services; and to explore contemporary techniques, future trends, and alternatives systems. It looks at a range of topics including characteristics of land development projects; structure and operation of approval authorities; design considerations; impacts of electricity and gas systems on the natural environment; and transport systems planning.

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ BTB547 LAND USE GENERATION**

The evolution of western cities – medieval market towns, industrial conurbations, the modern metropolis. Order and diversity in the organisation of modern land uses. Values, activities and land uses. Characteristics of major human activities – shelter, work, movement, learning, recreation, exchange. Changing influences on contemporary settlements and emergent settlement forms.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BTB551 ARCHITECTURAL INTERIOR SYSTEMS II**

An overview of the environmental systems used in buildings: air-conditioning and system performance, thermal and atmosphere control; the building as a comprehensive environmental system; and their impact on individual interior spaces.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BTB552 ECONOMICS OF INDUSTRIAL PRODUCTION**

This subject consists of series of lectures and seminars and covers the following aspects: business, costing, production, marketing, strategic planning and capital budgeting.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BTB556 MARKETING**

The aim of this subject is to develop an understanding of marketing concepts and their relation to industrial design; and to provide knowledge on methodologies of forecasting and their relation to industrial design. A series of lectures and seminars covers: marketing concept, market segmentation, marketing test, methodologies of forecasting, planning and organisation, costing of products etc.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BTB558 MANUFACTURING TECHNOLOGY III**

The course will consist of lectures, studio work and field studies. Lecture topics will include: production techniques in relation to different materials, various methods for different finishing operations, various methods for forming, automatic and semi-automatic assembly and quality control methods. Field studies will consist of site visits to selected manufacturing industries. The application of the appropriate production technique should be developed through the design project.

**Credit Points:** 12      **Contact Hours:** 5 per week

**■ BTB561 ECONOMICS OF TOWN PLANNING**

This subject is essentially microeconomic although the global and national macroeconomic forces as they affect firms will be outlined. It introduces urban economics and the economic aspects of town planning issues; provides techniques for economic analysis suited to planning needs; and illustrates interactions with employment, industry, population and urban studies at the economic interface.

**Credit Points:** 3      **Contact Hours:** 1 per week

**■ BTB562 REPORT PREPARATION**

Formal writing techniques, including reports, instructions, proposals, specifications, correspondence and essays. Report writing. Structure and content of reports. Summaries and subdivision of material. Precis. Use of tables, charts, and illustrations in written presentation. Clarity and the selection and management of relevant data. Evaluation and assessment is by written report.

**Credit Points:** 2      **Contact Hours:** 1 per week

**■ BTB563 TRANSPORT PLANNING**

The objective of this subject is to introduce students to alternative modes of transport; to methods for predicting future urban transport patterns; and to techniques of transport planning and management. It covers movement and its alternative modes – foot, cycle, car, bus, train, plane, pipeline, inland waterway and marine modes. The origin and destination approach to traffic management; interchange studies. Inter-urban traffic and regional transport planning. The relationship between land use and traffic generation.

**Credit Points:** 5      **Contact Hours:** 2 per week

**■ BTB565 LANDSCAPE GRAPHICS**

Combined application of freehand, drafting and colour techniques. The selection of colour, theme and emphasis in graphic packages. Realism, abstraction and symbolism in landscape communication. Monochromatic graphics for simple reproduction. Integration of various graphic techniques and media. Efficient processes for production and reproduction. Lectures and studio work. Evaluation will be based on evidence of skills and understanding through studio exercises and folio/workbook.

**Credit Points:** 6      **Contact Hours:** 2 per week

**■ BTB571 PLANT RECOGNITION & REQUIREMENTS**

Field recognition by visual characteristics of size, form, texture and colour and by use of simple keys. Requirements of plants for growth in differing environments and the selection of species most suited to particular sets of environmental conditions. Basic botanical terms, plant nomenclature, collection and preservation of plant material, plant physiology and concepts of plant association will be introduced. Teaching consists of lectures, field work, workshops and the use of slides and films etc. Evaluation and assessment is by submission of annotated plant sketches and tests of both identification skills and basic terminology.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BTB600 DESIGN IV**

The major time allocation will again be given to studio and workshop exercises. Studies in theory again form an integral part of design and will be cross-referenced to other subjects such as Dynamics II, Environmental Studies VI, Building Construction II, Industrial Construction II, Building Services III, Ecological Principles II, Land Development II, Interior Construction III, Visual Communication IV and External Services II. All students will pursue the same program providing specific inputs but with a limited range of specialisation through research studies and field exercises associated with the studio projects.

**Prerequisite:** BTB500

**Credit Points:** 20      **Contact Hours:** 6 per week

**■ BTB609 LAW OF THE BUILT ENVIRONMENT**

The law as a constraint in the design and construction process. Laws, regulations and their interpretation. A review of the Australian and Queensland acts, local authority by-laws and regulations of statutory authorities as they affect the built environment. Legal aspects of land and land transfer. Introduction to professional liability, design registration, patents and copyrights.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ BTB610 BUILDING CONSTRUCTION IV**

Continuing from Building Construction III. The course will be conducted by the case study method,

and predominantly by studio work. Case studies will be selected to develop a thorough understanding of the construction of non-domestic buildings of intermediate size. Each case study will be introduced by lectures explaining the system characteristics of the building type, the human and environmental factors which constrain the solution, and the building systems which have been developed for the building type. Students will then develop their own set of solutions for a particular case. Studio work will be complemented by field work.

**Prerequisite:** BTB510

**Credit Points:** 14    **Contact Hours:** 6 per week

#### ■ BTB617 BUILDING SERVICES II

Mechanical, electrical and hydraulic services and their integration in the design and construction of major buildings. Hydraulics: water supply, plumbing, drainage; fire services: sprinklers, alarms, extinguishers, emergency systems; electricity: supply, substations, switchboards, metering, reticulation; vertical transportation: lifts, escalators, hoists.

**Prerequisite:** BTB527

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTB627 DESIGN SCIENCE IV

Continuation of the aims and principles of Science III. Module G – continuation of module E (thermal performance of buildings). Module H – artificial lighting of interiors, lamp characteristics, colour rendering, modelling, lighting quality, simplified lighting design methods, and external lighting.

**Prerequisite:** BTB527

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ BTB631 FURNITURE & FITTINGS IV

This subject encompasses the development of a methodical approach to the choice of loose furniture, furniture systems and interior products; introduces both quantitative and qualitative assessment approaches; and extends the understanding of design of furniture and its integration into interiors.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTB635 INTERIOR TECHNOLOGY IV

The subject will consist of lectures, tutorials and studio work. Lectures will concentrate on the technological assessment of interiors, structure, openings, environmental systems, artifacts and ambience of existing spaces with a view to utilising/changing what an existing space has to 'offer'. Tendering, consultants, leasing and tenancy-building interface will be examined.

**Credit Points:** 16    **Contact Hours:** 6 per week

#### ■ BTB640 PLANTING DESIGN

Design characteristics and criteria. The use of plants as structural and design elements within landscape principles to planting design. Scale. Design for change, growth, replacement and maintenance. Planting design in typical schemes such as streets, highways, parks, urban forecourts and interior landscapes, gardens and broadscale regeneration and stabilisation. Lectures, tutorials and a field visit will be held. Evaluation and assessment will be undertaken through a selected analytical exercise.

**Credit Points:** 3    **Contact Hours:** 1 per week

#### ■ BTB643 ENVIRONMENTAL STUDIES VI – ISSUES & ETHICS

Case studies of successful solutions to environmental problems (eg, Oregon, London, South Australia). Implications of major environmental problems and environmental awareness for urban form and policies.

Environmental impacts of technological change. Contrasting attitudes towards conservation of natural, rural and urban environments. Concept of stewardship.

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ BTB644 APPLIED ENVIRONMENTAL SCIENCE

The basic principles of ecosystems are introduced and the concepts of plant community-environmental associations are strengthened. Methods and techniques of vegetation mapping and classification are introduced including use of air photo and remote sensing skills introduced previously. Environmental needs of plants in diverse built environments and nursery production of these plants are explored. Lectures include ones by specialist guests and field work is conducted. Evaluation and assessment will be by written assignment and field notes.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ BTB645 GRADING

Techniques of land surface manipulation including the construction of platforms for building, carparks, sports ovals and other features and the associated provision of surface drainage. Lectures are accompanied by skill development exercises in a Grading Workbook concluding with the preparation of two set grading plans. Evaluation and assessment is based on the studio exercises and the grading plans.

**Credit Points:** 4    **Contact Hours:** 3 per week

#### ■ BTB646 LAND DEVELOPMENT II

Continuation of BTB546. Land development projects, their financial, marketing and local authority requirements; the housing industry, firm and industry developments and current trends in these areas; the requirements of community, public and utility services are considered.

**Credit Points:** 7    **Contact Hours:** 3 per week

#### ■ BTB647 LAND USE POLICIES

Review of the Government structure as applied to urban areas and regions. The levels of urban planning. How urban policies are made, and analysis of their effectiveness and implementation. Organisations as policy makers, and policy implementors. Areas of conflict and their resolution. Roles of various agencies involved; the various levels and types of land use planning, their powers, and their limits and practice. Major land uses and activities: work, housing, recreation, transport and welfare.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTB648 PUBLIC SERVICES

The provision, organisation, and administration of community services other than public utility services. The subject covers definitions and concepts, historical perspectives, and measurement of community needs in relation to social infrastructural systems and services; health and welfare, education, law/order and safety, open space and recreation, cultural, administration, and communication. Planning objectives for service provisions and maintenance, siting requirements, design considerations, environmental considerations, recent trends and developments.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTB649 CONSERVATION THEORY

Introduction to the concepts of conservation and preservation. Outline of the development and current status of the conservation movement. The structure of conservation legislation and responsibility in

Australia. ICOMOS and the 'Burra' charter. The particular requirements of places, landscapes and precincts in mixed or public ownership. Application of conservation concepts and their use in the National Listings process. Local and regional case studies.  
**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ BTB650 IMPACTS & ASSESSMENT

Forms of impact assessment and analysis considering ecological, social and economic issues; various statutory systems, especially those pertaining in Queensland and under Federal legislation; an analysis of the ecological processes which structure and maintain the major aquatic and terrestrial ecosystems as a background to assessing impact of human activities – urbanisation, resource exploitations, mining and other forms of landscape change.  
**Credit Points:** 5    **Contact Hours:** 2 per week

#### ■ BTB653 VISUAL COMMUNICATION IV

Visual communication techniques employed in the production of design presentations to clients. The subject consists of a series of studio exercises and mock-up presentations in a 'forum' environment to aid the design process.  
**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTB654 ELECTIVE (PLANNING)

Any approved subject selected from the undergraduate programs of the Faculty of Built Environment and Engineering, normally one of the Landscape Architecture courses. In special circumstances the elective may be selected from courses offered in other faculties of QUT or in another approved university or college.  
**Credit Points:** 3    **Contact Hours:** 2 per week

#### ■ BTB655 CAD FOR INDUSTRIAL DESIGNERS

2D CAD used for the development of design concepts through to technical drawings. Evaluations of projects and their evolution through studies undertaken with three-dimensional CAD, both wire frame and shaded.  
**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ BTB656 HOUSING & COMMUNITY SERVICES

Population change and households formation on techniques of analysis and projection of housing stock. Housing conditions and preference surveys: housing issues and policies. The economics of the building and land development industries. The physical place of educational institutions in communities – schools, colleges, universities. Shared use of facilities. Location and space standards. Social and welfare services and their role in the community. Planning and management aspects of welfare.  
**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTB658 MANUFACTURING TECHNOLOGY IV

This course is designed to develop an understanding of advanced manufacturing processes and materials; and to provide knowledge of advanced manufacturing production techniques and how they relate to product design solutions. Lecture topics will include: organisation, planning and technologies required for CIM (computer-integrated manufacturing). The impact of CIM to product design solutions; advanced materials and their applications. Field studies will complement the lecture series. The application of CIM should be developed through the design project.  
**Credit Points:** 14    **Contact Hours:** 5 per week

#### ■ BTB663 URBAN PLANNING I

Building upon preliminary economic knowledge, urban growth theory and constraints are outlined. Population and employment changes and their effect on employment, industry and residential location are identified together with relevant definition and analytical techniques. Introduction to economic base studies, activity rates and use of multipliers. The urban labour market, unemployment and labour supply are outlined. Theory and methods of industry location are developed: types and needs of industry, retailing, retail hierarchies; office activities, office location; shopping centres; and office, industrial and corporate parks. The role of government and the impact of the post-industrial society are considered.  
**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ BTN101 URBAN DESIGN ANALYSIS STUDIO

The emphasis within this subject is on the development of skills in analysis related to the urban design process and adequate communication of the results. Each student will be required to undertake two studies, one chosen from each of two groups typically: city interpretation or townscape appraisal, and housing morphology or pedestrian environments. Where applicable, work in other units of study will be incorporated into this subject. Field work will be incorporated as necessary.  
**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ BTN102 URBAN DESIGN CONTEXT STUDIO

Aim: to develop design skills required for relating new development to existing urban contexts. Each student will be required to undertake two studies, one from each of two groups typically: a community participation project or a sense of place project and a conservation and infill project for the redevelopment/rehabilitation of either an urban precinct or a residential area. Where applicable, work in other units of study will be related to this subject.  
**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ BTN103 URBAN DESIGN CONJECTURE STUDIO

Identification and classification of approaches to urban design. The setting of objectives, the adoption of a method and the testing of implications for a particular urban design problem type. Each student will be required to undertake one study chosen typically from: local area, precinct, part of the city, the city as a whole. Where applicable, work in other units of study will be incorporated into this subject.  
**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ BTN104 URBAN DESIGN GUIDELINES STUDIO

Each student will be required to develop design guidelines for an urban complex, typically one of the following: a regional centre, a tourist development or a housing development and then to test a design guideline produced by a fellow student for a project other than the one used for his/her own design. Where applicable, work in other units of study will be related to this subject.  
**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ BTN105 URBAN DESIGN FIELD STUDIES STUDIO

Aim: To provide students with direct experience of a range of recent and current urban design problems in Australia. The work in this subject will consist of a field trip of approximately two weeks duration. Visits

will be paid to successful and unsuccessful examples of urban design and to design offices in the eastern states and the Australia Capital Territory.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **BTN201 URBAN DESIGN HISTORY OF URBAN SYSTEMS**

This subject will offer a systematic analysis of urban forms and systems in the pre-industrial and post-industrial periods. Specific topics will include urban activities (commerce, manufacture, administration, dwelling, recreation and culture), urban services (water supply, transportation, defence and public order, fire control, sewerage and waste disposal, fuel and power, public information), and urban form (planning for intelligibility, planning for propriety and symbolism, planning for delight).

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **BTN202 THE URBAN ENVIRONMENT & BEHAVIOUR I**

■ **BTN203 THE URBAN ENVIRONMENT & BEHAVIOUR II**

The city as a product and an influence on human behaviour. This subject will be studied over two semesters and will offer an organising framework for the investigation of interactions between people and the urban environment. Specific topics will include user groups and their spatial and temporal distribution, the impact of changing lifestyles, life cycles in the city, groups at risk, cultural norms and attitudes to the city, interpersonal and group behaviour in urban settings, individual behavioural responses, cognitive and evaluative responses, and psychophysical responses. Methods of observation and recording will be discussed in relation to each topic.

**Credit Points:** 3 (each)

**Contact Hours:** 1 per week (each)

■ **BTN204 URBAN DESIGN THEORY & CRITICISM**

This subject covers a range of theoretical and critical writing about urbanism and urban design, with particular attention to the twentieth century. This subject will be studied over two semesters and will investigate the characteristics of 'good theory' in the field of urban design in relation to the work of a number of theoretical writers and schools. Specific topics will include theoretical writing on urban design before 1800, theory and practice in the nineteenth century, the 'Kunstlerischen Grundsätzen' of Camillo Sitte, the Garden City movement, Le Corbusier and Modernism, Rowe and the city as independent artefact, Canter, Relph and Tuan on the phenomenology of the city, and Maitland's analysis of urban design concepts.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **BTN301 CONSERVATION & RE-USE IN URBAN DESIGN**

Conservation principles and practice in the urban context, including the modification of existing fabric for re-use. Conservation of urban landscape, townscape, and urban structures will be considered. Specific topics will include conservation criteria (historical, aesthetic, environmental, sociological), conservation principles, evaluation for level of conservation on social and economic bases, conservation issues (private ownership, equity, acquisition, compensation, incentives), existing Australian and other heritage guides, conservation organisation, conservation methods, examples of urban conservation.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **BTN302 THE URBAN LANDSCAPE**

The city as a landscape unit, notable examples of city/site relationships; contribution of natural factors and patterns (topography, soils, drainage, vegetation, climate) towards better delineation of urban form and character. Spaces and their organisation, the city as spatial entity, sequential experience; spaces for specific purposes; the choreography of spaces – use, settings, and furnishings (enclosure, floors, overhead structures, services, features, finishes). Natural elements and their nurture within urban areas – vegetation species, groupings, and their requirements (streets, plazas, forecourts, roofs, parks, urban forests, natural areas); water bodies and their conservation as healthy feature; urban wildlife – habitats and contribution to the urban experience; landscape conservation techniques in urban areas.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **BTN303 TRANSPORT & MOVEMENT SYSTEMS IN URBAN DESIGN**

Origins and destinations of traffic movements. The road hierarchy and its characteristics. Features of major terminals, car parks, pedestrian and cycle networks. Modes of travel and transport systems, bus, railway and light rail, water evaluation of comparative systems. Major traffic generators: airports, terminals, CBD circulation. Related environmental and design issues: noise, atmospheric pollution, physical and visual impacts of different systems and traffic channels. Future trends in transport and movement systems and related issues.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **BTN304 URBAN CLIMATE & SERVICES**

Urban Climate – the science of urban climate and design for micro-climatic comfort: effects on climatic factors of solar radiation, air movement, temperature, precipitation, glare, daylight control etc. of such elements as urban planning layouts, building orientation and design, streetscape, open space, materials and finishes etc. Urban Services – functional services of power, telephone, gas, water stormwater and sewerage reticulation: controlling authorities, planning requirements and controls relevant to urban design. Community services related to health, safety, and welfare (such as medical, fire, emergency services, libraries, police, community participatory groups): controlling authorities, extent of services provided and controls relevant to urban design.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **BTN305 TOURISM & RECREATION IN URBAN DESIGN**

Tourism and recreation as generators of development: benefits and impacts; analysis of demand, trends, potential. Types of tourism and recreation, urban tourism; basic facilities of tourism and recreation. Specific facilities of resorts. Planning procedures – strategy, controls, performance standards and infrastructure requirements. Multicultural aspects and host culture implications.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **BTN401 URBAN DESIGN COMPUTER APPLICATIONS**

Introduction to the computers available at QUT. The use of computers to analyse and solve urban design problems and communicate solutions: feasibility studies; land use studies; generation of envelope and space layouts; environment and service systems analysis; development control testing; data handling

and manipulation; computer graphics; and interactive integrated design systems.

**Credit Points:** 6      **Contact Hours:** 2 per hour

#### ■ **BTN402 LAW & LEGISLATION IN URBAN DESIGN**

The subject will investigate legislative controls and law reform related to urban design and the development process with specific reference to Queensland. Topics will include the potential range of legislative controls, principal relevant legislation in Queensland and its impacts on urban design, the development process, the roles of the developer, developments control authority, arbitration process and of the State Government and influences of additional legislation (eg, Group Title, Heritage Acts, Pedestrian Malls) on the urban design process.

**Credit Points:** 3      **Contact Hours:** 1 per week

#### ■ **BTN403 URBAN DESIGN GUIDELINES & DEVELOPMENT CONTROL**

Change and continuity as factors in urban environments. The contrasting needs for innovation and heritage, coherence and diversity, natural features and vigorous built form. Techniques of control: the use of regulations, ratios, and performance standards. Positive planning and the use of incentives for good design: bonuses, transferable rights, advance publication of permissible development, rapid decisions, early dissemination of information. The preparation of design guides and development briefs. Strategic choice in the management of change: the roles of public and private sectors in the development process. Case studies of design guidance: Adelaide, Perth, Melbourne, Canberra, Sydney, Victorian country towns, Spring Hill in Brisbane, British design guide housing, design guidance in San Francisco.

**Credit Points:** 3      **Contact Hours:** 1 per week

#### ■ **BTN404 URBAN DESIGN FEASIBILITIES & MANAGEMENT**

The role of feasibility studies. Methods of assessment of feasibility. Evaluation of economic and social/environmental costs and benefits. Decision-making criteria. Introduction to management. The management of urban projects, management structures, project team organisation, planning and programming, project control and maintenance.

**Credit Points:** 3      **Contact Hours:** 1 per week

#### ■ **BTN501 URBAN DESIGN RESEARCH DISSERTATION**

Each student will be required, with tutorial guidance, to prepare a dissertation on an individually selected topic approved by the Course Coordinator. The student will be required to show evidence of proficiency in research and application of research in the development of design ideas. This may be achieved through an emphasis on a design project or through a written process. The balance between theory and design application in the dissertation may vary. However, a dissertation which focuses on a specific design project must be supported by a theoretical analysis sufficient to define the problem and to explain how the design proposed satisfies the conditions for a solution. Conversely a dissertation which focuses on the development of a theory must sufficiently illustrate the practical implications of the theory for the relevant classes of design task. The dissertation will be supported by work undertaken as Research Electives. Unless specifically approved otherwise by the Course Coordinator, this subject shall be undertaken as a final semester subject.

**Credit Points:** 24      **Contact Hours:** 7 per week

#### ■ **BTN601 PRESCRIPTIVE SUBJECT FOR URBAN DESIGN**

To ensure a more effective balance of knowledge and skills in students from a variety of backgrounds, students will be required to take one or more existing subjects offered within Graduate Diploma, other Faculty courses, or specified courses elsewhere. Typically, a student would work 3 hours per week taking topics from the following: The Political Context, Economics of Town Planning, Urban Structure, Introduction to Computers in Planning, Graphics & Professional Presentation, Natural Environment Studies, History of Architecture, and European Cultural History. Topics will be prescribed for each student by the Course Coordinator on the basis of the students' qualifications and experience.

**Credit Points:** 9      **Contact Hours:** 3 per week

#### ■ **BTN701 URBAN DESIGN RESEARCH ELECTIVES I**

These subjects are intended to give guidance on research techniques, to provide the opportunity for students to research areas of urban design of personal choice, and to provide a firm basis for the final Dissertation. Study required for these subjects may be undertaken within QUT or other academic institution or may be undertaken as individual research under direction of a tutor, all subject to the approval of the Course Coordinator. Research Electives I will also contain formal input on research and presentation techniques. The electives undertaken should be selected to support the topic of the Research Dissertation typically from the following within the Faculty of Built Environment and Engineering: Planning in Developing Countries, Computer Applications, Social Planning, Urban Land Development, Landscape Design, History of Landscape Design, Principles of Landscape Design, and Building Economics.

**Credit Points:** 6      **Contact Hours:** 2 per week

#### ■ **BTN702 URBAN DESIGN RESEARCH ELECTIVES II**

See BTN701.

**Credit Points:** 15      **Contact Hours:** 3 per week

#### ■ **CEB102 CIVIL ENGINEERING**

Lectures and field visits aimed at introducing the student to the profession of civil engineering, its scope and variety, and its many branches.

**Credit Points:** 3      **Contact Hours:** 1.5 per week

#### ■ **CEB184 ENGINEERING MECHANICS I**

The study of bodies in static equilibrium under the action of forces; resolution and resultant of forces acting on a particle or rigid body; equilibrium of particle or rigid body; analytical and graphical analysis of plane trusses; shearing force and bending moment in beams; the properties of sections; introduction to stress and strain.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ **CEB185 ENGINEERING MECHANICS II**

Fundamental principles of structural mechanics and the application of computer programming to the same, ie, stress, strain and elasticity; elastic compatibility; simple beam theory including the flexure formula and the shear stress formula; torsion of circular sections; stresses in thin walled pressure vessels; hydrostatics.

**Co-requisites:** CEB184 [R]      **Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ **CEB192 INDUSTRIAL EXPERIENCE I**

Students should engage in at least five weeks' employment, approved by the Head of School. For

details see the School's Industrial Experience Handbook.

**Contact Hours:** 5 weeks

### ■ CEB201 STEEL STRUCTURES

Structural behaviour and limit state design of steel structures, first as structural elements such as beams, columns, beam-columns and ties, then their connections (bolted and welded) and simple assemblies. Practical details and economy will be discussed. Site visit and laboratory testing may be included.

**Prerequisite:** CEB185

**Co-requisites:** CEB281[R], CEB282[R]

**Credit Points:** 4 per semester

**Contact Hours:** 1.5 per week

### ■ CEB202 CONCRETE STRUCTURES I

Basic principles involved in the limit state design of reinforced concrete structures; the determination of size and reinforcement to resist shear and bending in beams; anchorage and detailing of reinforcement; the evaluation of deflections in concrete structures and the analysis of long and short columns in uniaxial bending.

**Prerequisite:** CEB185

**Co-requisites:** CEB281[R], CEB282[R]

**Credit Points:** 4 per semester

**Contact Hours:** 1.5 per week

### ■ CEB220 CIVIL SYSTEMS I

Computer applications in Civil Engineering Science; hardware and software integration within the data logging environment.

**Prerequisites:** CSB191, MAB193, CEB185

**Co-requisites:** CEB252, CEB260

**Credit Points:** 6 **Contact Hours:** 3 per week

### ■ CEB231 CONCRETE TECHNOLOGY

Materials: cement, aggregates, water quality, pozzolans, chemical admixtures and special materials; testing: materials and concrete including quality control; characteristics of concrete: plastic and hardened properties and influences of environment; mix design: design for standard and special requirements.

**Credit Points:** 7 **Contact Hours:** 3 per week

### ■ CEB240 SOIL MECHANICS I

Systematic description and classification of soil for engineering purposes; moisture/density relationships; compaction; pore pressure, effective stress and suction; shear strength of cohesionless and cohesive soils; lateral earth pressure; earth retaining structures design.

**Prerequisite:** CEB185

**Credit Points:** 5 **Contact Hours:** 3 per week

### ■ CEB241 SOIL MECHANICS II

Bearing capacity of shallow foundations; permeability and seepage; surface loading on an elastic medium; pore pressure parameters; consolidation; settlement of shallow foundations; design of shallow foundations; computer applications in seepage and consolidation.

**Prerequisite:** CEB240

**Credit Points:** 7 **Contact Hours:** 3 per week

### ■ CEB253 STRUCTURAL ENGINEERING I

The calculation of deflections for determinate beams, frames and trusses and the analysis of indeterminate structures by the method of superposition; introduction to buckling and computer based analytical procedures.

**Prerequisite:** CEB185

**Co-requisites:** MAB493, CEB282 [R]

**Credit Points:** 5 **Contact Hours:** 3 per week

### ■ CEB260 FLUID MECHANICS

Introduction to fluid mechanics and its relationship to civil engineering practice; fluid properties; fluid statics, pressure, forces, buoyancy and stability; continuity, energy and momentum applied to steady one-dimensional flows; viscosity, turbulence, boundary layers and fluid dynamics forces; dimensional analysis.

**Prerequisites:** CEB185, MAB193

**Credit Points:** 7 **Contact Hours:** 3 per week

### ■ CEB281 STRENGTH OF MATERIALS

Extension of elastic theory from engineering mechanics into more complex states of stress and shape; composites; stress strain transformations; unsymmetrical sections; shear flow; shear centre; torsion; theories of failure; stress concentrations and fatigue.

**Prerequisite:** CEB185

**Credit Points:** 5 **Contact Hours:** 2 per week

### ■ CEB282 STATICS

The structural behaviour of trusses, beams and frames; qualitative evaluation of deflected shapes, shear force and bending moment diagrams; load paths and structural idealisation of real structures.

**Prerequisite:** CEB185

**Co-requisite:** CEB184 [R]

**Credit Points:** 2 **Contact Hours:** 1 per week

### ■ CEB291 CIVIL ENGINEERING MATERIALS

Physical, chemical and engineering properties of common civil engineering materials; ferrous and non-ferrous metals and alloys, timber, bitumen, cladding materials, polymers; corrosion of materials and protective measures; selection of materials; role of quality control in engineering subjects.

**Prerequisites:** MEB171, MEB133

**Credit Points:** 7 **Contact Hours:** 3 per week

### ■ CEB292 INDUSTRIAL EXPERIENCE II

Students should engage in at least five weeks' employment, approved by the Head of School. For details see the School's Industrial Experience Handbook.

**Contact Hours:** 5 weeks

### ■ CEB304 CIVIL ENGINEERING DESIGN I

Design project work involving the use of steel and reinforced concrete, geotechnical and highway designs; the influence of construction method to design; preparation of design calculations and sketches with the help of design aids and computer software; the development of problem-solving skills.

**Prerequisites:** CEB201, CEB202, CEB241

**Co-requisites:** CEB253, CEB354, CEB291

**Credit Points:** 8 per semester

**Contact Hours:** 4 per week

### ■ CEB305 CONSTRUCTION PLANNING & ECONOMICS

The use of manual and computer-based methods for the planning and programming of projects; the fundamental principles of economic and financial analysis pertaining to both the planning and execution of engineering projects.

**Prerequisites:** CEB307

**Credit Points:** 6 **Contact Hours:** 3 per week

### ■ CEB306 CONCRETE STRUCTURES II

Basic principles involved in the serviceability limit state and ultimate limit state design of prestressed concrete structures; stress blocks and equivalent loads

due to prestress, losses, serviceability limit, states of cracking and deflection, ultimate limit states of bending and shear, design of anchorage zones, evaluation of deflections, and anchorage zone reinforcement, design.

**Prerequisite:** CEB202

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **CEB307 CONSTRUCTION PRACTICE**

Basic procedures of civil engineering construction; provides a foundation for further construction studies and also gives a practical perspective to later theoretical subjects.

**Prerequisites:** CEB231, CEB281

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB312 HIGHWAY ENGINEERING**

Highway geometry including vehicle performance and human factors as they relate to road geometry, geometric design, geometric coordination and use of computer aided design. Highway pavements including pavement materials and construction processes, pavement cross sections and drainage, pavement theory and pavement analysis methods.

**Prerequisites:** SVB306, MAB193, CEB291, CSB191, CEB231

**Co-requisites:** MAB493, CEB240

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB313 TRAFFIC ENGINEERING**

Traffic theory including traffic behaviour, models, traffic management analysis including unsignalised and signalised intersections, street lighting, signs and markings, barriers and parking; traffic studies and transport planning procedures.

**Prerequisite:** MAB493 **Co-requisite:** CEB312

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB341 GEOTECHNICAL ENGINEERING I**

Soil slope stability analysis by limit equilibrium, drained and undrained conditions; rock mechanics: rock properties and shear strength, application to simple slope stability models; pile foundations: analysis for vertical load soil capacity and settlement estimates; site investigation and in-situ determination of soil properties.

**Prerequisite:** CEB241

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB353 PRINCIPLES OF STRUCTURES I**

Terminology, forces and reactions; loading on structures, equilibrium and stability; co-planar and non co-planar forces; resolution of forces; mechanism of structural components under load: compression, tension, bending, shear, deflection; connections.

**Credit Points:** 2      **Contact Hours:** 1 per week

■ **CEB354 STRUCTURAL ENGINEERING II**

The analysis of indeterminate structures using moment distribution and matrix structural analysis techniques; analysis of simple cable structures.

**Prerequisites:** CEB253, MAB493

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **CEB355 STRUCTURAL ENGINEERING III**

Structural analysis of determinate structures under moving loads using influence lines for beams and trusses, the application of plastic analysis techniques to the analysis of beam, frame and slab structures.

**Prerequisite:** CEB281

**Co-requisites:** MAB893, CEB354

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB360 HYDRAULIC ENGINEERING I**

The applications of fluid mechanics to pipe and open channel flow, flow measurement and hydraulic machinery; steady flow in pipes; networks; flow measurement; uniform flow in open channels; pump and turbines.

**Prerequisite:** CEB260 **Co-requisite:** MAB493

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB361 HYDROLOGY**

Introduction to hydrology and urban drainage design; hydrologic cycle, rainfall and runoff; groundwater evapotranspiration, statistical concepts, urban drainage design; unit hydrograph methods; flood studies; data generation, storage estimation.

**Prerequisite:** CEB260

**Co-requisite:** CEB360

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB364 ENGINEERING SCIENCE II**

Introduction to hydraulic engineering for surveyors, fluids and fluid flow in pipes and channels; flow measurement; hydraulic models; pumps and pump characteristics.

**Prerequisite:** MAB199 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB370 PUBLIC HEALTH ENGINEERING I**

An introduction to the principles of public health engineering; causes and effects of water pollution, principles of unit processes and operations of water quality control; an introduction to air pollution, its causes and control.

**Prerequisite:** CHB346

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CEB392 INDUSTRIAL EXPERIENCE III**

Students should engage in at least five weeks' employment, approved by the Head of School. For details see the School's Industrial Experience Handbook.

**Contact Hours:** 5 weeks

■ **CEB393 ENGINEERING INVESTIGATION & REPORTING I**

The appropriate techniques of investigation and reporting on civil engineering processes.

**Prerequisite:** CMB108

**Credit Points:** 3      **Contact Hours:** 2 per week

■ **CEB401 DESIGN PROJECT**

Students work in groups to produce initial studies and outline designs of typical civil engineering projects. Students are required to design problems, to establish goals for the project, to identify and collect necessary information, to generate alternative solutions and to optimise some of these solutions. Students are to develop an awareness of the possible impact of civil engineering projects on ecosystems. Students prepare and present reports on various aspects of selected projects, including feasibility studies, environmental and economic assessment. Compulsory site visits are included.

**Prerequisites:** CEB361, CEB305, CEB313

**Co-requisites:** CEB470, CEB440

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **CEB403 PROFESSIONAL PRACTICE**

Engineering organisations; project initiation; documentation; form of contract; contract administration; arbitration; safety and insurances; legal responsibilities; ethics.

**Prerequisite:** CSB191 **Co-requisite:** CEB305

**Credit Points:** 7      **Contact Hours:** 2 per week

**■ CEB404 FIELD TRIP**

Site visits to several civil and structural projects (generally under construction in south-east Queensland). The practical inspections are supervised by lecturing staff and engineers associated with the project, and allow valuable consolidation of the theoretical aspects of other subjects.

**Credit Points:** 3    **Contact Hours:** 1.5 per week

**■ CEB405 CIVIL ENGINEERING DESIGN II**

Continuation of CEB304, with topics covering primarily civil engineering design, ie, municipal civil/structural projects. Field visits are required.

**Prerequisites:** CEB341, CEB304, CEB231

**Co-requisites:** CEB460, CEB470

**Credit Points:** 6 per semester

**Contact Hours:** 3 per week

**■ CEB406 STRUCTURAL APPLICATIONS**

Analysis, design, supervision of construction and performance of structures using case studies; topics include: structural systems, structure modelling, sketching, civil engineering structures, designing for construction, detailing and lessons from structural failures, timber structures and the role of testing, controlling vibrations in structures.

**Prerequisites:** CEB355, CEB291, CEB354

**Credit Points:** 8    **Contact Hours:** 3 per week

**■ CEB421 CIVIL SYSTEMS II**

Understanding and applying advanced civil engineering software; methods of error checking and model validation.

**Prerequisites:** CEB220, CEB241, CEB260, CEB460, CEB355

**Credit Points:** 3    **Contact Hours:** 1 per week

**■ CEB430 BUILDING CONSTRUCTION**

General introduction to building techniques and principles; building construction from foundations to fitting out for low and high-rise structures including appropriate building regulations.

**Prerequisite:** CEB305

**Credit Points:** 3    **Contact Hours:** 2 per week

**■ CEB440 GEOTECHNICAL ENGINEERING I**

Bearing capacity and settlement of deep foundations; introduction to rock mechanics; stability of soil and rock slopes; routine site investigation procedures. Computer applications in slope stability.

**Prerequisite:** CEB185, CEB240

**Co-requisite:** CEB241

**Credit Points:** 6    **Contact Hours:** 3 per week

**■ CEB453 PRINCIPLES OF STRUCTURES II**

Loading on buildings; foundations and footings; timber construction; floor, wall and roof framing and cladding, fastening and connections; structural stability; masonry construction: brickwork and blockwork, loadbearing construction, continuity, stiffening; codes.

**Prerequisite:** CEB353 [R]

**Credit Points:** 2    **Contact Hours:** 1 per week

**■ CEB460 HYDRAULIC ENGINEERING II**

Hydraulics with particular emphasis on unsteady flow, movable boundary hydraulics, hydraulic models and hydraulic design of structures. Topics include: steady flow in pipes; unsteady flow in open channel flow; design of hydraulic structures such as transitions, culverts, crests, chutes etc., mobile boundary hydraulics; and the theory and practice relating to

fixed and mobile boundary, natural scale and distorted models.

**Prerequisite:** CEB360 **Co-requisite:** CEB361

**Credit Points:** 7    **Contact Hours:** 3 per week

**■ CEB470 PUBLIC HEALTH ENGINEERING II**

Development of principles taught in CEB370 to enable functional design of treatment units to be undertaken; an introduction to sewerage and water reticulation.

**Prerequisite:** CEB370

**Credit Points:** 5    **Contact Hours:** 3 per week

**■ CEB491 PROJECT (CIVIL)**

The student is required to undertake a relatively difficult task in an area of civil engineering practice requiring further research and development. Each project includes: a literature review; problem definition; organisation and execution of a program of investigation; critical analysis of investigation; presentation of a seminar on the work and presentation of a written report.

**Prerequisite:** Students must normally be in final year of course; however students in the penultimate year of their course may be given special permission to attempt CEB491.

**Co-requisites:** CEB393, CEB492

**Credit Points:** 9 per semester

**Contact Hours:** 3 per week

**■ CEB492 ENGINEERING INVESTIGATION & REPORTING II**

Verbal presentation techniques of civil engineering investigation topics. Each student is required to prepare a report and deliver a half hour lecture on a civil engineering investigation topic.

**Prerequisite:** CEB393

**Credit Points:** 3    **Contact Hours:** 1 per week

**■ CEB501 CIVIL ENGINEERING PRACTICE I**

Current topics in a specified area of civil engineering at an advanced undergraduate level. Subject is offered irregularly. When offered, the subject material is advertised.

**Prerequisite:** Students must be substantially in the final year of course.

**Credit Points:** 6    **Contact Hours:** 3 per week

**■ CEB503 ADVANCED CONSTRUCTION METHODS**

Examination of existing practice and technology in the construction industry; provides insights into current and future developments in construction techniques and plant.

**Prerequisites:** CEB307, CEB305

**Credit Points:** 6    **Contact Hours:** 3 per week

**■ CEB504 ENGINEERING SCIENCE III**

Hydrology; rainfall, stream flow measurement; hydraulic design of drainage; soil mechanics for surveyors; definition, properties and grading of soils; roadwork, foundation and retaining wall design; soil stability; concrete technology; properties, manufacture and testing of concrete; elementary reinforced concrete design.

**Co-requisite:** CEB364 [R]

**Credit Points:** 6    **Contact Hours:** 3 per week

**■ CEB505 PROJECT MANAGEMENT & ADMINISTRATION**

Using case studies and 'role playing' techniques students are required to develop solutions to a variety of project management problems and to submit reports and make presentations regarding these exercises.

**Prerequisite:** CEB305

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ CEB506 CIVIL ENGINEERING PRACTICE II

Current topics in a specified area of civil engineering at an advanced undergraduate level. Subject is offered irregularly. When offered, the subject material is advertised.

**Prerequisites:** Students must be substantially in the final year of course.

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB511 TRANSPORT ENGINEERING II

In depth focus on two aspects of transport engineering – rural road upgrading and small urban area transportation planning/road needs requirement, including highway upgrading, deficiency analysis, traffic accident analysis, traffic flow simulation, staged development including overtaking lanes and rural intersection design; application of four step transportation planning models, surveys, zone selection, network development, trip generation, distribution, assignment, model calibration, future year modelling, evaluation and selection of road needs, sensitivity analysis.

**Co-requisite:** CEB512

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB512 TRANSPORT ENGINEERING I

Land use/transport interaction; trip generation; trip distribution; mode choice; transport operations analysis; transport economics; transport capacity; urban road planning principles; urban transit planning; railway, aviation and bulk commodity systems design; advanced pavement design techniques.

**Prerequisites:** CEB313

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB520 FINITE ELEMENT METHODS

Finite element, finite difference and similar numerical techniques; theoretical and modelling considerations in the context of case studies in structures, soil mechanics and hydraulics.

**Prerequisite:** CEB220

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB532 CONCRETE & MASONRY STRUCTURES

The analysis and design of continuous prestressed concrete members; detailing of concrete structures including halving joints, opening corners, beam intersections, deep beams, pile caps etc; masonry materials and properties; design of reinforced and unreinforced concrete and clay masonry beams, walls and piers; which includes compression, vertical bending, lateral bending and shear; walls include solid, hollow, cavity and diaphragm; vertical prestressing.

**Prerequisites:** CEB355, CEB306

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB541 GEOTECHNICAL ENGINEERING II

Analysis, design and installation of sheetpile walls and excavation support; protection of adjacent structures; analysis, design and installation of pile and pier foundations; shallow foundations on rock; rock sockets; foundations on expansive soils; site characteristics by in-situ testing methods; selection of soil properties for design.

**Prerequisite:** CEB440

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB542 GEOTECHNICAL ENGINEERING III

Development of marginal lands: traffickability; embankments on soft soil; preloading; vertical drainage; vibroflotation; dynamic compaction and other methods of deep foundation improvement; rock ex-

cavation and rock slope stabilisation; soil improvement, including mechanical and chemical stabilisation, soil reinforcement and other techniques which may be economically feasible; anchoring in soil and rock; principles of earth and rockfill design and construction.

**Prerequisite:** CEB541

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB551 ADVANCED STRUCTURAL DESIGN

Widens and deepens experience in the structural design area; with emphasis on the design of more complex structures. Normally three projects are studied which involve some or all of: design in new materials, new analytical techniques, new codes of practice, novel structures.

**Prerequisites:** CEB354, CEB201, CEB306

**Co-requisite:** CEB405

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB553 PRINCIPLES OF STRUCTURES III

Structural properties of mild steel and high tensile steel; structural framing and connections; structural systems in steel: beams and columns, portal frames, space frames, trusses; tensile structures.

**Prerequisite:** CEB453

**Credit Points:** 2      **Contact Hours:** 2 per week

### ■ CEB560 HYDRAULIC ENGINEERING III

Selected topics in water engineering, chosen from hydrology, mobile bed hydraulics, river hydraulics, hydraulic structures, urban drainage, physical and mathematical modelling.

**Prerequisites:** CEB361, CEB460

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB561 COASTAL ENGINEERING

Coastal engineering: wave theory, recording and analysis, wave generation; coastal processes, tides, surges etc, currents, sediment movement, foreshore protection; coastal inlets, general theory, canal systems; planning and design of coastal structures; hydraulic models for coastal studies. At least one major site visit is required.

**Prerequisite:** CEB360

**Co-requisite:** CEB460

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB570 PUBLIC HEALTH ENGINEERING III

Solid waste management (of domestic, commercial and industrial wastes); general principles of industrial liquid waste management.

**Co-requisites:** CEB470

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CEB659 PRINCIPLES OF STRUCTURES IV

Structural behaviour of reinforced concrete; basic theory of reinforced concrete beams and columns; structural elements systems in reinforced concrete: post-and-beam, one and two-way slab, waffle slab, flat slab; columns; frames; framing, walling and roofing in reinforced concrete.

**Prerequisite:** CEB553 [R]

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ CEB701 CIVIL ENGINEERING QUANTITIES I

The measurement of civil engineering works based on the study of SMM of Civil Engineering Quantities; detailed study of construction methods, plant, specification and measurement of: earthworks, (clearing, compaction, and dredging); roadworks (survey,

bulk excavation and filling, pavement construction, kerbing, culverts); and bridges (types of structures, foundations, prestressed concrete); brief introduction to computer applications such as earthwork calculations etc.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ **CEB801 CIVIL ENGINEERING QUANTITIES II**

Further study of SMM of Civil Engineering Quantities leading to measurement of: foundations (pad footings, piles and piers); bridges (further study, including abutments, superstructure, approach embankments, safety structures); wharves: (over water work, deck structures); and specialised earthworks: (tunnelling, dredging, open cuts, earthworks, earth dams).

**Prerequisite:** CEB701 [R]

**Credit Points:** 4    **Contact Hours:** 1.5 per week

#### ■ **CEP107 CONSTRUCTION MANAGEMENT & ECONOMICS**

The management of operational features of municipal practice; engineering economics; contracts; plant and labour considerations of concern to the municipal engineer and manager.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ **CEP109 MUNICIPAL LAW & REGULATIONS**

The legislative framework for municipal engineering in Queensland; the various acts and regulations affecting the practising municipal engineer; the powers and responsibilities of the municipal engineer.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ **CEP127 ROAD & TRAFFIC ENGINEERING**

Urban traffic management, parking systems, surveys, intersection analysis with emphasis on the design and evaluation of the urban road network; the design of rural roads; design of pavement structures; pavement management.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CEP128 MUNICIPAL ENGINEERING PLANNING**

The principles of town and regional planning for municipal engineers in Queensland; the objectives and methodology of planning, practical problem solving, legislation and other factors of concern to the municipal and development engineer.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CEP131 ENGINEERING MANAGEMENT & ADMINISTRATION**

Management principles and functions; strategic and tactical planning, forecasting, decision making; budgeting and controls in organisations, techniques of project control; human resources, managing change and development; formulation of policy within a local authority; local authority internal organisation, management, powers, responsibilities and functions, accounting and budgetary cycles, sources of finance and expenditure patterns.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CEP172 WATER QUALITY ENGINEERING**

Characteristics of liquid wastes; the effect of liquid wastes on receiving waters; dispersion and decay of pollutants in the water environment; water quality standards and objectives.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ **CEP174 PUBLIC HEALTH ENGINEERING PRACTICE**

Water reticulation, network analysis; water supply appurtenances; sewerage design and construction; materials and corrosion control, pumping station design; unit operations and processes of water quality control; process design parameters.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CEP200 PROCESS MODELLING**

Role of models in engineering design and investigation; principles of modelling techniques and their uses, limitations and relevant applications.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ **CEP215 ADVANCED TRAFFIC ENGINEERING**

Traffic flow theory and traffic management; development of computer analysis routines for urban intersection design, their background and applications.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ **CEP218 TRANSPORTATION ENGINEERING**

Techniques for the appraisal of rural and urban area road systems; bus operations; airport design; construction and maintenance.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CEP276 ADVANCED TREATMENT PROCESSES**

The design of water and wastewater treatment plants, including conventional and alternative processes; current practice and development; operation of treatment plants.

**Prerequisite:** CEP174

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ **CEP277 WASTE MANAGEMENT**

Characteristics and analysis of solid wastes; collection, storage, transportation, handling, recycling and disposal; sources and characteristics of industrial liquid wastes; treatment design methodology; pilot scale modelling and investigation; case studies of selected classes of industrial wastes.

**Co-requisite:** CEP174

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CEP310 URBAN TRANSPORTATION PLANNING**

Transportation planning applications; road needs, urban transport, new developments, local area planning; macro land use/transportation and micro urban transportation models; urban transportation zone selection and data needs; trip generation; model splits; survey techniques.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ **CEP361 DRAINAGE ENGINEERING**

Drainage engineering of interest to municipal engineers, road and railway designers, irrigation and general civil engineers; rainfall and runoff models, both rational and computer models; drainage hydraulics of roof, streets, pipes, open channels, retention basins, culverts and bridges; erosion, sedimentation aspects of drainage, costs, planning policies and the law.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ **CEP491 MUNICIPAL ENGINEERING PRACTICE**

A prescribed program of individual supervised study in a selected area within the field of municipal engineering, involving one or more major assignments together with appropriate tutorials.

**Credit Points:** 16    **Contact Hours:** 3 per week

### ■ CEP999 PROJECT

The student is required to investigate in depth an approved topic within the range of civil engineering practice and to carry out design, computing, model or experimental design and construction, experimental work and testing. The results are presented in a major formal report.

**Credit Points:** 18 per semester  
**Contact Hours:** 8 per week

### ■ CET120 CIVIL SYSTEMS I

Introduction to hardware and operating systems of personal computers; wordprocessors, spreadsheets and databases used for civil engineering applications; introduction to high level languages.

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ CET135 ENGINEERING MECHANICS

Equilibrium of forces and moments; reactions; free body diagrams; truss analysis; shear force and bending moment diagrams.

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ CET180 CIVIL DRAFTING PRACTICE A

Short, practical exercises to cover the highest possible range of drafting experience commensurate with the first year student's stage of development.

**Co-requisite:** MET120  
**Credit Points:** 3      **Contact Hours:** 3 per week

### ■ CET190 CIVIL ENGINEERING MATERIALS

Properties of common ferrous and nonferrous metals and alloys, timber, plastics, bitumen and asphaltic concrete; welding processes and defects, corrosion mechanisms and prevention and evaluative testing procedures; quality control and selection of engineering materials.

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ CET195 CIVIL ENGINEERING I

Civil engineering: the profession, organisation and work options; measurement in civil engineering; maintenance of standards, role of NML and NATA; technical writing, reports, letters etc; mathematical techniques applicable to relevant examples.

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ CET235 LABORATORY PRACTICE A

The type and role of laboratories in civil engineering; NATA registration and calibration requirements; quality control and assurance, basic statistics; basic measuring equipment and techniques; associated calculations; presentation of data in reports; laboratory work in materials and hydraulic engineering to demonstrate measuring techniques.

**Co-requisites:** CET365, CET435  
**Credit Points:** 3      **Contact Hours:** 3 per week

### ■ CET255 STRUCTURAL MECHANICS

Stress, direct flexure, shear in beams and shafts; combined stress conditions; deflections in beams and trusses.

**Prerequisite:** CET135  
**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ CET286 CIVIL OFFICE PRACTICE

The preparation and layout of civil engineering drawings; design office procedures including methods of data manipulation, presentation and checking.

**Prerequisite:** MET120  
**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ CET287 CIVIL OFFICE PRACTICE A

Further experience in civil engineering design drafting/drawing, supplementing that undertaken in CET286.

**Prerequisite:** MET120 **Co-requisite:** CET286  
**Credit Points:** 3      **Contact Hours:** 3 per week

### ■ CET306 FIELD PRACTICE IA

Tutorial, practical sessions and field trips supplemented by some lectures covering: setting out, as-built surveys and drawings, photography and field sketching; field measurement and sampling in water, soils and materials; implications of field measurements on design and construction practice.

**Prerequisites:** SVT306, CET365  
**Co-requisite:** CET775  
**Credit Points:** 3      **Contact Hours:** 3 per week

### ■ CET365 HYDRAULIC ENGINEERING

Properties of fluids; simple hydrostatics; fundamental characteristics and equations of fluid flow; pipe and open channel flow and hydraulic measurements; laboratory work on basic fluid behaviour and instrumentation.

**Prerequisite:** CET135  
**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ CET387 CIVIL ENGINEERING DRAFTING A

Further experience in municipal engineering design drafting/drawings, additional to that undertaken in CET585.

**Prerequisite:** CET286 **Co-requisite:** CET585  
**Credit Points:** 3      **Contact Hours:** 3 per week

### ■ CET405 FIELD PRACTICE IIA

Field visits and laboratory workshops on many aspects of civil engineering construction.

**Credit Points:** 3      **Contact Hours:** 3 per week

### ■ CET420 CIVIL SYSTEMS II

Computer file management; error recovery; networking; pre and post processing in CAD environment; software installations and data acquisition.

**Prerequisite:** CET120  
**Credit Points:** 3      **Contact Hours:** 3 per week

### ■ CET435 CONCRETE PRACTICE

Raw materials; cements, aggregates, additives and admixtures; properties of plastic and hardened concrete; testing and quality control; simple mix design, concrete manufacturing and transportation, construction procedures.

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ CET495 PROJECT A

Undertaking of a substantial project in the student's chosen field. Involves the investigation of the topic, performance of the tests, design calculations etc, and submission of a comprehensive report on sets of drawings.

**Prerequisite:** Subject must be in student's final year.  
**Credit Points:** 3      **Contact Hours:** 3 per week

### ■ CET565 ROAD & DRAINAGE ENGINEERING

Elements of road construction and maintenance; road pavement types; design and construction; road drainage principles; design and construction of urban and rural culverts, urban stormwater drainage systems.

**Prerequisites:** CET815, CET645, CET365  
**Credit Points:** 7      **Contact Hours:** 3 per week

■ **CET585 CIVIL ENGINEERING DRAFTING**

Preparation of municipal engineering drawings including roadworks and stormwater drain exercises; State and local authority standards; projects will involve varying amounts of design computations and at least one example involves computer usage; introduction to quantity takeoff; bills of quantities, cost estimates and cross referencing between drawings, bills or quantities and specifications.

**Prerequisite:** CET286 **Co-requisite:** CET565

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET598 PROJECT II**

An individually designed program including designs, reports and investigations in the area of sanitary engineering.

**Prerequisite:** The student must have completed 72 credit points.

**Credit Points:** 21 **Contact Hours:** 9 per week

■ **CET606 CONSTRUCTION MANAGEMENT**

Construction planning; organisational structure; construction reporting; contract, management and administration; human relations; plant hire.

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET645 SOIL MECHANICS**

Identification and classification of soils; testing methods required; compaction of soil, soil permeability, effective and total stress, shear strength and compressibility; introduction to retaining walls; bearing capacity; CBR testing and in-situ sampling and testing.

**Prerequisite:** CET135

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET655 CONCRETE & STEEL DESIGN**

Principles of structural design; design in structural steel, detailing of elements; design of concrete members, detailing of elements.

**Prerequisites:** CET135, CET255, CET435

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET703 CIVIL ENGINEERING PRACTICE I**

Current topics in a specified area of civil engineering practice at a level appropriate to the course and as approved by the Head of School. The content of this subject may be changed from semester to semester depending on demand and available staff.

**Prerequisite:** Students must have completed 72 credit points.

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET704 CIVIL CONSTRUCTION PRACTICE**

Principles of temporary works design; form work, false work and scaffolding; shoring, dewatering, excavation and earthworks; plant introduction to the Construction Safety Act and Regulations.

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET707 MUNICIPAL ENGINEERING**

Structures and function of local authorities; local roads, streets, traffic management, swimming pools, solid waste management, drainage, bridges, town planning, subdivision, landscaping, building practice, relevant legislation.

**Prerequisite:** CET815

**Co-requisites:** CET565, CET775

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET708 SPECIFICATIONS & ESTIMATES**

General conditions of contract; arbitration; annexures, specifications; special provisions; types of

estimates; mechanics of estimating, computer applications.

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET709 SAFETY & INDUSTRIAL RELATIONS**

Current systems and practices in occupational safety and health programs, the industrial relations system in Australia, and the management techniques which may be employed to create a good industrial relations climate on a site or in an industry.

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET735 ADVANCED LABORATORY TESTING I**

Testing work to give the student experiences with a range of equipment and testing procedures; the program includes tests in a number of selected laboratory areas.

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET756 BUILDING CONSTRUCTION PRACTICE**

Reinforced, prestressed concrete (in situ and precast); steel construction aspects associated with fabrication and erection; building construction aspects of clay brick and concrete masonry construction including cladding; overview of building regulations.

**Prerequisite:** CET190

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET775 PUBLIC HEALTH ENGINEERING**

Design construction and operation of water supply and sewerage systems, materials and equipment; pumping station layout and operation; basic principles of water quality control; treatment plant construction, layout and operation.

**Prerequisite:** CET365

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET776 EQUIPMENT OPERATION & MAINTENANCE**

Principles and practice of the operation and maintenance of equipment in water and wastewater treatment plants; overview of plant; motors, engines, pumps, compressors and generators; rotary and recilinear scraping and raking mechanisms; chemical handling, mixing, dosing; safety and maintenance scheduling for specific equipment items.

**Prerequisites:** CET365, CHA140

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET777 PROCESS OPERATION & CONTROL I**

Principles of unit processes of water and wastewater treatment; methods of operational control of these processes.

**Prerequisites:** CET365, CET775, CHA140

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET787 STRUCTURAL ENGINEERING DRAWING**

Preparation of structural engineering drawings covering basic steel work and reinforced concrete works; reinforcing schedules together with details of steel connections.

**Prerequisites:** MET120, CET286, CET585, CET655

**Credit Points:** 7 **Contact Hours:** 3 per week

■ **CET797 PROJECT I**

The student is required to undertake a substantial project in his/her chosen field. This involves the investigation of the topic, performance of tests, design

calculations etc, and submission of a comprehensive report on sets of drawings.

**Prerequisite/Co-requisite:** Students must have completed 72 credit points.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET802 CIVIL ENGINEERING PRACTICE II

See CET703.

**Prerequisite:** Students must have completed 72 credit points.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET815 ROAD LOCATION & DESIGN

Road location principles, road design and geometry including computer applications, subdivision and subdivision street design, introduction to traffic engineering, intersection design.

**Prerequisite:** SVT306 **Co-requisite:** CET286

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET838 ADVANCED LABORATORY TESTING II

Testing projects undertaken in a more limited number of specialist areas and presented as a series of reports. Each report is expected to include a discussion of the tests undertaken, based on the student's experience and background reading.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET856 ADVANCED CONSTRUCTION TECHNIQUES

Continuation of CET606. History, planning and programming including critical paths; contracts; cranes; selection and safety; case studies and testing estimating.

**Prerequisite:** CET606

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET876 PLANT OPERATION & MAINTENANCE

The operation and maintenance requirements of water quality treatment plants; scheduling, labour control, workshop organisation, safety, training and performance monitoring.

**Prerequisite:** CET606 **Co-requisite:** CET776

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET877 PROCESS OPERATION & CONTROL II

Continuation of CET777. Unit processes of water and wastewater treatment with particular reference to their operation; the methods of operational control of these processes.

**Prerequisite:** CET777

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET887 COMPUTER AIDED DRAFTING

Using the VAX780 mainframe and personal computers for civil and structural drawing presentation.

**Prerequisite:** CET286

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET888 STRUCTURAL DRAWING & DESIGN

Minor structural design and layout; preparation of advanced structural engineering drawings covering steel, reinforced and prestressed concrete and timber where geometric and physical restraints interact with the structural design process.

**Prerequisites:** MET120, CET286

**Co-requisites:** CET787, CET585, CET655

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ CET894 COMPUTATIONS A

Calculations involving aspects of civil and structural engineering; computer-aided design; planimeters; technical reports.

**Co-requisite:** SVT306

**Credit Points:** 3      **Contact Hours:** 3 per week

#### ■ CHA111 LABORATORY TECHNIQUES

A course introducing safe and proficient procedures in the laboratory, and giving practice in the manipulation of common elementary laboratory apparatus, equipment and reagents. On completing the course the student should be able to handle, correctly and safely, all the basic pieces of laboratory equipment and be familiar with their main functions and limitations.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA145 INTRODUCTORY CHEMISTRY

An integrated course of fundamental chemistry covering: the nature of chemistry, atomic molecular and nuclear structure, bonding and types of bonds; the structure and nature of matter, molecular formulae, atomic and molecular weights; the periodic classification; reduction/oxidation, chemical equilibria; liquids and solutions and simple phase equilibria; equilibria in electrolyte solutions; pH and its measurement. Carbon chemistry and functional groups. The chemistry and properties of some common laboratory chemicals. Practical applications are emphasised.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA218 ANALYTICAL CHEMISTRY I

A lecture and laboratory program covering fundamental theory and techniques of titrimetric and gravimetric analysis.

**Prerequisite:** CHA111

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA219 QUALITATIVE ANALYSIS

This course considers the behaviour of a range of common cations and anions towards common laboratory reagents. These reactions form the basis of procedures for the separation and identification of these cations and anions. Qualitative testing for elements in organic molecules together with test procedures for qualitative identification of functional groups in organic molecules also are covered.

**Prerequisite:** CHA111

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ CHA230 CHEMISTRY OF INORGANIC MATERIALS

The occurrence, extraction/manufacture, properties and uses of the elements and the important inorganic compounds derived from a selection of members of the chemical groups.

**Prerequisite:** CHA145

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ CHA240 INSTRUMENTAL TECHNIQUES

An overview of the principles and practice of modern instrumental analysis, including the nature of electromagnetic radiation and its interaction with matter; use of visible, UV and IR spectroscopy; emission and absorption phenomena; chromatographic techniques and electroanalytical chemistry.

**Prerequisite:** CHA111

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA250 ORGANIC CHEMISTRY I

An introduction to functional group chemistry including hydrocarbons, aromatic compounds, organic halides, alcohols, phenols and ethers and also an

introduction to the use of infrared spectroscopy to indicate the presence of particular functional groups.

**Prerequisite:** CHA145

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA270 PHYSICAL CHEMISTRY I

The first part of an integrated syllabus of physical chemistry in the Associate Diploma. A study of the fundamental aspects of chemical energetics, solution chemistry and equilibria and practical applications thereof.

**Prerequisite:** CHA145

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA318 INSTRUMENTAL ANALYTICAL CHEMISTRY

A course of lectures and practical work introducing the principles and practices of mass spectrometry, fluorescence spectroscopy and ICP together with further development of selected topics from the unit CHA240.

**Prerequisite:** CHA218, CHA240

**Co-requisite:** CHA319

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ CHA319 ANALYTICAL CHEMISTRY II

A course of lectures and practical work designed to develop further the basic titrimetric and gravimetric analysis principles introduced in the unit CHA218. The practical program will feature the analysis of commercial materials with emphasis on sample dissolution techniques.

**Prerequisite:** CHA218

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ CHA320 CHEMICAL PROCESS PRINCIPLES I

This course discusses chemical reactors (both homogeneous and heterogeneous), unit operations (transport and preparation of materials and separation of materials) and material and energy balances in chemical processes.

**Prerequisite:** CHA270 **Co-requisite:** CHA370

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA350 ORGANIC CHEMISTRY II

This subject continues the study of functional groups and includes carbonyl compounds, carboxylic acids and their derivatives, organic nitrogen compounds, including heterocycles, as well as selected polyfunctional compounds such as triglycerides, amino acids and proteins. Further uses of infrared spectroscopy are discussed.

**Prerequisite:** CHA250

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA368 INDUSTRIAL CHEMISTRY

This subject aims to develop an appreciation of the basic aspects of product and quality control, an understanding of the underlying fundamental chemistry and an overall concept of the chemical technology involved in, for example, the petroleum and petrochemical industry, the polymer, plastic and adhesive industries, the paint industry, the textile industry, the sugar industry, water treatment plants, the glass and ceramics industry, and the cement industry. Field trips are an integral part of this subject.

**Prerequisites:** CHA230 CHA250, CHA320

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA370 PHYSICAL CHEMISTRY II

The second part of the integrated syllabus of physical chemistry of the Associate Diploma. Covers the areas

of chemical kinetics, surface chemistry and elementary electrochemistry.

**Prerequisite:** CHA270

**Credit Points:** 6      **Contact Hours:** 2 per week

#### ■ CHA410 COMPUTERS IN CHEMISTRY

This course outlines the use of computers in various aspects of the chemical industry, both in laboratory and plant. The different approaches to laboratory automation are discussed and a detailed study of computer control in a selected industry undertaken. Field trips also are included.

**Prerequisite:** CSA259

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA442 INTRODUCTION TO OCCUPATIONAL SAFETY

Basic first aid relevant to laboratory, plant and field situations; principles and practice of safe handling of common laboratory chemicals; safety aspects of laboratory design.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ CHA520 CHEMICAL PROCESS PRINCIPLES II

A lecture and laboratory course which deals with measurement systems, the principles of process control and the applications of process control in the chemical industry.

**Prerequisite:** CHA320

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA550 ORGANIC CHEMISTRY III

This subject aims to give students an appreciation of the chemistry and uses of organic compounds encountered in industry, such as agricultural chemicals, fats and oils, waxes, detergents, dyes, drugs, elastomers, fibres, adhesives and cellulose derivatives.

**Prerequisite:** CHA350

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA580 FOOD CHEMISTRY I

Topics covered include the basic chemical components of food, fats and oils, proteins, carbohydrates, vitamins and minerals and factors affecting quality such as texture, flavour and colour. Measurements of food quality. A major assignment related to the dairy industry is incorporated.

**Prerequisites:** CHA240, CHA250, CHA218

**Co-requisite:** CHA350

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA610 INDUSTRIAL ANALYSIS

A course involving the use of both qualitative (semi-micro) and quantitative techniques in the analysis of commercially important materials, including ores, cement, fertiliser, fats and oils and sugar products.

**Prerequisites:** CHA318, CHA319

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA670 PHYSICAL CHEMISTRY III

This subject forms the third part of the integrated syllabus of physical chemistry of the Associate Diploma and covers the areas of applied electrochemistry, corrosion, distillation and extraction. Practical applications are emphasised.

**Prerequisite:** CHA370

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHA680 FOOD CHEMISTRY II

A more advanced unit covering the chemistry and principal methods of food processing and preparation.

A further major assignment appropriate to the dairy industry is incorporated.

**Prerequisite:** CHA580

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ CHB001 INTRODUCTORY CHEMISTRY

For students without a pass in Senior Chemistry. Scientific measurement, atomic structure, periodic table, chemical equations, stoichiometry and calculations, chemical bonding, chemical reactivity, acids and bases, redox systems, properties of matter, chemical thermodynamics, enthalpy, heat of reactions, organic chemistry.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ CHB002 INTRODUCTION TO ENGINEERING CHEMISTRY

The foundations of the principles of chemistry; the basic concepts of stoichiometry; properties of the elements of the periodic table; chemical equilibria, acids and bases. The subject is offered for engineering students without sound achievement in Chemistry and serves as the foundation for CHB344 and CHB346.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ CHB101 CHEMISTRY IA

A series of lectures and tutorials introducing the important concepts in chemistry. Topics include principles of physical chemistry, chemical bonding and molecular geometry and an introduction to the chemistry of carbon compounds.

**Co-requisite:** CHB001, or Senior Chemistry

**Credit Points:** 8      **Contact Hours:** 3 per week

**Note:** This subject is not compatible with CHB150, CHB180; credit may not be retained for more than one of these subjects.

#### ■ CHB102 CHEMISTRY IB

A course in practical chemistry covering the experimental aspects of analytical chemistry, physical chemistry and organic chemistry. This is primarily an experimental program supported by appropriate lectures.

**Co-requisite:** CHB101 (+ CHB001 unless Senior Chemistry has been undertaken)

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ CHB110 ANALYTICAL CHEMISTRY I

Introduction to analytical chemistry. Examples of acid base titrations, reduction-oxidation titrations and precipitation titrations are used to develop the theory and practice of volumetric analysis. Gravimetric analysis is introduced and both precipitometric and evolution methods are discussed. A coverage of methods available for handling experimental results is given, including absolute and relative precision and accuracy, deviations, rejection of results, significant figures, sources of error and means by which they may be minimised.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ CHB142 CHEMISTRY I

Inorganic Chemistry: modern atomic theory, electronic configuration of the elements, covalent bonding of simple molecules; Organic Chemistry: reactions of the carbon-hydrogen bond, carbon-halogen bond, the carbon-carbon double bond, carbon-carbon triple bond and aromatic substitutions; Physical Chemistry: chemical equilibrium; equilibria in electrolyte solutions, properties of liquids, phase rule, liquid mixtures and colligative properties. Incompatible with CHB101, CHB102

**Credit Points:** 12      **Contact Hours:** 6 per week

#### ■ CHB150 ORGANIC CHEMISTRY I

An introduction to the principles of organic chemistry. Topics include: principles of bonding and their effect on organic structure; nomenclature; influence of acidity, polarity and structure on reactivity; the major reaction types; properties of hydrocarbons and alkyl halides.

**Credit Points:** 8      **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB101, CHB102; credit may not be retained for more than one of these subjects.

#### ■ CHB180 PHYSICAL & INORGANIC CHEMISTRY I

The structure and bonding of atoms and molecules; elementary thermodynamics including the First Law and thermochemistry; the states of matter and the gas laws; homogeneous, heterogeneous and ionic equilibria; elementary kinetics and experimental methods. Principles of non-redox and redox ionic reactions involving oxygen compounds; Periodic Table and periodicity; chemistry of simple acids, bases and salts; chemistry of hydrogen and hydrides; applications.

**Credit Points:** 8      **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB101, CHB102; credit may not be retained for more than one of these subjects.

#### ■ CHB201 CHEMISTRY IIA

A series of lectures and tutorials continuing the study of the principles of chemistry covered in CHB101.

**Prerequisite:** CHB101

**Credit Points:** 8      **Contact Hours:** 3 per week

**Note:** This subject is not compatible with CHB230, CHB250, CHB270; credit may not be retained for more than one of these subjects.

#### ■ CHB202 CHEMISTRY IIB

A course in practical chemistry covering experimental aspects of inorganic, physical and organic chemistry that expands on the techniques covered in CHB102.

**Prerequisite:** CHB102 **Co-requisite:** CHB201

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ CHB210 ANALYTICAL CHEMISTRY II

Volumetric and gravimetric techniques introduced in the unit CHB110 are applied to more complex samples. Complexometric and back titration techniques are introduced; qualitative organic analysis is discussed with reference to separation methods based on functional groups and solubility; simple colorimetric methods are used as an introduction to instrumental analysis.

**Prerequisite:** CHB110

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ CHB230 INORGANIC CHEMISTRY II

A course of lectures and practical work in the area of general applied inorganic chemistry encompassing the topics of the chemistry of the non-metals and anions; the chemistry of main group and transition metals; basic coordination chemistry.

**Prerequisite:** CHB180

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ CHB242 CHEMISTRY II

Inorganic Chemistry: classification and properties of the elements, shapes of molecules, bonding in solids and coordination chemistry; Organic Chemistry: the reactions of alcohols, phenols and ethers, amino compounds, aldehydes, ketones, carbohydrates, the acyl group (carboxylic acids and derivatives), amino acids and proteins, chemical structure, biological activity,

and colour in organic compounds; Physical Chemistry: the gas laws for ideal and non-ideal systems, first law of thermodynamics and thermochemistry, galvanic cells including applications to the determination of pH and potentiometric titrations, and colloids.

**Prerequisite:** CHB142

**Credit Points:** 12    **Contact Hours:** 6 per week

**Note:** This subject is not compatible with CHB201, CHB202; credit may not be retained for more than one of these subjects.

### ■ CHB250 ORGANIC CHEMISTRY II

Alkenes and alkynes – electrophilic and free radical addition. Benzene – aromatic character, electrophilic substitution. Alcohols, phenols and ethers – nucleophilic reactions, oxidation. Aldehydes and ketones – addition reactions, oxidation and reduction, active hydrogen reactions, synthesis from Grignard reagents. Simple spectroscopic properties (infrared and ultraviolet) of the above classes.

**Prerequisite:** CHB150

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB201, CHB202; credit may not be retained for more than one of these subjects.

### ■ CHB270 PHYSICAL CHEMISTRY II

The Second Law of thermodynamics; introductory surface chemistry and electrochemistry; the properties of liquids and solutions and the phase chemistry of one component systems; molecular bonding and introductory spectroscopy.

**Prerequisite:** CHB180

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB201, CHB202; credit may not be retained for more than one of these subjects.

### ■ CHB310 ANALYTICAL CHEMISTRY III

Calculation of titration curves for redox, precipitometric and complexometric titrations, conditional stability constants, masking and demasking phenomena, organic analytical reagents, gravimetric theory, methods and theory of sampling, errors, sample dissolution, electrodeposition, potentiometric methods, ion selective electrodes, coulometry, polarography.

**Prerequisite:** CHB101 + CHB102 or CHB201 + CHB202 or CHB110 + CHB210 + CHB270

**Credit Points:** 8    **Contact Hours:** 4 per week

### ■ CHB327 CHEMICAL TECHNOLOGY III

Introduction to chemical process industries. Economic significance. Flowsheets. Unit operations: basic concepts, a study of range of unit operations selected from: comminution, classification, leaching, solid-fluid separations, drying, fluid transport, agitation, liquid-liquid extraction, heat exchange, evaporation, distillation, gas absorption.

**Prerequisites:** CHB180 + PHB260 or CHB101 + CHB102 + PHB110 + PHB111

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ CHB340 SPECTROSCOPY

The theory of rotational, vibrational and electronic spectroscopy. Instrumentation and spectroscopic methods of analysis.

**Prerequisites:** CHB180 + CHB110 or CHB101 + CHB102 + CHB201

**Credit Points:** 8    **Contact Hours:** 3 per week

### ■ CHB344 ENGINEERING CHEMISTRY M

Specialised chemistry subject designed for mechanical engineers includes such topics as fuels and their combustion; the chemistry of lubricants and lubrication; corrosion and its prevention and water treatment processes.

**Prerequisite:** CHB002 or equivalent

**Credit Points:** 4    **Contact Hours:** 2 per week

### ■ CHB346 ENGINEERING CHEMISTRY C

Specialised chemistry subject designed for civil engineers and includes such topics as PH control; the chemistry of materials; polymers and composites; corrosion and its prevention.

**Prerequisite:** CHB002 or equivalent

**Credit Points:** 4    **Contact Hours:** 2 per week

### ■ CHB350 ORGANIC CHEMISTRY III

This unit continues the study of organic functional groups and extends the students' knowledge to include simple molecules of biological significance. A study of the stereochemical aspects of organic chemistry is included along with a more detailed examination of spectroscopic properties, including ultraviolet, infrared and nuclear magnetic resonance spectroscopy.

**Prerequisites:** CHB150, CHB250

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB351; credit may not be retained for both.

### ■ CHB351 ORGANIC CHEMISTRY IIIC

This unit continues the study of organic functional groups and extends the students' knowledge of the mechanisms of simple organic and biochemical processes. A study of organic spectroscopy is also involved and includes ultraviolet, infrared and nuclear magnetic resonance spectroscopy.

**Prerequisites:** CHB101, CHB102, CHB202

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB350; credit may not be retained for both.

### ■ CHB370 PHYSICAL CHEMISTRY III

Experimental, theoretical and applied reaction kinetics; thermodynamics; real fluids; gas absorption and heterogeneous catalysis; phase equilibria.

**Prerequisites:** CHB180, CHB270

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB371; credit may not be retained for both.

### ■ CHB371 PHYSICAL CHEMISTRY IIIC

Experimental, theoretical and applied reaction kinetics; thermodynamics; real fluids; gas adsorption and heterogeneous catalysis; phase equilibria.

**Prerequisites:** CHB101, CHB102, CHB201

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB370; credit may not be retained for both.

### ■ CHB382 CHEMISTRY III

Biochemical relevance of pH; instrumental analytical techniques used in the pathology laboratory; the coordination chemistry of biological systems; dyes and stains; the thermodynamics and kinetics of biological systems.

**Prerequisites:** CHB142, CHB242

**Credit Points:** 4    **Contact Hours:** 2 per week

### ■ CHB411 ENVIRONMENTAL ANALYTICAL CHEMISTRY

A course of lectures and practical work for students of biological sciences dealing with the principles and

application of sampling, and electrometric/spectroscopic/flame separation methods to the analysis of materials from the biosphere.

**Prerequisites:** CHB101, CHB102, CHB201, CHB202

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with a major in Chemistry or CHB310.

#### ■ CHB427 CHEMICAL TECHNOLOGY IV

Numerical, graphical and computer aids to problem solving. Chemical process principles. Industrial stoichiometry, material balances for solids, liquids, gases and vapours. Energy balances. Combined material and energy balances. Balances on reactive processes.

**Prerequisite:** CHB327

**Credit Points:** 8    **Contact Hours:** 4 per week

#### ■ CHB430 INORGANIC CHEMISTRY IV

A course of lectures and practical work relating to the topics of crystal field theory, solution chemistry of metal complexes, principles of bioinorganic chemistry and the chemistry of post-transition elements.

**Prerequisites:** CHB230 or CHB201 + CHB202

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ CHB440 SEPARATION METHODS

Basic principles and applications of solvent extraction. Principles and practices of chromatography with reference to column chromatography, ion exchange chromatography, molecular sieves, gel permeation chromatography, thin layer chromatography, paper chromatography. Gas chromatography with particular reference to theory, instrumentation and applications including column selection, efficiency, detectors, resolution and temperature programming. Liquid chromatography with particular reference to instrumentation, columns, detector systems and applications.

**Prerequisites:** CHB210 + CHB250 + CHB270 or CHB201 + CHB202

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ CHB450 ORGANIC CHEMISTRY IV

A study of the reactions and properties of polyfunctional organic compounds as well as heterocyclic compounds particularly naturally occurring and technically useful compounds. Rearrangement reactions and the chemistry of organometallic compounds also are studied.

**Prerequisites:** CHB250, CHB350

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB451; credit may not be retained for both.

#### ■ CHB451 ORGANIC CHEMISTRY IVC

A study of the reactions and properties of polyfunctional organic compounds as well as heterocyclic compounds, particularly naturally occurring and technically useful compounds. Rearrangement reactions and the chemistry of organometallic compounds also are studied.

**Prerequisite:** CHB351

**Credit Points:** 8    **Contact Hours:** 3 per week

**Note:** This subject is not compatible with CHB450; credit may not be retained for both.

#### ■ CHB470 PHYSICAL CHEMISTRY IV

Application of thermodynamics to phase transition and equilibria. Polymerisation processes. Homogeneous and heterogeneous catalysis. Introduction to reactors and reactor design.

**Prerequisites:** CHB270, CHB370

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB471; credit may not be retained for both.

#### ■ CHB471 PHYSICAL CHEMISTRY IVC

Thermodynamics of real gases and ideal solutions; surface chemistry; industrial chemical reactors; reaction rate theory and homogeneous catalysis.

**Prerequisites:** CHB201, CHB371

**Credit Points:** 8    **Contact Hours:** 3 per week

**Note:** This subject is not compatible with CHB470; credit may not be retained for both.

#### ■ CHB510 INSTRUMENTAL ANALYSIS

Scope of trace analysis, including method reliability, accuracy, precision, sensitivity and selectivity. Atomic absorption and atomic emission – theory and instrumentation. Determination of organic structure by mass spectrometry.

**Prerequisites:** CHB310, CHB340, CHB440, CHB351

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB641; credit may not be retained for both.

#### ■ CHB527 CHEMICAL TECHNOLOGY V

Chemical engineering process analysis and its applications to selected industrial processes. An introductory study of basic economic principles and their applications to the chemical process industries. An introduction to process plant design.

**Prerequisites:** CHB327, CHB427, CHB470

**Credit Points:** 8    **Contact Hours:** 4 per week

#### ■ CHB530 INORGANIC CHEMISTRY V

A course of lectures and practical work dealing with organometallic chemistry; lanthanides and nuclear chemistry; inorganic rings and cages including the chemistry polyanions and metal clusters.

**Prerequisite:** CHB430

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ CHB550 ORGANIC CHEMISTRY V

A course in advanced organic chemistry which emphasises the solution of synthetic problems both in the laboratory and on the industrial scale. Topics may include choice of starting materials, major carbon-carbon bond forming procedures, selectivity and control, design of industrial organic processes, significance of reaction mechanism and steric activity relationships.

**Prerequisite:** CHB350, CHB450

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB551; credit may not be retained for both.

#### ■ CHB551 ORGANIC CHEMISTRY VC

A course in advanced organic chemistry which emphasises the solution of synthetic problems. Topics may include choice of starting materials, major carbon-carbon bond forming procedures, selectivity and control, significance of reaction mechanism, and steric activity relationships.

**Prerequisite:** CHB451

**Credit Points:** 8    **Contact Hours:** 3 per week

**Note:** This subject is not compatible with CHB550; credit may not be retained for both.

#### ■ CHB570 PHYSICAL CHEMISTRY V

Solid-liquid equilibria, ternary eutectics and industrial phase chemistry; equilibrium and dynamic electrochemistry and corrosion; kinetics of chain reactions.

**Prerequisites:** CHB370, CHB470

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with CHB571; credit may not be retained for both.

**■ CHB571 PHYSICAL CHEMISTRY VC**

Solid-liquid equilibria, ternary eutectics and industrial phase chemistry; equilibrium and dynamic electrochemistry; kinetics of chain reactions.

**Prerequisites:** CHB371, CHB471

**Credit Points:** 8      **Contact Hours:** 3 per week

**Note:** This subject is not compatible with CHB570; credit may not be retained for both.

**■ CHB590 MATERIALS SCIENCE**

The nature of solids; crystalline materials; metals; non-metallic materials and organic polymers.

**Prerequisites:** CHB370 or CHB371, CHB470 or CHB471

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ CHB600 PROJECT**

A laboratory-oriented investigation extending over one semester full-time or two semesters part-time under the supervision of a member of staff. The project will require a literature search, further study, continuing discussion with the project supervisor and a laboratory research program. The literature search, study and discussion component of CHB600 and CHB601 is aimed at developing student competence in search techniques and experience in experimental design. The laboratory program aims to develop student competence in the use of experimental techniques as a basis for problem solving. Completion of the project requires the submission of a written technical report.

**Prerequisites:** for CHJ129 – CHB510 or CHB527 and two of CHB530, CHB550 and CHB570 or, for ASJ226 – two of CHB530, CHB551 and CHB571

**Credit Points:** 20      **Contact Hours:** 10 per week

**■ CHB610 ADVANCED ANALYSIS**

Use of computers for on-line data acquisition and instrument control. Microprocessor controlled instrumentation and dedicated data systems. Advanced instrumental techniques, with emphasis on trace techniques and associated sample-handling requirements. Techniques included for discussion will be electroanalytical techniques, nondestructive techniques and thermal methods.

**Prerequisite:** CHB510

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ CHB618 LABORATORY AUTOMATION**

Current approaches to the use of computer facilities in commercial laboratories will be emphasised in the lecture course. Discussion will centre on planning to achieve an integrated network. Instrument types to include analogue output, BCD and serial digital interfaces (RS232C, IEEE etc.). Incorporation of microprocessor controlled instruments and those instruments with dedicated data systems. Report generation and data communication systems. Polling (programmed I/O) and interrupt techniques.

**Prerequisite:** PHB504

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ CHB627 CHEMICAL TECHNOLOGY VI**

Measurement and control in large-scale chemical processing. An introduction to process modelling including strategies of process operations, optimisation methods, linear programming and dynamic programming.

**Prerequisites:** CHB327, CHB427

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ CHB628 ENERGY TECHNOLOGY**

A study of energy conversion systems and energy economics including choice of fuels, distribution costs and net energy analysis.

**Prerequisite:** CHB527 **Co-requisite:** CHB627

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ CHB631 ADVANCED INORGANIC CHEMISTRY**

Selected metals: the solution and solid state chemistry of metals such as titanium, zirconium, hafnium, chromium, molybdenum and tungsten with emphasis on structures, bonding and reaction mechanisms. Precious metals: the 'platinum group', silver and gold; high purity chemicals. Redox systems: hydrogen peroxide and related peroxy-compounds; dithionates and the oxosulphur system; sodium borohydride and other complex hydrides.

**Prerequisite:** CHB530

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ CHB640 CHEMISTRY VI**

Celloid chemistry and rheology; Fourier transform, laser and time resolved spectroscopy; interpretative <sup>13</sup>C NMR spectroscopy; free radical and photochemistry and the organic chemistry of sulphur and phosphorus compounds.

**Prerequisites:** CHB450, CHB470, CHB550, CHB570

**Credit Points:** 4      **Contact Hours:** 2 per week

**Note:** This subject is not compatible with CHB641, CHB671; credit may not be retained for more than one of these subjects.

**■ CHB641 ADVANCED SPECTROSCOPY**

Atomic absorption and emission spectroscopy. Electron spin resonance spectroscopy. Lasers and laser spectroscopy. Mass spectrometry, particularly GC-MS. Fourier transform spectroscopy, particularly <sup>13</sup>C and multi-nuclei NMR. The role of dedicated computers in these techniques will be emphasised.

**Prerequisite:** CHB340

**Credit Points:** 8      **Contact Hours:** 3 per week

**Note:** This subject is not compatible with CHB510, CHB640; credit may not be retained for more than one of these subjects.

**■ CHB651 BIOLOGICAL CHEMISTRY**

Phosphoric acids and derivatives; addition and substitution reactions, reactivity relative to carbon esters. Condensation reactions, thiol esters, fatty acid synthesis. Hydration/dehydration, terpene biosynthesis. Biological oxidation, heterocyclic coenzymes. Bioinorganic systems investigation – metal ion probes, inhibitor studies, model compounds. Hydrolytic enzymes. Biological redox systems with transition metal ions.

**Prerequisite:** CHB551

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ CHB660 INDUSTRIAL VISITS**

Visits to selected industries, for example, petroleum, industrial chemicals, sugar.

**Prerequisite:** CHB501

**Credit Points:** 2      **Contact Hours:** 1 per week

**■ CHB671 SOLIDS & SURFACES**

Colloid chemistry and rheology. The surface chemistry of metals, polymers and other solid materials. Surface analysis techniques including FTIR, XPS, SAM and ESCA.

**Prerequisite:** CHB571

**Credit Points:** 8      **Contact Hours:** 3 per week

**Note:** CHB671 is not compatible with CHB640; credit may not be retained for both.

■ **CHB690 ADVANCED MATERIALS SCIENCE**

Advanced materials analysis; fibre reinforced composite materials; advanced alloys; inorganic polymers; applied polymer science.

**Prerequisite:** CHB590

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **CHB691 ENVIRONMENTAL CHEMISTRY**

The nature and composition of natural and polluted waters; metal ions, gases, redox equilibria complexation and microbial transformation of chemicals in water; water pollution and trace-level substances in water. Environmental chemistry of soils; acid-base equilibria and ion-exchange; chemicals in soil. The nature and composition of the atmosphere; chemical and photochemical reactions in the atmosphere; the oxides of carbon, sulphur and nitrogen in the atmosphere; organic pollutants and photochemical smog; particulate matter. Water and atmospheric monitoring.

**Prerequisites:** CHB551, CHB571

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **CHD148 CHEMISTRY**

Introduction to general and organic chemistry as applied to biological systems. Topics covered include: the basic chemical concepts of atoms, molecules; molecules, ions; chemical bonding and equations; solution chemistry; acid bases and chemical equilibrium; gases and nuclear chemistry; the chemistry of biological components such as proteins, carbohydrates, lipids enzymes and nucleic acids.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CHP120 BIOCHEMICAL ENGINEERING**

The application of biological organisms, systems and processes to productive level activities; specific areas are in fermentation, bioprocessing and enzyme technology. Topics include: fermentation processes; microbial physiology and environmental factors in processing operations; fermentation kinetics and modelling; aeration and agitation; sterilisation; bioreactors; and scale-up. Other topics are selected from animal cell culture, protein biotechnology, downstream processing and bio-process economics.

**Credit Points:** 10      **Contact Hours:** 6 per week

■ **CHP700 PROJECT**

All students undertaking Honours are required to select and undertake, in consultation with a supervisor, a substantial project in an appropriate area. Each project will be assessed on the basis of an extensive written report and an oral presentation.

**Credit Points:** 40

■ **CHP701 ADVANCED TOPICS IN CHEMISTRY I**

■ **CHP702 ADVANCED TOPICS IN CHEMISTRY II**

A selection of advanced topics in the areas of physical, organic and inorganic chemistry. The topics offered will reflect the expertise of the academic staff as well as the needs of the students. Both subjects will be assessed at the end of the year.

**Credit Points:** 12      **Contact Hours:** 6 per week

■ **CHP703 ADVANCED ANALYSIS**

Separation methods: gas chromatography including capillary techniques, liquid chromatography including ion exchange and size exclusion chromatography; electrophoresis; electrochemical methods: principles

of interfaced electrochemistry, the ion double layer, electro capillarity, electrode kinetics, evaluation of kinetic parameters; surface analysis: ESCA, SIMS and related techniques.

**Credit Points:** 6      **Contact Hours:** 2 per week

■ **CHP704 ADVANCED MATERIALS SCIENCE B**

Physical and chemical properties of advanced materials; mechanical, thermal, electrical, optical and magnetic properties of advanced materials such as fibre reinforced composites, rapidly solidified compounds, ceramics, inorganic polymers and shock processed materials.

**Credit Points:** 6      **Contact Hours:** 2 per week

■ **CHP705 ADVANCED SPECTROSCOPY**

A theoretical background in spectroscopy and an appreciation of the applications, limitations and practice of modern methods of spectrochemical analysis. Topics may include: molecular spectrophotometry; atomic absorption and atomic emission; x-ray fluorescence; x-ray diffraction; nuclear magnetic resonance spectroscopy and electron spin resonance spectroscopy; Fourier transform spectroscopy; mass spectrometry; advanced techniques in electron microscopy and electron probe microanalysis.

**Credit Points:** 6      **Contact Hours:** 2 per week

■ **CHS200 CHEMISTRY**

Introduction to general and organic chemistry; atoms, molecules, ions; chemical bonding; chemical reactions and equations; solution chemistry; acids, bases and chemical equilibrium; gases; electrochemistry and nuclear chemistry; basic chemistry of organic compounds, aliphatic and aromatic

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **CMA133 COMMUNICATION TECHNIQUES**

An introduction to the techniques of technical writing appropriate to applied science vocations. Technical report writing, writing for non-technical audiences. Application of communication principles in technical writing. Application of communication principles to non-written communications. Individual and group speaking. Speech writing. Oral delivery of technical papers. Formal meeting procedure.

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **CMB012 SPEECH COMMUNICATION**

The major aim of the course is to develop in the student the ability and confidence to successfully communicate in speaking in contemporary business and professional situations. The specific objectives are to develop an understanding of the concepts and skills required for effective participation in performance situations, such as: radio and television broadcasting, creative presentations to clients, creative presentations to the public, persuasive presentations to an audience. Supportive bases for these methods of communication will include language and non-verbal aspects, listening and delivery and staging and use of visual aids.

**Credit Points:** 12      **Contact Hours:** 3 per week

■ **CMB014 WRITING & COMMUNICATION THEORY**

The subject provides a broad overview of the contemporary study of communication and writing by introducing students to a wide range of theories, methods, and approaches. Emphasis is placed on mass communication theory and practice, with particular attention to the relevance of communication theory to

professional practice. Theoretical approaches dealt with include rhetorical, process, interactive, and cultural studies perspectives.

**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ CMB104 PROFESSIONAL COMMUNICATION

Communicating successfully in writing and orally in contemporary professional situations. An understanding of the concepts and skills required for effective practices in formal reporting and persuasive writing, oral reporting and persuasive speaking, group decision making and meeting procedure, and leadership and participation.

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ CMB105 BUSINESS COMMUNICATION

To achieve standards of preparation and presentation in formal communication which are acceptable in contemporary organisations. It encompasses an introduction to the techniques and objectives of communication in formal contexts. The processes of oral and written communication and their application within organisational settings to interviewing, presentational speaking, research papers, reports and correspondence.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB106 PROFESSIONAL COMMUNICATION

Communicating successfully in writing and orally in contemporary professional situations. An understanding of the concepts and skills required for effective practices in formal reporting and persuasive writing, oral reporting and persuasive speaking, group decision making and meeting procedure, and leadership and participation.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ CMB108 ENGLISH FOR TECHNOLOGISTS

A series of lectures and tutorials aimed at improving the student's ability to write sound paragraphs comprising economical sentences acceptable in grammar, syntax, punctuation and idiom.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ CMB111 SOCIOLOGY

To develop an awareness of the impact of the social environment of human behaviour and to provide a contextual understanding of society for practice in the communication professions. Students will be introduced to some of the main theories which have been developed to gain insight into the operation of society, and to the basic concepts employed in those theories. Some of the topics to be addressed include such topics as culture and sub-cultures; the family; stratification; groups and communities; formal organisations; social deviance; social change.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB116 WRITING FOR DESIGNERS I

The writing process; style, accuracy and simplicity in writing; the editing process.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ CMB117 WRITING FOR DESIGNERS II

Writing for the design professional; review of organisation and mechanics; types, formats, styles and review of professional documents; problems of technical style, bibliographic conventions and use of graphics.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ CMB119 SOCIOLOGY FOR PROFESSIONALS

To develop an awareness of the impact of the social environment of human behaviour and to provide a contextual understanding of society for practice in professional fields. Students will be introduced to some of the main theories which have been developed to gain insight into the operation of society, and to the basic concepts employed in those theories. Some of the topics to be addressed include: culture and sub-cultures; the family; stratification; groups and communities; formal organisations; social deviance; social change.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB134 COMMUNICATION

This subject is designed to train students to communicate effectively with the public and with their peers by developing the skills of reading and writing and spoken communication with special reference to professional and administrative contexts. Topics covered include the library paper; preparation and presentation of research papers; business correspondence: objectives, format, composition; report writing and presentation, editing; and speech preparation.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ CMB135 COMMUNICATION FOR ENGINEERS

Development of confidence in the dissemination of knowledge, skills and information to both technical and nontechnical associates via written and oral communication resources. Oral presentation techniques. Effective written communication skills.

**Prerequisite:** CMB108

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ CMB136 TECHNICAL WRITING

The prose, mechanical and graphical elements in reports, proposals, instructions and other technical literature are analysed and put into practice. The subject includes the preparation of routine correspondence, and presents contemporary developments in organisational communications.

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ CMB161 LITERATURE & COMMUNICATION

This course develops skills in written communication, and also develops critical and analytical skills in dealing with a variety of communicative and textual forms. Students will acquire an understanding of various forms of written communication, specifically literary forms such as fiction and poetry, and performative, such as drama. This will entail understanding the theory behind such forms; students will therefore be introduced to literary theory as well as language and communication theory. The subject provides a theoretical background for students wishing to take electives in the Humanities area in later semesters.

**Prerequisite:** CMB104

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB163 INTRODUCTION TO AUDIO-VISUAL COMMUNICATION

Introduction to the theory and practice of audio-visual communication, media consciousness, definition of operational objectives, analysis of audience characteristics; development of concept, selection of appropriate mediated form, basic scriptwriting; equipment, quality, and cost effectiveness; selection and operation of appropriate equipment; familiarity with still camera, audio and video equipment; techni-

ques for slide-tape and video production. Production of a sound synchronised slide-tape program.  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB191 FUNDAMENTALS OF PHOTOGRAPHY

Historical development of the photographic arts, role of the photographer in society, the principles of visual perception and design, photography as both art and craft; display photography, news photography, photo layout and design; the still camera, developing, printing and enlarging; creative use of camera and darkroom. Fortnightly photographic assignments. Portfolio.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB211 COMMUNICATION RESEARCH

This subject aims to provide students with an understanding of qualitative and quantitative research methods used in the communication professions. The course will examine the basic assumptions and strategies of social research. Topics will include focus group interviews; questionnaire construction and sample surveys; experimental design.

**Co-requisite:** CMB111, CMB104

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB212 AUSTRALIAN STUDIES

This subject provides the student with a greater awareness of the Australian social history. It examines the construction of Australian identity since white settlement.

**Prerequisite:** CMB111 or 5 subjects B.Bus degree program

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB220 SPEECH & DRAMA

Students will be given a course of relaxation, vocal and expression exercises to increase their control of body language and vocal presentation. They will study the communication of an age by looking at the manners, values and attitudes of the culture reflected in its drama. Particular attention will be paid to twentieth century drama and its reflection of the communication of our society. Students' perception, especially auditory awareness and visual perspicacity, will be extended by the use of video recording of their work. This subject has an equal balance of theoretical and practical components.

**Prerequisite:** CMB102

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB241 INTRODUCTION TO ADVERTISING

This subject serves as an introduction to later subjects in the Communication course and is a prerequisite for further advertising subjects. It is also a useful elective subject for management and accounting students. Introduction to Advertising presents students with an overview of the advertising industry. It traverses the interrelationship of the institutions of advertising the advertisers, the advertising agencies and the media. It details methods of determining advertising budgets, establishing target audiences, interpreting audience ratings and circulation figures and enables students to gain a preliminary understanding of the creative functions of the advertising industry. It also shows the ethical and legal side of advertising and its important role in today's society.

**Prerequisite/Co-requisite:** MNB253

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB291 AUSTRALIAN LITERATURE & FILM

A survey of the development of Australian literature and film with an emphasis on modern works. The relationship between literary and cinematic treatment of particular themes and situations will be examined, with special attention to translation of works from literature to film.

**Prerequisite:** CMB212

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB300 SOCIOLOGY FOR HEALTH PROFESSIONALS

Theories and concepts of sociology are used in the analysis of the social context of health care; theoretical perspectives; social organisation; social differences and issues; the application of sociological theory to aspects of Australian society including: class and stratification, migration, sub-culture and ethnicity, crime and deviance, groups and organisations, social change.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ CMB307 ADVANCED PROFESSIONAL WRITING

The current principles and practices in writing professional documents; the content, style and presentation of professional documents; audience considerations and influences of new technology on corporate writing culture.

**Prerequisite:** CMB104

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB311 CONTEMPORARY SOCIAL ISSUES

A study of social trends and contemporary issues in Australian society from a sociological perspective. Media treatment and presentation of issues, in the form of news, current affairs and documentaries, is examined and discussed and individual, community and governmental responses analysed. Topics vary according to social events, but include such subjects as family crises, environmental issues, deviance, minority groups, health and welfare concerns, leisure and entertainment.

**Prerequisite:** CMB111

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB321 COMMUNICATION IN SMALL GROUPS

The application of communication theory and the refinement of practical speech communication skills. Business and media interviewing, role-playing, and simulated group problem solving will be practised and analysed. Topics relating to Public Relations, Advertising and Journalism will form a base for these projects. Students' perception, especially auditory awareness and visual perspicacity, will be extended by the use of video recording of their work.

**Prerequisite:** Three communication degree subjects including CMB012

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB351 COMMUNITY RELATIONS

Specialist public relations subject which examines strategies used to relate an institution or individual to communities through community relations programs; fund raising and special events; and the setting up of community groups. The subject is designed to increase intellectual depth of understanding as well as practical knowledge of a significant and growing area of public relations. Practical work will be undertaken in planning community relations programs, fund rais-

ing campaigns and special events. Presentations of their programs are made by student groups.

**Prerequisite/Co-requisite:** CMB651

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB359 NEWSWRITING

Students, through lectures and workshops, learn how to evaluate and select information to write news stories. Students are thus exposed to journalistic style, grammar, spelling, punctuation and syntax.

**Prerequisite:** CMB12    **Contact Hours:** 3 per week

#### ■ CMB360 REPORTING PRINCIPLES

Students go into the community to cover rounds and news stories. They receive individual attention from tutors in weekly conferences in which each story is critiqued. Students rewrite their stories to bring them up to publishable standard. All stories are made available for possible publication in the School newspaper.

**Prerequisite:** CMB359

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB363 ADVERTISING COPYWRITING – PRINT

This subject is an important base for further study in advertising. Students are introduced to the principles, theory and practice relating to the creation of advertisements. The role of the copywriter in the advertising process is examined as is the relationship between copy and art. Practical work involves the writing, setting and presentation of copy for print advertising for manufacturers, service industries and the retail sector. Case briefs for assignments are presented to students by advertisers or advertising agency executives. Finished presentations are then made to these specialists.

**Prerequisite:** CMB241

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB364 ADVERTISING COPYWRITING – ELECTRONIC

Students continue their studies of the principles and practice of copywriting. Practical work concentrates on the electronic media. This includes the writing and production of commercials for both radio and television and other industry requirements.

**Prerequisites:** CMB363, CMB464

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB371 SUB-EDITING & LAYOUT

An examination of the principal functions of editors and sub-editors in the print media. An introduction to sub-editing. An examination of the theories of newspaper and magazine design and of current and likely future practices. Practice in basic sub-editing, including on-line subbing of Australian Associated Press stories, introduction to Desktop Publishing, design and layout. The class produces a School newspaper. Students are expected to devote 6 hours per week to assigned sub-editing and layout activities.

**Prerequisite:** CMB571 and 80 wpm Teeline

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB400 SOCIOLOGY OF HEALTH & ILLNESS

The social environment of health and illness and cultural aspects of health care practices; cultural definitions of health and illness; life-style factors and health; life cycle and health crises; health and social problems; health promotion; preventive care and the Medical Model; bureaucratisation and health care delivery; the health care professions.

**Prerequisite:** CMB300

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ CMB422 PROFESSIONAL SPEECHWRITING

The context for speeches – environmental, relational and linguistic; issues for targeting speeches; rhetorical principles for developing personal language style; methods of interpreting and evaluating speeches; study of exemplars and writing of various types of speeches – occasional addresses; informative speeches; persuasive speeches; modern campaign speeches; using speeches for advance release and promotional purposes; reports on speech writing projects.

**Prerequisite:** CMB552

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB423 AUSTRALIAN MEDIA INSTITUTIONS

The aim of the course is to introduce students to the major media institutions within Australia. This will involve examination of industry development and structure, and industry practices in the press, television, advertising and radio. Outside specialists will be used to augment the expertise of Communications staff.

**Prerequisite:** CMB104

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB441 RETAIL ADVERTISING

Topics of study include the examination and study of the advertising objectives, requirements, strategies and practices of the different segments of the retail industry. These are compared and contrasted with the same aspects of national advertising. Workshop sessions and assignments accent practical work on retail advertising.

**Prerequisite:** CMB363, CMB364 or MNB491

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB442 MOTIVATION & ETHICS IN ADVERTISING

The subject will provide an introduction to those areas of psychology particularly appropriate to advertising. It will relate these to classical and modern theories of the motivational aspects of advertising. The ethical standards of the Advertising Institute of Australia, the Australian Association of National Advertisers, the Advertising Federation of Australia and the Direct Marketing Association will be examined and compared with motivational practice and requirements. Emphasis will be placed on the examination of current campaigns against motivational and ethical backgrounds.

**Prerequisite:** CMB241

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB451 INDUSTRIAL PRESS

An examination of the requirements for communication with employees, shareholders, customers and other specific publics through specialist publications. Analysis of requirements for house magazines, newspapers and newsletters, customer brochures, pamphlets and newsletters, and financial reports to shareholders and staff. Desk-top publishing and examination of new technology.

**Prerequisite:** CMB552

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CMB452 INTRODUCTION TO PUBLIC RELATIONS

An introduction to the concept and practice of public relations. The subject surveys the history, theories, models, and management of public relations activities and processes. Modes of communication are analysed in relationship to reaching different levels of society. A number of guest practitioners discuss their programs and areas of specialisation, such as community, internal, media, and government relations.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB461 CREATIVE WRITING

Creative writing is a highly skilled form of communication, involving the communication of ideas and values within a social framework. Students will examine the creative writing process from first draft to final product, with particular emphasis on the short story form. The problems of publishing and marketing as a professional writer will be considered.

**Prerequisite:** CMB161

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB462 MAGAZINE & FEATURE WRITING

Study of reporting and writing techniques for magazine articles and newspaper human interest stories; analysis of content and style of publications; markets for publication; practical writing and production assignments.

**Prerequisite:** CMB360 and 40 wpm Teeline

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB463 MODERN LITERATURE & FILM IN SOCIETY

This course will offer an integrated study of contemporary literature and film and show how both media provide an insight into topical issues of the day. Various critical approaches to literary and filmic texts will be analysed and the concepts of genre, authorship and structure will be considered.

**Prerequisite:** CMB161

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB464 VIDEO PRODUCTION TECHNIQUES

Analysis of audio-visual media in terms of markets served – eg mass media, specialist, the arts, with reference to cost effectiveness; criteria used in selection of the appropriate mediated form; the technology and development of film and television from the magic lantern to satellite broadcasting; principles of production; realising the intention of program, conversion of script to mediated form, roles and responsibilities, budgeting and production management; future directions in video; principles and practice of directing; editing; pictorial composition, lighting, use of colour, camera control; sound and sound recording; animation and special effects.

**Prerequisite:** CMB163

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB465 LITERATURE, LANGUAGE & SOCIETY

Novels will be considered as both influenced by, and influencing the society in which they are produced. Students will be shown that literature can provide a detailed and complex analysis of society and ideologies. As with the prerequisite subject Literature and Composition, emphasis will be placed on critical and analytical skills through close textual analysis, applying contemporary literary and linguistic theory.

**Prerequisite:** CMB161

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB466 NARRATIVE CONCEPTS

The interrelationship between improved technical means – lenses, editing techniques, cameras and sound and how this increases the creative scope of film makers; national preferences in narrative communication. The course content will not be simply restricted to film but will also discuss elements of the graphic arts, the novel, dramatic forms and social phenomena in the various national groupings.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB521 COMMUNICATION & PUBLIC OPINION

The processes of public opinion are studied from the perspective of sociological theory. Within this framework, the operation of the media will be examined in some detail. Specific topics to be considered include opinion polling in Australia; the association between demographic characteristics and opinions; the role of the media in the 'social construction of reality'; the conceptual and operational relationships between attitudes and opinions; cognitive dissonance and communication strategies for opinion change; the role of uninstitutionalised forms of community agitation in influencing public opinion and public policy; social stability and social change. Students analyse opinion poll data from a number of sources using statistical software on a mainframe computer.

**Prerequisite:** CMB211

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB541 MEDIA STRATEGY

Topics of study include the following: costing and scheduling media, qualitative and quantitative factors affecting media selection and use, market targeting, researching the media plan, planning media strategy, coordinating media, media options, concepts of media decision making, media exposure, media comparisons, media trends, media and the computer.

**Prerequisite:** CMB241 or MNB253

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB542 ADVERTISING MANAGEMENT

The purpose of the subject is to provide the students with an understanding of the managerial side of the advertising profession, and to equip them with the tools they need to make executive decisions in advertising. Students will examine the process of setting appropriate advertising objectives, designing a program of advertising research, the social environment and regulation of advertising, managerial participation in the creative and media planning process, account management in an advertising agency, client-company management and the advertising process, competing theoretical concepts of 'how advertising works'.

**Prerequisite:** CMB241 or CMP125

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB543 ADVANCED ADVERTISING

This subject will build upon the knowledge and skills gained by students in either Advertising Copywriting or Media Strategy and build them to be fully operative at copywriter or media planner level. While theoretical perspectives will be expanded, there will be a heavy emphasis on practical work.

**Prerequisite:** CMB363, CMB364 or CMB541

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMB544 DIRECT RESPONSE ADVERTISING

This subject will cover the underlying principles and practice of direct response advertising in its various forms. Ethical considerations will be considered against a background of Australian societal norms. Skills in the appropriate areas will be taught and practised. Practitioners will lecture on current procedures and brief students on assignments, which will be presented to them. There will be a considerable emphasis on practical work.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB552 PUBLICITY & PROMOTION (PRINT)**

Focus is on communication with media. The skills and knowledge necessary to deal with, write and produce materials for print media are developed. Guest speakers in mass media present techniques for working with and in newspapers, and magazines. Practitioners provide information on special events, community relations, political campaigns, and promotions, which students can apply to field assignments.

**Prerequisites/Co-requisites:** CMB452, CMB359  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB553 PUBLICITY & PROMOTION (ELECTRONIC)**

Concentrates on development of production skills in video as they apply to public relations in organisations. Students will produce a complex video news magazine for a client organisation. This includes scripting, presenting, studio management, special effects, graphics, field operation of video equipment and video editing. Techniques for producing community service announcements are also taught.

**Prerequisites:** CMB552, CMB464  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB561 FILM & TELEVISION SCRIPT WRITING**

Wide scope approach to writing through analysis of such forms as features, documentaries and drama; depth approach to writing through analysis of audiences and the industry; the writer's commitment to social responsibility; usc of film in television and public relations; analysis of scripts and script requirements in contemporary markets.

**Prerequisite:** 10 subjects in a degree program  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB562 MEDIA TEXT ANALYSIS**

The aim of the course is to enable students to better understand the nature of film and television as forms of communication. It uses the general range of cultural studies approaches structuralism, psychoanalysis, linguistics, film theory and narrative theory. It examines media productions as 'texts', subjecting them to close analysis in order to read from them possible meanings for their audiences.

**Prerequisite:** CMB423  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB564 TELEVISION STUDIO/POST PRODUCTION**

Television studio production and post production of news/current affairs, corporate, documentary and drama; the roles of: producer, director, art director, camera and audio operators, vision mixers, floor manager, technical director, production assistant and on-line editor.

**Prerequisite:** CMB662  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB571 RADIO/TELEVISION JOURNALISM I**

The purpose of this subject is to train students to explore theoretical problems related to radio and television news and to provide them with practical experience in writing/production/reading broadcast news. Students will study the theoretical aspects of broadcast news writing and production. They will contribute to the 4EB news and current affairs throughout the semester. Students will prepare television reports and present them in class for criticism. Students will be required to develop an

understanding of the workings of the radio broadcast equipment.

**Prerequisite:** CMB462 and 60 wpm Teeline  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB572 COMPARATIVE JOURNALISM**

Development of national press systems; the journalist as a mass communicator; functions of the press in different societies; foreign press systems; international and inter-cultural communication.

**Prerequisite:** 16 communication degree subjects  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB592 VIDEO DOCUMENTARY PRODUCTION**

Orientation to the history and development of documentary production; various types of film and television materials; approaches to the production of a documentary, different approaches to script development. The place of editing in the production, affective elements; the scope and limitations of creative editing; evolution of an editing plan; correlation of image, sound, music, pace and tone in the total design; editing practice in workshops using materials provided on tape. Production of a documentary or corporate video.

**Prerequisite:** CMB464  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB622 PROFESSIONAL COMMUNICATION PRACTICE**

The aim of this elective subject will be to provide the communication student with an opportunity to observe, and gain insight into, the applications of communication theory to communication practice. The student will be placed with an approved employer. The lecturer in charge of the subject will obtain reports from the student at regular intervals. The student will be required to complete a progressive assessment program. The student's result will be determined on the basis of reports, continuous assessment and the employer's report.

**Prerequisite:** EITHER CMB363/CMB364 and CMB542 and CMB541 OR CMB371 or CMB672 OR CMB451 and CMB553  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB641 ADVERTISING CAMPAIGNS**

Students will be briefed to prepare and document three advertising campaigns. The subjects of these campaigns will be drawn from actual industry marketing situations.

**Prerequisite:** CMB542  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB651 ADVANCED PUBLIC RELATIONS**

An advanced approach to public relations submissions by means of the case study method. The subject provides practical experience in problem solving, strategic planning, analysis, and implementation of public relations programs. Guest practitioners present problems they deal with in government and financial relations, from which students derive underlying principles and devise model plans that offer solutions to these societal problems.

**Prerequisite/Co-requisite:** CMB451  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CMB662 FILM DRAMA PRODUCTION**

Analysis of the process and effects of film drama; budgeting and production management; direction and script interpretation; film editing techniques; advanced production techniques; working in crews to

produce a significant film production. Students are required to discuss script preparation with the lecturer in the semester prior to undertaking this subject.

**Prerequisite:** CMB592 - Film and Television majors only

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMB664 FILM & VIDEO BUSINESS

The role of the producer and executive producer in the packaging and financing of film and television production including corporate, training and documentary, grant films, features and mini-series; achieving balance in the above-the-line, below-the-line and marketing costs. Sources of finance: corporate sponsors, corporate clients, investors, pre-sales, government grants, Film Finance Corporation; methods of obtaining finance, insurance, completion guarantees, legal and accounting requirements; script breakdowns, budgeting and production management. Students will be required to produce a significant corporate or documentary video.

**Prerequisite:** CMB662

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMB666 PUBLIC RELATIONS CONSULTING & MANAGEMENT

Covers operation of a consultancy and the management of a public relations department in various types of organisations. Guest speakers in specialised areas provide cases on budgeting, staff development, client relations, computer utilisation, management liaison, and group campaigns.

**Prerequisite:** CMB351 or CMB651

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMB671 PUBLIC AFFAIRS REPORTING

An advanced reporting subject dealing with four main areas of news coverage: finance, industrial, government and social issues. Students do in-depth reporting on the facts behind financial, industrial, political, scientific and social issues. Students undertake practical assignments and participate in publications and broadcasts.

**Prerequisite:** CMB371

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMB672 RADIO/TELEVISION JOURNALISM II

In this subject students will explore the theory underlying current affairs and TV news broadcasting. They will consider all aspects of current affairs and TV news production, and at the same time contribute to 4EB news and current affairs programs for radio throughout the semester and on roster between semesters. The radio programs will be aired on 4EB. Students will also read news and do more advanced interviewing segments of the news on 4EB during the semester and on roster between semesters.

**Prerequisite:** CMB571 and 80 wpm Teeline

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMB673 JOURNALISM ETHICS & ISSUES

This is a seminar subject in which lectures serve as starting points for discussion and panels. Students are challenged on journalistic practices and are asked to make decisions. Experts and professionals are invited to take part in seminars and panel discussions. Students produce a School newspaper and radio news and current affairs programs.

**Prerequisites:** CMB371 and CMB672

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMD100 SOCIOLOGY

Introduction to the sociological concepts and theories with which to analyse the impact of the social environment on human behaviour; the social and cultural diversity of Australian society; socialisation; the family as a social institution; culture; social control; social deviance and social change.

**Credit Points:** 6     **Contact Hours:** 3 per week

#### ■ CMD200 SOCIOLOGY OF HEALTH AND ILLNESS

Social aspects of health and illness in the community; health care in the family group and community; patient-professional roles; stress and disease; social aspects of ageing; preventive health care and the medical model; health and social problems; bureaucratisation and health care delivery.

**Credit Points:** 6     **Contact Hours:** 3 per week

#### ■ CMN709 CONCEPTS IN COMMUNICATION

Prepares students in the foundation theories and perspectives of human communication, and in the application to modern professional practice, in order to proceed to advanced theoretical study.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMN710 MASS COMMUNICATION A

An advanced exploration of the theories of mass communication, as a process, and its impact in society. It studies the role of mass media, and their relationships from one to another, to major institutions and to individuals and groups. It gives a theoretical basis for research in mass communication, including the structure, process and effects of mass media.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMN711 MASS COMMUNICATION B

Examines further the relationship between mass media and society through analysis of the practices, conventions and forms of mass communication, especially film and television. It relates the impact of mass media upon society to cultural formations such as ideology and politics. This subject provides additional theoretical bases for analysis of mass communication messages and reception, through the application of discourse analysis involving semiotic, structural and signification theories.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMN720 COMMUNICATION EVALUATION

Introduces students to the conceptual skills of communication evaluation at an advanced level. It provides the knowledge and skills in both quantitative and qualitative methods. It is intended to prepare people who will commission, supervise and use search and research, not as an end in itself but as a means to solving communication problems.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ CMN723 SEMINAR IN COMMUNICATION RESEARCH

Allows advanced students to undertake research in order to develop special expertise in a selected methodology, including specific methods and techniques, appropriate to each student's own research interests. It is designed for advanced study in the methods of interpretive or empirical research, quantitative or qualitative. Students may undertake one or more research projects under the direction of their supervisor. They progressively present their work in a seminar of advanced students for review. It can be used to advance a thesis or project.

**Credit Points:** 12     **Contact Hours:** 3 per week

### ■ CMN810 COMMUNICATION & SOCIETY

On completing this subject the student should have an appreciation of the social trends and issues which influence the operation of mass communication. Students will study a diversity of social environments which are the setting for communication technology and policy. Students will be assisted in investigating specific fields of interest. Suggested topics may include: social impact of communication technology (home computer, video, access radio, cable television, Aussat); patterns of personal communication in networks and neighbourhoods; cross-cultural communication, multiculturalism and the media; social change in industrial and developing countries; media presentation and the social construction of reality; audience research in mass media and live, performing arts; and communication in urban and rural setting.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMN811 COMMUNICATION & CULTURE

Deals primarily with written forms of discourse in mass culture. Topics include: the concept of mass culture and cultural formations; the growth of written mass culture/popular literature; the relationship between language and reality (reality formed by language, rather than vice versa); the modern debate about mass culture versus 'high' culture literary journalism; mass culture and ideology (fictional and non-fictional prose, scripts). Theory will be related to textual analysis. This subject follows on from Mass Communication B.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMN813 COMMUNICATION STRATEGIES

A study of putting communication theory into practice. Students may take policy and plans formed either in the subject Communication Policy and Planning, or elsewhere, and consider how to produce the appropriate change. The ethics of persuasion and the problems of cooperation are explored. Students must take into account the social implications of producing change, the role of the change agent and ways to monitor the effects in Australian as well as developing societies. Alternative perspectives for strategic thinking will be compared for application in the environments of marketing, advertising, editorial journalism, public relations, public affairs, public information.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMN814 MODERN COMMUNICATION TECHNOLOGIES

This subject is designed to give students who are non-engineers a working understanding of modern and emerging communication technologies and their use by individuals and social institutions, with regard for their social consequences. Particularly, it aims to investigate the access to these technologies by citizens and to give students basic technological literacy. It overviews the state of the art and studies current and future applications, basic models and theories, the common technical terms, the economics and the fundamental electronics behind the research and practice of telecommunications, other hardware delivery systems and information technology.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMN821 ADVANCED ORGANISATIONAL COMMUNICATION

A seminar with a focus on how people relate to each other in modern organisational settings, from small

businesses to multi-national organisations in the public and private sector. It addresses communication up, down and across the organisation, among divisions and work units, among different professional and vocational specialties and within work teams. It has a problem-solving, interdisciplinary approach with reference to, at least, social psychology, sociology, culture theory, systems thinking and network analysis.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMN823 CURRENT ISSUES IN COMMUNICATION

Allows students, after an exposure to the diverse field of study in human communication, to review aspects of this field in depth. It investigates current issues in the theory and practice of human communication. Student and lecturing staff use the various perspectives, theories and applications explored in the program.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMN824 COMMUNICATION POLICY & PLANNING

Introduces students to the principles and processes of policy development and planning for communication delivery systems, such as a telecommunications system, national satellite broadcasting service or a television network, and for planning and regulating authorities. Students become familiar with the complex range of social environments, stakeholders, issues and options, and compare industrial and developing countries. It critically examines case studies of communication policy and planning.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMN825 AUSTRALIAN COMMUNICATION CONTEXTS

This subject is designed to analyse specific aspects of the interaction between mass media and the Australian cultural context. It will approach this relationship through cultural studies methodologies—discourse analysis, semiotics, structuralism and theories of cultural production. Much of the theoretical content will follow on from Mass Communication B and Communication and Culture. Following examination of various theoretical and methodological approaches to the analysis of the contexts in which mass communication occurs, students will prepare a case study of a substantial media campaign involving representations of national identity.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CMN830 SEMINAR IN COMMUNICATION

A series of seminars comprising postgraduate students, teaching staff, and variously, visiting scholars and practitioners, for the purpose of sharing knowledge of human communication across the range of perspectives, theories, research and applications. It allows students to pursue, review and compare their own personal interests and readings.

**Credit Points:** 12

### ■ CMN831 INDIVIDUAL RESEARCH

Permits students to conduct independent research in an area not covered by a substantive subject in their program. It is an opportunity to study an area of personal interest or use it as a pilot study for a thesis or project.

**Credit Points:** 12

### ■ CMN832 RESEARCH COLLOQUIUM

Consolidates research knowledge and skills, refines the research strategy for the student's thesis project

and assists with the planning and writing of the thesis report. Further material on research methods and procedures will be covered as necessary for students to undertake their thesis research.

**Prerequisite:** CMN409 or CMN831

**Co-requisite:** IFN001

**Credit Points:** 8      **Contact Hours:** 2 per week

#### ■ CMN910 AND CMN911 DISSERTATION

Taken in conjunction with, or subsequent to, a subject in the CMN800-899 series; normally a 10,000 word investigation of a communication concept using secondary research relevant to that subject.

**Prerequisites:** CMN710, CMN711, CMN720

**Credit Points:** 24 (each)

#### ■ CMN950 THESIS

Students may complete a thesis or a project. A thesis is a scholarly work which provides an opportunity to combine an appropriate theory or perspective, and appropriate research methodology to examine a significant communication problem or issue. Main text will not normally exceed 20,000 words. A project is an approved program of substantive work leading to a report, communication program, printed or audio-visual production, disc or some other product in which theories of communication are applied to some problem or issue.

**Credit Points:** 24 per semester

#### ■ CMP007 COMMUNICATION CONCEPTS

Prepares students in the foundation theories and perspectives of human communication, and in the application to modern professional practice, in order to proceed to advanced theoretical study.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ CMP110 JOURNALISTIC WRITING

This is a news writing and reporting subject designed for Graduate Diploma students to learn to think like journalists; to evaluate events for their potential news value; to interview and perform other reporting tasks and to write news stories. News values; reporting techniques; and journalistic writing; style and convention.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ CMP125 ORGANISATIONAL COMMUNICATION

Focuses on how people relate with each other in modern organisational settings, from small businesses to multinational organisations in the public and private sector. It has a problem-solving, interdisciplinary approach to communication up, down and across the organisation, among divisions and work units, among different professional and vocational specialties and within work teams. It is designed to help students prepare for internships and other work experience, as well as eventual professional employment.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ CMP352 FUNDRAISING PRINCIPLES

This subject is designed to cover the fundamentals of fundraising. It starts with the preparation of the case statement, introduces planning methods, and then moves through the various techniques of fundraising. Introductory segments on public relations, advertising, marketing and management also form part of this subject. Major topics include philosophy of fundraising, its role in society, budget, fundraising, major gift and capital campaigns, planned giving, researching and establishing prospect bases, procedures of solicitation, team building of boards and volunteers, role of foundations.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ CMP401 COMMUNICATION THEORY 1

Examination of the two of the main approaches to the study of communication theory – behavioral theory based on empirical research and systems interactive theory. Topics include the process and effects of mass communication; role of the media in society; theories of violence in the media; systems thinking; theories of human interaction and involvement network theory and analysis.

**Credit Point:** 12      **Contact Hours:** 3 per week

#### ■ CMP402 COMMUNICATION THEORY 2

The subject builds on the cultural studies theory that students have learned in three subjects with cultural studies components in the undergraduate degree by teaching advanced cultural studies (10 weeks) and also provides an understanding of advanced rhetoric (3 weeks). It also leads into the cultural studies strand of the masters degree. Theories examined will include advanced semiotics, structuralism, discourse analysis and rhetoric. Applications will largely be to film and television. Readings will be from theorists such as Stuart Hall Saussure, Eco, Wollacott and Hawkes. Survey of classical rhetoric and application of contemporary rhetoric.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ CMP403 COMMUNICATION RESEARCH METHODOLOGIES

This subject provides a foundation for understanding the empirical research studies students will read in the honours degree and for conducting empirical research for masters and doctoral theses should they choose to undertake graduate studies. Theory and research – developing research models and hypotheses, review of basic research principles – measurement issues, operationalising concepts, validity and reliability, sampling, questionnaire design, codebook, univariate statistics, simple cross-tabulations, experimental designs, tests of significance and measures of association; statistical analysis – multivariate techniques (including table elaboration, multiple regression, analysis of variance, path analysis, factor analysis); evaluation research, historical and comparative research, ethical issues in research, exercises in scale construction; using SPSS-x for analysis of survey and experimental results.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ CMP404 ADVERTISING SEMINAR

The major topics in advertising and promotion management; the questions of purpose, planning, profit contribution and selective communication strategies as they apply to audience and market segmentation; the consistent relationship of the promotional component to the advertising component and how these two communication functions need to be integrated for prime efficiency. Research methods and media planning will be considered against the basic thrust of this binary communication model.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ CMP405 JOURNALISM SEMINAR

The subject provides a professional focus in the Honours / Masters Qualifying Year through the exploration of theories, methodologies, models and topics appropriate for individual academic research projects in journalism. Students do literature reviews in preparation for dissertations and theses. Topics include five concepts of the press; the new world information order; the social contract in Australia; empirical research in journalism; the press and

governmental processes; the press and public opinion; legal and ethical issues in journalism.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CMP406 PUBLIC RELATIONS SEMINAR**

To provide honours students with a focus on research within the public relations field. Students will examine theories and methodologies that have been applied to public relations and develop an understanding and direction for their honours dissertation. The subject will examine the function and practice of public relations. Practitioners will be invited to present issues which are relevant to research interests. Australian and overseas studies in public relations and related research will be drawn together to develop paths appropriate to student dissertations. Areas of study would include: Organisational Communication, Community Relations, Law, Journalism/Media, Advertising/PR/Marketing mix, Ethics/Persuasion.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CMP407 COMMUNICATION POLICY ENVIRONMENT**

The public policy environment is associated with all aspects of communication practice and with all communication industries; social, legal, political and technical environment in Australia and neighbouring countries; policy structures and processes; current issues; the participating and critical views.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CMP408 COMMUNICATION TECHNOLOGIES & SOCIETY**

The history of technology; technological determinism; technological assessment; social impacts; new technologies – digital, microprocessors, fibre and satellites; convergence new applications – ISDN, HDTV, electronic publishing, computer-supported – cooperative work.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CMP409 DISSERTATION**

This subject is the culmination of the honours degree in that students apply the theory and research material covered in earlier subjects to explore in some depth an applied or theoretical topic in the field of communication. The dissertation will be based on information from secondary sources and will consist of a written report of approximately 10,000 words in length.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CMP421 NATIONAL MEDIA INSTITUTIONS**

The aim of this course is to introduce students to the major media institutions within Australia. The organisation of the subject matter falls into two main categories. Industry development and structure: this includes ownership of radio, television, newspapers, and advertising agencies; networking; government control and regulation; intra-industry organisations such as FACTS and the unions, technological developments, future changes in technology. Industry practices: these are highly specialised, and some use will be made of media professionals. Topics covered could include the presentation of news, the difference between radio and television advertising, TV programming schedules, radio's response to FM and V, the impact of satellites. Also important here are the roles played by the interaction between an industry and its audiences, audience research and ratings.

**Prerequisite:** CMB161

**Credit Points:** 12    **Contact Hour:** 3 per week

#### ■ **CMP500 ADVANCED COMMUNICATION SEMINAR**

This subject provides a professional focus through the exploration of theories and methodologies appropriate for individual academic research projects in advertising, journalism or public relations. Students do work that is a preparation for their dissertation.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CMP562 ADVANCED TEXT ANALYSIS**

This unit focuses on the products of the media, particularly film and television. The aim of the course is to enable students to better understand the nature of film and television as forms of communication. It uses the general range of cultural studies approaches: semiotics, structuralism, psychoanalytic theory, linguistics, film theory, and narrative theory. It examines media productions as 'texts', subjecting them to close analysis in order to read from them possible meanings for their audiences. The aim is for this methodology to complement more empirical approaches undertaken elsewhere in the course. Audiences, in particular, become key concepts for analysis. Unlike other approaches to the audience, this subject infers audiences from text analysis as well as talking about audiences as products of the particular medium of communication under analysis.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CMP590 FUNDRAISING CAMPAIGNS**

Practical experience in planning and implementing a fundraising campaign; planning a complete fundraising program; defining relevant constituencies and pinpointing appropriate vehicles for linking to these target markets; budgeting and managing campaign elements; working successfully with Boards and volunteers where appropriate; and evaluating fundraising efforts. Students will undertake a practical group project in the form of a small scale fundraising program. Major topics covered in the supporting lectures include: strategic planning, advanced management, financial issues, ethics and evaluation techniques.

**Prerequisite:** CMP352

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ **CSA165 COMPUTING**

The BASIC language; computer utilisation and organisation; problem solving; analysis of numerical and non-numerical problems; a brief introduction to FORTRAN and the differences between it and BASIC.

**Credit Points:** 7    **Contact Hours:** 3 per week

#### ■ **CSA259 INTRODUCTION TO COMPUTING**

A broad overview of the many facets of computing ranging from the impact of computers on society through to the details involved in data base organisation and the interrelationship between these facts. The emphasis of the course is on demystifying computers; the student will gain an understanding of the abilities of computers and, in particular, their role in health science.

**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ **CSB100 INTRODUCTION TO COMPUTER SCIENCE**

Establishes a basis for the major computing topics to be covered in later subjects; provides students with a disciplined and structured approach to algorithm design, and introduces a range of problem-solving methods and a variety of programming languages

which can be used to process information in a computer.

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB101 COMPUTER SYSTEMS I

The physical organisation of a computer system: the control and flow of information within the system, the representation of data in a computer system, and the design of elementary digital electronic circuits. Topics covered include Boolean algebra; state concepts; data representation; processor organisation; memory organisation; input/output devices; machine language; and assembly language.

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB110 PROGRAMMING PRINCIPLES

Extending material introduced in CSB100; structured program design techniques; advanced algorithms and methods of proving program correctness.

**Prerequisite:** CSB100

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB155 INTRODUCTION TO COMPUTING

The computer as a processor of information; an overview of computers, computer organisation, systems software, programs and the range of programming languages; the design of algorithms using structured techniques and stepwise refinement; implementation and execution of such algorithms using PASCAL.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ CSB181 INTRODUCTION TO COMPUTER SCIENCE

Provides a disciplined and structured approach to algorithm design and problem-solving methods; introduces a variety of programming languages which can be used to process information in a computer. On completion of the subject, students should be able to solve a variety of problems in different application areas.

**Credit Points:** 12      **Contact Hours:** 3 per week

### ■ CSB191 INTRODUCTION TO COMPUTING

Introduction to technical computer programming; teaching programming techniques for the writing of correct and efficient programs for limited, but typical engineering problems; using structured programming techniques to write, modify and enhance program applications on selected computer systems using the PASCAL programming language.

**Co-requisites:** MAB193, CEB184

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ CSB200 FOUNDATIONS OF COMPUTING I

The study of abstraction: data abstraction as a technique for dealing with complex data interrelationships, and procedural abstraction as a way of expressing complex operations on such structures; it focuses on the concept of the abstract data type (ADT) and introduces a number of important examples of ADTs and associated algorithms; also includes topics such as the analysis of algorithmic complexity, and proofs of correctness.

**Prerequisite:** CSB110

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB201 COMPUTER SYSTEMS II

Organisation of simple computer systems, and the way in which hardware provides the basic facilities for the machine; techniques involved in the programming of input-output operations, and the interrupt

structure which underlies operating system organisation in uniprocessor systems.

**Prerequisite:** CSB101

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB210 FOUNDATIONS OF COMPUTING II

Analysis of algorithms, the various styles of programming language and the abstractions which they support; languages with notable features designed for special computer classes of problems; searching and sorting algorithms; recursion and iteration; algorithms; and space and time requirements.

**Prerequisite:** CSB200

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB212 LANGUAGES & LANGUAGE PROCESSING

Theory and practice of language processing; the design and recognition of small languages for command processors and other interactive programs; and advanced data structures and algorithm design.

**Prerequisite:** CSB200

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB213 SCIENTIFIC APPLICATIONS

Provides students a thorough knowledge of FORTRAN and C, and teaches the solving of advanced scientific (eg, mathematical and engineering) problems.

**Prerequisite:** CSB110

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB259 LABORATORY COMPUTING I

Computer organisation; hardware, software; computer-programming including BASIC; data organisation, information storage and retrieval; computer systems including hospital and clinical systems; and social implications.

**Credit Points:** 6      **Contact Hours:** 2 per week

### ■ CSB262 COMPUTING

Computer utilisation; computer organisation; programming in BASIC; problem solving; analysis of numerical and non-numerical problems; introduction to FORTRAN.

**Credit Points:** 6      **Contact Hours:** 2 per week

### ■ CSB280 PROGRAMMING PRINCIPLES

Continuation of the material introduced in CSB155; develops structured program design techniques, and introduces advanced algorithms and methods of proving program correctness.

**Prerequisite:** CSB155

**Credit Points:** 12      **Contact Hours:** 4 per week

### ■ CSB281 COMPUTER SYSTEMS I

Physical organisation of, the control and flow of information in, and the representation of data in, a computer system; topics covered are: Boolean algebra, state concepts, data representation, processor organisation, memory organisation, input/output devices, machine language, and assembly language.

**Credit Points:** 12      **Contact Hours:** 4 per week

### ■ CSB282 COMPUTER SYSTEMS II

Organisation of simple computer systems, and the way in which the hardware provides the basic facilities for the machine; techniques involved in the programming of input-output operations; and the interrupt structure which underlies operating system organisation in uniprocessor systems.

**Prerequisite:** CSB281

**Credit Points:** 12      **Contact Hours:** 4 per week

### ■ CSB283 SCIENTIFIC APPLICATIONS

Provides a thorough knowledge of FORTRAN, and teaches the solving of advanced scientific (eg, mathematical and engineering) problems; FORTRAN programming to an advanced level including aspects of portability arising from differences in standards and compiler implementation; and mathematical software.

**Prerequisite:** CSB155

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB290 FOUNDATIONS OF COMPUTING I

Data abstraction as a technique for dealing with complex data interrelationships, and procedural abstraction as a means of expressing complex operations on such structures; concept of the abstract data type (ADT); important examples of ADTs and associated algorithms; analysis of algorithmic complexity; and proofs of correctness.

**Prerequisite:** CSB280

**Credit Points:** 12      **Contact Hours:** 4 per week

### ■ CSB291 INTRODUCTION TO FORTRAN

Mainframe and industry standard micro-based systems, applying the programming techniques acquired in CSB191 to the FORTRAN programming language.

**Prerequisite:** CSB191

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ CSB292 FOUNDATIONS OF COMPUTING II

Analysis of algorithms; the various programming languages styles; and the abstractions which they support; languages with notable features designed for special computer classes of problems; searching and sorting algorithms; recursion and iteration; algorithms; and space and time requirements.

**Prerequisite:** CSB280

**Credit Points:** 12      **Contact Hours:** 4 per week

### ■ CSB294 COMPUTER PROGRAMMING

An introduction to algorithms, programs and computers; basic programming; program structure; programming and computing systems; debugging and verification of programs; data presentation; special programming topics.

**Co-requisite:** SVB121

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ CSB301 OPERATING SYSTEMS

Structure of operating systems and real-time software; process and resource management functions of such software and its realisation in terms of a hierarchy of abstract machines, each of which depends on the set of facilities provided by the abstract machine immediately below it in the hierarchy; considerable emphasis on practical work.

**Prerequisites:** CSB200, CSB201 OR CSB282, CSB290

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB302 SOFTWARE ENGINEERING

Techniques essential to the production of software systems which are reliable, within budget, fully documented, and well tailored to their uses; practical work to apply these techniques in the organisation; management and development of software projects with emphasis on modern programming languages supporting software engineering (eg, Ada, Modula-2).

**Prerequisite:** CSB200 or CSB290

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB311 ADVANCED COMPUTER ARCHITECTURES

Organisation of contemporary computer systems, and the variety of different structures which may be used for specific tasks; theory and case studies based on existing machines of practical or theoretical importance.

**Prerequisite:** CSB201 or CSB282

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB319 SPECIAL STUDIES

### ■ CSB320 SPECIAL STUDIES

Covers aspects of current scientific interest; and makes allowances for significant developments or emphasis in computing not included in the remainder of the course program. Check School noticeboards for further details.

**Prerequisite:** Completion of at least half of the normal program of the Bachelor of Applied Science (Computing) OR completion of at least half of the Graduate Diploma in Computing Science OR 60 points in computing subjects in the Science major program.

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB321 GRAPHICS

The nature of computer graphics hardware and software; thorough grounding in the design and implementation of computer graphics software so as to enable students to implement graphic systems in their particular application areas.

**Prerequisites:** CSB213 or CSP213 or CSB283

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB323 DATA SECURITY

Combines the subjects of complex computer systems and data communications; builds upon the data communications and computer systems material; provides students with an insight into an area of rapidly expanding career opportunities.

**Prerequisite:** INB270 or INP270 or INB285

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB324 ARTIFICIAL INTELLIGENCE

Artificial intelligence in the computing industry; aspects of artificial intelligence which have given rise to commercial products; background research efforts which promise to have major impact on the use of computers in the near future.

**Prerequisite:** CSB210 or CSP214 or CSB292

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB325 EXPERT SYSTEMS

Expert systems in the AI context; knowledge representation techniques; inference methods; uncertainty; the expert system development process; case studies of existing expert systems; the human/expert system interface; limitations and social implications of expert systems; current international knowledge-based system programs and future perspectives.

**Prerequisite/Co-requisite:** CSB210 or CSP214 or CSB292

**Credit Points:** 9      **Contact Hours:** 3 per week

### ■ CSB326 SYSTEMS PROGRAMMING

UNIX operating system at the user and systems programming levels: a study of shell programming and of the UNIX/C programming environment; a detailed examination of UNIX process and device management, UNIX security and UNIX administration; and some time is spent relating the parallelism and inter-process communication features of UNIX/C to similar features in the languages Modula-2 and Ada.

**Prerequisite:** CSB301 or CSP213

**Credit Points:** 9      **Contact Hours:** 3 per week

■ **CSB350 MISCELLANEOUS STUDIES**

Selected theoretical and/or practical work to complement and/or supplement other subjects being studied.  
Credit Points: 3      Contact Hours: 1 per week

■ **CSB482 PROGRAMMING LANGUAGES & STRUCTURES**

The syntax of programming languages; data structures, including lists, graphs and trees; data abstraction and the use of procedures.  
Prerequisite: CSB280  
Credit Points: 9      Contact Hours: 3 per week

■ **CSB490 SOFTWARE ENGINEERING**

The structure and syntax of well-designed programs as well as programming techniques for use in electronics, communications and electrical engineering, using examples from the C and UNIX.  
Prerequisite: CSB190 [R]  
Credit Points: 6      Contact Hours: 3 per week

■ **CSB960 PROJECT WORK**

Students will undertake a substantial project which is relevant to the needs of industry. Each project is carried out under the supervision of a staff member whose interests lie in the field of the project.  
Credit Points: 12      Contact Hours: 4 per week

■ **CSB970 PROJECT WORK**

Students, either individually or in small groups, undertake a substantial project relevant to the needs of industry and designed to provide insight into industrial requirements. Each project is carried out under the supervision of a staff member whose interests lie in the field of the project. Before work commences on the project, student(s) and supervisor must agree on the topic of the project and the scope of the work to be attempted.  
Prerequisites: Completion of at least two-thirds of the Bachelor of Applied Science (Computing).  
Credit Points: 12      Contact Hours: 4 per week

■ **CSN100 THEORY OF COMPUTING I**

Formal properties of programs; the view of programs as predicate transformers is developed as a method of constructing provably correct algorithms; methods of software development based on formal specifications.  
Prerequisite: CSB210 (or equivalent)  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN110 COMPILER CONSTRUCTION**

The organisation and structure of language translators and compilers. Some emphasis is placed on those parts of these software tools which are amenable to formal analysis. The material extends undergraduate studies in algorithm design and in the semantics of formal languages. Special attention is paid to techniques which are applicable in the implementation of special purpose languages such as database query languages and production systems.  
Prerequisite: CSP212 (or equivalent)  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN200 COMPUTER SECURITY**

Major topics in computer and data network-related security with the potential, if required, for specialisation in this growing area; development of a security plan; risk analysis; access control; cryptography, network encryption; key management; database security.  
Prerequisite: An appropriate and recognised degree according to postgraduate requirements of QUT or

equivalent qualifications and/or experience as determined by the Faculty.  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN210 DISTRIBUTED SYSTEMS**

Provides a thorough understanding of the rationale for distributed computer systems, their domain of application and the principles of distributed control underlying their construction. A number of representative systems will be examined throughout the subject.  
Prerequisites: CSB301 (or equivalent) and CSB311 (or equivalent)  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN220 ARTIFICIAL INTELLIGENCE**

Artificial intelligence in the computing industry; aspects of artificial intelligence which have given rise to commercial products; background research efforts which promise to have major impact on the use of computers in the near future.  
Prerequisite: CSB324 or equivalent  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN300 THEORY OF COMPUTING II**

Formal language theory; investigation of various types of simple automata and pushdown automata and their relation to context free languages; discussion of some aspects of computational complexity.  
Prerequisite: CSP212 or equivalent  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN310 PARALLEL PROCESSING**

The modelling of parallel systems and the design methodologies used in their construction; examination of a range of applicable software systems and methodologies; the formal analysis of concurrent systems is based on the theory of Communicating Sequential Processes.  
Prerequisite: CSN210  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN320 FORMAL SECURE SYSTEMS**

The formal mechanisms required in the design of secure systems; study of formal models of secure systems, eg, Bell La Padula model; the relationship between formal methods of computer science and the design of formally verifiable computer systems.  
Prerequisites: CSN100, CSN200  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN330 NATURAL LANGUAGE PROCESSING**

This subject treats an important specialisation within the field of artificial intelligence and its applications.  
Prerequisite: An introductory subject in natural language processing  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN340 COMPILER LABORATORY**

In-depth treatment of topics of contemporary translator construction in a practical setting; code generation methods for advanced computer architectures.  
Prerequisite: CSN110  
Credit Points: 12      Contact Hours: 3 per week

■ **CSN350 ADVANCED GRAPHICS I**

Advanced level extension of the material in the undergraduate curriculum; the use of facilities provided by existing graphics systems.  
Prerequisite: CSB321 (or equivalent)  
Credit Points: 12      Contact Hours: 3 per week

### ■ CSN360 ADVANCED GRAPHICS II

Specialised areas of computer graphics. Topics will be agreed between staff and students.

**Prerequisite:** CSN350

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CSN370 SPECIAL TOPIC

Aspects of scientific interest at that time. See School noticeboards for further information.

**Prerequisite:** To be advised

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CSP112 SOFTWARE PRINCIPLES

Study and use of efficient data structures; languages illustrating the variety of features found in computer programming languages; structured program design techniques; advanced algorithms and methods of providing program correctness.

**Prerequisite:** Completion of a qualifying PASCAL programming subject prior to entry to the course

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CSP211 SYSTEMS ARCHITECTURE & OPERATING SYSTEMS

Computer organisation; the nature and role of system software and the nature of microcomputers and computer graphics; computer systems architecture; micro-operations, instruction formats; microprocessor types; machine language; system software including operating systems features, assemblers, compilers, loaders.

**Prerequisites:** CSP112

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CSP212 LANGUAGES & LANGUAGE PROCESSING

Theory and practice of language processing; the design and recognition of small languages for command processors and other interactive programs; advanced data structures and algorithm design.

**Prerequisite:** CSP112

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CSP213 SCIENTIFIC APPLICATIONS

Provides a thorough knowledge of FORTRAN and C, and teaches the solving of advanced scientific (eg, mathematical and engineering) problems.

**Prerequisite:** CSP112

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CSP214 PROGRAMMING LANGUAGES & STRUCTURES

Continues the material introduced in the prerequisite subjects; the analysis of algorithms; the various styles of programming languages and the abstractions which they support.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CSP960 PROJECT WORK

Students, either individually or in small groups, undertake a substantial project relevant to the needs of industry and designed to give insight into industrial requirements. Each project is carried out under the supervision of a staff member whose interests lie in the field of the project. Before work commences on the project, student(s) and supervisor must agree on the topic of the project and the scope of the work to be attempted.

**Prerequisites:** Successful completion of all other core subjects of the Graduate Diploma in Computing Science

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CSP970 PROJECT WORK A

Students, either individually or in small groups, undertake a substantial project relevant to the needs of industry and designed to give insight into industrial requirements. Each project is carried out under the supervision of a staff member whose interests lie in the field of the project. Before work commences on the project, student(s) and supervisor must agree on the topic of the project and the scope of the work to be attempted.

**Prerequisites:** Completion of at least half of the Graduate Diploma in Computing Science

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CST390 COMPUTER PROGRAMMING I

A first course on computers, including brief introductions to operating systems and utilities; design of algorithms and their implementation in a structural language.

**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EEB101 CIRCUITS & MEASUREMENTS

The concepts of voltage; current and electrical impedance; simple electrical circuits (R, L and C) and the measurement of electrical quantities using the oscilloscope, meters and bridges; introduction to AC theory; errors in measurement; traceability of measurement.

**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EEB202 ELECTROMAGNETICS

Introduction to engineering applications of current flow, electrostatic and electromagnetic fields; ideal and loosely coupled transformers – instrument and high frequency transformers; electrical power supply and safety; introduction to all types of rotating electrical machines.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ EEB203 CIRCUIT ANALYSIS

Network theorems, mesh and nodal analysis, complex power; introduction to the concept of steady-state response; introduction to transient response of RL, RC and RCL circuits with step forcing functions; mutual inductance, three phase systems.

**Prerequisite:** EEB101[R]

**Credit Points:** 5    **Contact Hours:** 3 per week

### ■ EEB206 INDUSTRIAL EXPERIENCE I

Students should engage in at least five weeks' employment, approved by the Head of School; for the employment to be recognised, students must submit an industrial experience record form which has been completed by both the student and the employer.

**Contact Hours:** 3 weeks

### ■ EEB209 ELECTRICAL ENGINEERING IIM

The basic principles of microprocessors, microprocessor systems, electrical machines, power control and tariffs.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ EEB272 DIGITAL PRINCIPLES

Binary variables; number systems; Boolean algebra; minimisation of logic functions; logic gates; analysis and synthesis of combinational logic functions.

**Credit Points:** 3    **Contact Hours:** 1.5 per week

### ■ EEB273 MICROCOMPUTERS IN ENGINEERING

Introduction to the physical, virtual and application levels of a microcomputer system. I/O devices and interfacing; operating systems; programming and

software packages; transducers and peripheral devices; hardware and software integration.  
**Credit Points:** 4    **Contact Hours:** 2 per week

■ **EEB302 ELECTROTECHNOLOGY**

Magnetic circuits; magnetic materials; transformers and electro-magnetic devices; heating and cooling of electrical equipment and plant, protection; power distribution, three phase, balanced and unbalanced loads, power and measurement.  
**Prerequisites:** EEB202 [R], EEB203 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB303 NETWORK THEORY I**

The basic theory of network analysis covering Laplace and Fourier analysis; four terminal network theory, frequency behaviour and transient response of networks.  
**Prerequisites:** EEB203 [R], MAB193 [R]  
**Co-requisite:** MAB493  
**Credit Points:** 7    **Contact Hours:** 3 per week

■ **EEB361 SIGNALS & SYSTEMS**

A detailed study of Fourier theory applied to signals; an overview of systems and their representation, response of systems to signals.  
**Prerequisites:** EEB203 [R], MAB193 [R]  
**Co-requisite:** MAB493  
**Credit Points:** 7    **Contact Hours:** 3 per week

■ **EEB371 ELECTRONIC DEVICES**

Theory of operation and characteristics of semiconductor devices including various types of diodes, the bipolar junction transistor and the field effect transistor; development and practical applications of small signal models.  
**Prerequisite:** EEB101 [R]  
**Credit Points:** 5    **Contact Hours:** 3 per week

■ **EEB372 SEQUENTIAL LOGIC**

Flip-flops, counters; shift registers; asynchronous and synchronous sequential machines; realisation of sequential machines using PROMs, GALs etc.  
**Prerequisite:** EEB272[R]  
**Co-requisite:** EEB371  
**Credit Points:** 7    **Contact Hours:** 3 per week

■ **EEB400 ELECTRICAL POWER SYSTEMS**

Introduction to electrical power systems calculations; the technology of overhead lines and cables; elementary electrical engineering economics.  
**Prerequisite:** EEB302 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB401 NETWORK THEORY II**

General transform theory; stability and realisability of networks; the synthesis of networks and filters; an introduction to non-linear analysis techniques for simple networks.  
**Prerequisite:** EEB303 [R] **Co-requisite:** EEB361  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB404 ELECTRICAL MACHINES**

The fundamentals of torque production in rotating machines; the theory of operation and characteristics of most commonly used machines are then derived from common foundations.  
**Prerequisite:** EEB302 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB406 INDUSTRIAL EXPERIENCE II**

Students should engage in at least five weeks' employment, approved by the Head of School; for the employment to be recognised, students must submit

an industrial experience record form which has been completed by both the student and the employer.  
**Contact Hours:** 5 weeks

■ **EEB430 ENGINEERING FIELDS**

Electrostatic and magnetic fields; Maxwell's equations and electromagnetic waves.  
**Prerequisites:** MAB193 [R], PHB132 [R], PHB232 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB471 ELECTRONICS**

A detailed study of transistor circuits and their applications; circuits, fundamental to the understanding of integrated circuit amplifiers, are studied in detail.  
**Prerequisite:** EEB371 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

■ **EEB472 MICROPROCESSORS**

Microprocessor architecture; instruction sets, assembly language programming; memories, input/output devices and interrupt systems.  
**Prerequisite:** EEB372 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB473 INTEGRATED CIRCUITS**

The fundamental theory of operation of integrated circuits and the generalised concepts of feedback in electronic circuits; various operational amplifier configurations; oscillators and timing circuits.  
**Prerequisite:** EEB471 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB520 CONTROL ENGINEERING**

Survey of measurement transducers, amplifiers, signal processors and final control elements; selection of system components; application of microcomputers to closed-loop control; examples of closed-loop systems; system transfer function and time domain performance.  
**Prerequisite:** EEB302 [R] **Co-requisite:** EEB401  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB531 ELECTRICAL POWER TRANSMISSION**

Equivalent circuits of power equipment; the pu method; power flows in networks, solution by Gauss Siedel; sequence components, fault analysis by sequence methods; power system harmonics; transients due to switching. Transmission plant parameters.  
**Prerequisite:** EEB400 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB553 ELECTRICAL POWER EQUIPMENT**

Ratings of equipment; insulation, distribution switchgear and protection; a.c. generators; power measurement and metering; power conversion.  
**Prerequisite:** EEB400 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB561 ANALOGUE COMMUNICATIONS**

Analogue modulations and demodulations hardware, including discrete and integrated electronic methods. AM-SSB-FM modulation and demodulation methods. Heterodyne receivers – image and spurious responses of double and single conversion receivers. Distributed networks – radio and transmission-line links effects and modulated signals.  
**Prerequisites:** EEB361 [R], EEB303 [R]  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **EEB562 TRANSMISSION & PROPAGATION**

Transmission line theory, terminated line, Smith Circle Chart usage and lattice diagram. Propagation

modes in wave guides and optical fibres. Free-space propagation, ionospheric and ground wave propagation. Basic antenna parameters.

**Prerequisites:** EEB361 [R], EEB430 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB573 INDUSTRIAL ELECTRONICS

The study of a wide range of modern electronic devices and circuits with particular emphasis to industrial application.

**Prerequisite:** EEB471 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB587 DESIGN I

General principles of electronic circuit and electrical equipment design and the realisation of typical electronic circuits and equipment.

**Prerequisites:** EEB401 [R], EEB361 [R], EEB400 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB591 SYSTEMS PROGRAMMING LANGUAGES

The syntax and facilities of the C programming language are studied and applied to systems programming.

**Prerequisite:** EEB472 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB600 STARTING A TECHNOLOGY BASED BUSINESS

Introduction to business structures; forming a business team; marketing and market research; financing new high risk business; selling yourself with business plans and presentation skills; product development; manufacturing and distribution, inventions; useful people to talk to.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ EEB601 REALTIME OPERATING SYSTEMS

Theory and practical aspects of the use of microprocessors and computers as components in time critical engineering applications; methods of guaranteeing computer response within a specifiable time; applications related to embedded systems and some business applications; design of new systems and study of existing systems.

**Prerequisite:** EEB591 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB602 SIGNAL PROCESSING

Sampling and reconstruction, z-transforms description of discrete-time signals; digital filtering – FIR, IIR; discrete Fourier transform and relationship with z-plane; leakage effects and window functions; discrete Hilbert transform relationships.

**Prerequisites:** EEB361 [R], EEB401 [R], MAB893 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB606 INDUSTRIAL EXPERIENCE III

Students should engage in at least five weeks' employment, approved by the Head of School; for the employment to be recognised, students must submit an industrial experience record form which has been completed by both the student and the employer.

**Contact Hours:** 5 weeks

#### ■ EEB620 CONTROL SYSTEMS ANALYSIS

Time-domain, frequency-domain, and complex-domain analysis of systems; closed-loop control system performance and system compensation; digi-

tal computer control of closed-loop systems; analogue and digital simulation of systems.

**Prerequisite:** EEB520 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB621 ADVANCED CONTROL SYSTEMS

System performance specification format; selection of control system elements; design of linear system compensation using analogue and digital techniques; techniques for dealing with system non-linearities and non-linear system analysis and design; examples of typical control systems.

**Prerequisite:** EEB620 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB652 POWER ELECTRONICS

Review of modern switching components, characteristics and device control methods; principles of operation of controlled rectifiers and chopper techniques for d.c. motor control; quasisquare and PWM invertors for induction and synchronous motor control; static switches for induction motor soft start control and static VAR compensation; induction motor drive and d.c. motor drive control strategies; harmonic analysis and waveform modelling analysis.

**Prerequisite:** EEB573 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ EEB661 INFORMATION THEORY & NOISE

Information in discrete and continuous channels, coding efficiency, statistical description of noise, effects of transformations on signal parameters, error rates, effect of noise in information transfer.

**Prerequisites:** MAB493 [R], EEB361

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB662 MICROWAVE & ANTENNA TECHNOLOGY

Propagation in rectangular and circular guides; guide components; microwave active devices; high frequency techniques; various types of antennas; antenna arrays; computer-aided antenna design; antenna measurements.

**Prerequisite:** EEB562 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ EEB741 POWER SYSTEMS ANALYSIS

Economic operation of power systems, system stability, power system control; HVDC power transmission; advanced harmonic analysis; surge phenomena in machine and transmission lines.

**Prerequisite:** EEB531 [R]

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ EEB742 POWER SYSTEMS ENGINEERING

Substation engineering; protection of plant; substation earthing; system overvoltages; insulation coordination; HV switchgear.

**Prerequisite:** EEB531 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ EEB761 STATISTICAL COMMUNICATIONS

PCM quantisation noise in uniform and non-uniform quantisation; effects of channel noise on S/N; delta modulation and delta-sigma modulations; threshold extensions, spread spectrum, matched filtering and correlation.

**Prerequisite:** EEB661 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **EEB788 DESIGN II**

Design principles and practice of more complex electronic circuits and electrical equipment and systems used in industry.

**Prerequisites:** EEB587 [R], EEB561 [R], EEB520 [R], EEB400 [R]

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **EEB789 PROJECT**

An individual engineering project on a specified subject. The work requires design, computing, construction, experimental work and practical testing with the submission of appropriate reports. The subject is selected from any area which involves electronics, computing, control, communication and educational power and may include programming, circuit and system design.

**Co-requisite:** This subject must be done in the final year of course.

**Credit Points:** 15 per semester

**Contact Hours:** 6 per week

■ **EEB820 ENGINEERING MANAGEMENT**

Economic analysis of electrical engineering projects; present worth and annual cost calculations; assessment of tenders; project management, critical paths and linear programming methods; contract administration; engineering case studies.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **EEB821 PRODUCTION TECHNOLOGY & QUALITY**

The methodology of electronic system design; the range of production processes in electronic manufacture; the quality control procedures required in electronic manufacturing at both prototype and full production stages.

**Prerequisites:** EEB587 [R], EEB788 [R]

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **EEB887 DESIGN III**

Detailed design and realisation of typical electronic and power based sub-systems used in all areas of electronic systems and power systems engineering.

**Prerequisites:** EEB788 [R] EEB602 [R], EEB620 [R], EEB472 [R], EEB400 [R], EEB971 [R], or EEB531 [R]

**Co-requisites:** EEB968 or EEB742

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **EEB888 DESIGN IV**

System design techniques and practice in these techniques on typical electronic systems and power systems, taking into account such factors as realisability, reliability, complexity, economic considerations and optimisation.

**Prerequisite:** EEB887 [R]

**Credit Points:** 10      **Contact Hours:** 3 per week

■ **EEB890 ADVANCED INFORMATION TECHNOLOGY TOPICS**

The content of this subject depends on current technology and availability of suitable specialist lecturers. Subjects could include artificial intelligence, computer graphics, database systems, computer-aided engineering, super computing and parallel processing.

**Prerequisite:** EEB591 [R]

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **EEB901 INDUSTRIAL EXPERIENCE I**

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit

an industrial experience record form which has been completed by both the student and the employer.

**Contact Hours:** 5 weeks

■ **EEB902 INDUSTRIAL EXPERIENCE II**

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both the student and the employer.

**Contact Hours:** 5 weeks

■ **EEB903 INDUSTRIAL EXPERIENCE III**

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both the student and the employer.

**Contact Hours:** 5 weeks

■ **EEB922 COMPUTER CONTROLLED SYSTEMS**

Computer control of typical process control systems; numerical control of machine tools and an introduction to robotics; optimal control and self-adaptive control systems; sequential control systems.

**Prerequisites:** EEB621 [R], EEB620 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **EEB944 POWER STATION ENGINEERING**

The electrical and mechanical plant found in power stations and with associated instrumentation and control equipment.

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **EEB951 HIGH VOLTAGE EQUIPMENT**

Review of modern insulating materials; high voltage test methods and apparatus; characteristics of electrical insulation theories of breakdown in dielectrics; non-destructive testing methods; dielectric loss angle, partial discharge; voltage surge distribution in power equipment; overhead line insulation and lightning.

**Co-requisite:** EEB742

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **EEB954 ELECTRICAL ENERGY UTILISATION**

Power reticulation in building; energy management; fire protection systems; illumination technology; air-conditioning plant; building supervising and control systems, lifts.

**Prerequisite:** EEB553 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **EEB961 COMMUNICATION TECHNIQUES**

Modern communication techniques including switched networks, broadcast, point-to-point systems; microwave and optical links; radio navigation and radar; associated electronic devices.

**Prerequisite:** EEB661 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **EEB962 MICROWAVE SYSTEMS ENGINEERING**

Microwave thermionic and semiconductor devices, amplifier design using scattering parameters; passive microwave devices including non-linear networks and ferrites; array theory and design, microwave antennae.

**Prerequisite:** EEB662 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **EEB967 DIGITAL COMMUNICATIONS**

The theory and applications of digital communications technology. Baseband digital signals; pulse

shaping, signal regeneration, measurement techniques, and the digital coding of analogue signals; such applications as digital radio systems, digital communication technology.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB968 DIGITAL SIGNAL PROCESSING

Adaptive digital filtering and applications, spectral estimation techniques, speech analysis and synthesis; realtime implementation of signal processing systems.

**Prerequisite:** EEB602

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ EEB971 APPLIED ELECTRONICS

Analysis of the characteristics and applications of a variety of integrated devices; emphasis on the errors and quality of design.

**Prerequisite:** EEB573[R]

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ EEB972 INTEGRATED ELECTRONIC TECHNIQUES

Commercially available integrated circuits and their typical applications in industry; design rules, limitations and methods of VLSI fabrication.

**Prerequisite:** EEB573 [R] **Co-requisite:** EEB602 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ EEP101 ALGORITHMS FOR CONTROL & SIGNAL PROCESSING

The application of numerical analysis methods, equation solving and signal processing; the design of digital computer algorithms for the processing of signals and the control of continuous and discrete processes; and the application of optimisation techniques to system control.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP102 UNIX & C FOR ENGINEERING

The C language; use of C for program development; use of C as a substitute for assembly language to produce ROMable code with methods and particular problems; the UNIX operating system and its use as an engineering work station operating system.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP103 COMPUTER HARDWARE & INTERFACING

State-of-the-art digital devices; design and implementation of digital systems; microprocessors and microcontroller systems and interfacing; computer architectures, subsystems and peripherals.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP104 REALTIME OPERATING SYSTEMS

Definition and review of realtime operating systems; detailed examination of the structure of realtime operating system; the development of programming skills, orientated towards realtime applications; programming exercises for realtime applications using assembler and highlevel languages.

**Co-requisite:** EEP102

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP120 NETWORKS & DISTRIBUTED COMPUTING

The ISO OSI model of computer interconnections and common techniques for layers 3 to 7; this includes protocols, software and packages and the computers which support these layers. A lighter treatment of layers 1 and 2 is also included.

**Prerequisites:** EEP103, EEP104

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP121 PARALLEL & SUPER COMPUTING

The latest in vector processing and parallel computing technology; students will have access to parallel computer development systems, and may be required to undertake a small research project.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP122 GRAPHICS & COMPUTER VISION

An introduction to the human visual system and the modelling of digital images. It also provides an introduction to a range of digital image process systems, transforms, image enhancement, image structural operations and pattern recognition.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP123 PROCESS CONTROL & ROBOTICS

A thorough survey of computers as applied to manufacturing, encompassing hardware and software methods and state-of-the-art products; material includes robots, computer numerically controlled machine tools, distributed process control, networks and computers.

**Prerequisite:** EEP101

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP124 DATA COMMUNICATIONS

Characteristics of transmission channels, synchronous and asynchronous modems and interfaces, fibre optic and satellite links, local and wide area networks, encoding and security.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP125 ADVANCED ENGINEERING SOFTWARE TOOLS

Selected numerical techniques and computer software tools available in procedural and non-procedural languages as well as specialised commercial applications packages for the analysis and design of data transmission systems.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ EEP300 RESEARCH PROJECT

A computer engineering research project in the student's chosen field encompassing a literature search, design, hardware construction or writing of software, testing and publication of a thesis.

**Credit Points:** 24 per semester

**Contact Hours:** 168 (total)

#### ■ EET100 ELECTRICAL ENGINEERING COMPUTATIONS

Study of and practice in manipulating complex numbers, vectors, determinants and matrices, statistics, differential equations; Fourier analysis; examples in electrical engineering applications using calculators.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ EET111 ELECTRICAL ENGINEERING I

SI units, d.c. circuits including: parallel and series resistor combinations, temperature coefficient of resistance, and circuit theorems; electrostatics and capacitance; self inductance; transients RL and RC circuits.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ EET211 ELECTRICAL ENGINEERING II

Introduction to alternating quantities; sinusoidally time varying sources; phasor diagrams; RL, RC and RLC series and parallel circuits; resonance, j notation; complex power; application of circuit theorems to a.c. circuits.

**Prerequisite:** EET111 [R]

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ EET270 ELECTRONICS I

An introduction to the fundamentals of electronic devices and transistor circuits; the characterising and application of these devices to basic electronic circuits; applications include: transistor amplifiers including differential and tuned stages, current sources, oscillators and simple fault finding techniques.

**Prerequisites:** EET111 [R], EET100 [R]  
**Co-requisite:** EET211  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET350 ELECTRICAL ENGINEERING III

Magnetic circuits, single phase transformers equivalent circuits, power losses, regulation and efficiency; three phase theory balanced and unbalanced loads, measurement of power; electrical safety earthing, fault levels and protection equipment; electrical machines review of principles of operation and characteristics of a range of a.c. and d.c. machines; costs of electricity tariffs.

**Prerequisite:** EET211 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET420 CONTROL SYSTEMS I

Distinction between open and closed loop, discrete and continuous control; typical nonlinearities; transducers for temperature, pressure, fluid flow rate, level, velocity, position, strain; survey of summation and amplifying techniques for electronics (revision), pneumatic and hydraulic systems; motors, control valves, actuators and brief survey of commercial controllers; the use of negative feedback; improvement in linearity, speed of response etc; survey of hardware employing negative feedback; philosophy of mathematical modelling; introduction to differential equations; laplace transforms and transfer functions; block diagrams; responses in the time domain; introduction to frequency domain analytical techniques.

**Prerequisite:** EET211 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET460 TELECOMMUNICATIONS

The nature of signals; elementary Fourier analysis; the concept of modulation; amplitude and angle modulation; pulse modulation; multiplexing; signal processing and noise; the nature of links; noise and links; mixing and superhet principles; digital and data transmission and fibre optics.

**Prerequisites:** EET100 [R], EET211  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET490 COMPUTER PACKAGES

Use of computer packages such as word processors, spreadsheets, database packages and commonly used engineering packages such as Matlab and Spice hardware interconnection.

**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET500 ELECTRICAL TECHNOLOGY

Introduction to electric motors, generators, transformers and three phase systems.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ EET522 CONTROL SYSTEMS II

Process control system terminology and symbols; chart recorders; sizing of control valves; measurement of mass flowrate, humidity and chemical composition; analogue data transmission standards; three term controllers and other appropriate techniques; examples of process control configurations, such as cascade, ratio and feedforward control; controller tuning; system performance for reference,

noise and load disturbances; accuracy, steady state errors, effect of type number on performance; stability and more advanced frequency domain analysis; machine control systems, such as d.c. motor speed controllers, variable frequency controllers, servosystems, performance of machine control systems.

**Prerequisite:** EET420 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET560 COMMUNICATIONS ENGINEERING I

Advanced signal analysis using Fourier methods; AM generation and detection, the effects of filtering and noise; FM and PM generation and demodulation, effects of noise, FM threshold, SSB methods; phase locked loop principles; radio receiver circuits, double conversion, spurious responses; pulse analogue modulation, PAM, PWM, PPM, circuits and spectra.

**Prerequisites:** EET270 [R], EET460 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET570 ELECTRONICS II

Introduction to integrated circuit amplifiers and their applications; power amplifiers; optoelectronic devices; voltage regulators and a survey of semiconductor switching devices.

**Prerequisite:** EET270 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET590 MICROPROCESSOR SYSTEMS

Assembly language programming and use of microprocessors as electrical engineering hardware; interfacing of microprocessors to instrumentation and external equipment.

**Prerequisites:** CST390, EET676  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET642 ELECTRICAL POWER SYSTEMS I

Single line diagrams; pu systems; transmission line equivalent circuits; fault balanced calculations; power flow calculations; overhead line and underground cable characteristics; power system insulation.

**Prerequisite:** EET350 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET650 ELECTRICAL EQUIPMENT

Three phase transformers, multiwinding, auto; special types of a.c. machines including three phase and single phase induction motors, synchronous machine construction and operation.

**Prerequisite:** EET350 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET676 DIGITAL ELECTRONICS

Introduction to the basic concepts of digital combinational and sequential logic circuits; logic gates, Boolean algebra, minimisation of logic functions, counters, shift registers, address, ADCs, DACs and logic families; code converters and binary arithmetic.

**Co-requisite:** EET270  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET678 APPLIED ELECTRONICS

Introduction to the integrated circuit approach to electronic systems design; further treatment of integrated circuits with practical applications: amplifiers (all the common configurations), oscillators, special purpose circuits such as peak detectors, sample and hold circuits, active filters.

**Prerequisite:** EET570 [R]  
**Credit Points:** 7    **Contact Hours:** 3 per week

### ■ EET690 COMPUTER ORGANISATION

A comparative study of computer architectures and operating systems from microprocessors up to super computers; virtual machines, interpreters, compilers, linkers, loaders, disc operating systems and executive; instruction sets, addressing modes and instruction pre fetch cycles; a survey of memory management techniques such as memory maps, virtual memory, cache memory, and interleaving; exception processing methods such as interrupts, autovectors, bus errors and supervisor states; multi processor systems and computer communications standards, networks and protocols; parallel computing, pipelines, single instruction multiple data and multiple instruction multiple data machines.

Prerequisite: CST390 [R], EET676 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET720 MODERN CONTROL TECHNOLOGY

Onstream analysers; intelligent analytical equipment; sequence control and programmable logic controllers; robot sensors and control systems; computer numerical controlled machines; distributed control systems; sampling theory and algorithm development; communication between intelligent control systems (such as MAP and TOP); adaptive and automatic tuning controllers; advanced testing instruments.

Prerequisite: EET420 [R] Co-requisite: EET522 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET737 TRANSMISSION & PROPAGATION

Transmission lines, study of waves; reflections; matching; using Smith circle and computer-aided techniques; electromagnetic waves in free space and at the boundary between media; basic antenna parameters and properties, waveguide theory and microwave techniques and an introduction to optical fibre technology.

Prerequisite: EET460 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET753 TESTING & COMMISSIONING TECHNIQUES

The philosophy of testing, the concepts of quality assurance and the principles of commissioning; test methods and techniques for various electrical tests; application of test methods and techniques to a range of electrical plant; principles of earthing in a power system; safety procedures.

Prerequisite: EET350 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET760 COMMUNICATIONS ENGINEERING II

Sampling, reconstruction, spectra; quantisation, dynamic range and noise; PCM methods and circuitry, companding; delta modulation; digital transmission, TDM, FDM, modulation methods. Data coding for error correction and data communication protocols.

Prerequisite: EET560 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET790 COMPUTER PROGRAMMING I

Digital computers, their construction and operation, description of machine languages and the various programming languages in common use such as FORTRAN, COBOL, ALGOL; program writing in

FORTRAN and other languages, use of flow charts, debugging, the development of algorithms and preparation of data, to be selected from a range of areas.

Credit Points: 7 Contact Hours: 3 per week

### ■ EET791 COMPUTER PROGRAMMING II

Development of the concepts introduced in CST390 to include the full range of features in this language; an introduction to the features of FORTRAN.

Prerequisite: CST390 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET840 SUBSTATIONS AND PROTECTION SYSTEMS

Insulation coordination principles; substation layout and equipment including circuit breakers; current and voltage transformers and their characteristics; an introduction to sequence components and fault calculations; a description of different types of protection systems and their integration with the power system, especially substations.

Prerequisite: EET642 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET860 COMMUNICATIONS TECHNOLOGY

Broadcast radio and TV, terrestrial and satellite; specialised broadcast systems, eg, police, taxi; point to point radio communications; telemetry; switched systems, circuit and packet switching, exchangers, traffic; use of different frequency ranges, VLF, MF, HF, VHF, UHF and SHF for radio communications; a number of compulsory industrial visits are arranged.

Prerequisites: EET570 [R], EET676 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET870 INDUSTRIAL ELECTRONICS

Electronic devices and circuits associated with industrial control systems; power switching devices and their applications are studied together with electronic measurement systems and their associated transducers.

Prerequisite: EET570 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ EET880 DESIGN

The main concepts of electrical designs; relevant specifications and standards; further work is in the form of design projects in which a written report must be submitted.

Prerequisites: Major subjects in selected modules

Co-requisites: Major modules 1(d) and 2 (d)

Credit Points: 7 Contact Hours: 3 per week

### ■ EET891 ADVANCED COMPUTING TECHNIQUES

Applications of computers and microprocessor systems to data collection supervisory and active control functions; realtime operating systems and software development in both low level languages and appropriate high level language such as C or MODULA 2.

Prerequisite: CST390 [R]

Credit Points: 7 Contact Hours: 3 per week

### ■ ENB103 GENERAL ELECTIVE

Studies previously completed by students in areas of business or humanities may be acceptable as a Group A elective; applications to have such studies accepted as meeting the Group A elective requirements are considered on an individual basis.

Credit Points: 4 Contact Hours: 2 per week

- **ENT100 INDUSTRIAL EMPLOYMENT I**
- **ENT200 INDUSTRIAL EMPLOYMENT II**
- **ENT300 INDUSTRIAL EMPLOYMENT III**
- **ENT400 INDUSTRIAL EMPLOYMENT IV**
- **ENT500 INDUSTRIAL EMPLOYMENT V**
- **ENT600 INDUSTRIAL EMPLOYMENT VI**
- **ENT700 INDUSTRIAL EMPLOYMENT VII**
- **ENT800 INDUSTRIAL EMPLOYMENT VIII**

Students should engage in at least 15 weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both the student and the employer.

**Credit Points:** 3 each

**Contact Hours:** 15 weeks each

■ **ENS100 ENGINEERING SKILLS**

Practical sessions in the each of the four Engineering Schools for three weeks. Civil – working in the concrete laboratory, water laboratory and structures laboratory; Electrical – practical sessions; Mechanical – looking at the combustion engine, an air compressor, the petrol engine; learning welding and casting; Surveying – an introduction; qualitative and quantitative activities in photogrammetry; remote sensing.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **ESA310 GEOLOGY**

An introduction to geological materials, emphasising chemical concepts and processes. Aspects studied include the origin and constitution of the earth, introductory mineralogy, igneous, sedimentary and metamorphic petrology, study of physical and structural geology, geomorphology, stratigraphy and economic geology. Field excursions as required.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB101 EARTH SCIENCE IA**

Basic geologic principles, physical geology, geomorphology, weathering, erosion, river and coastal environments, groundwater, deserts and aeolian processes. Practical work includes exercises based on the interpretation of topographic and geologic maps and aerial photographs. Field excursions to local areas of geological interest.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB102 EARTH SCIENCE IB**

Origin and composition of the earth and the solar system; mineralogy; classification and origin of igneous, metamorphic, and sedimentary rocks; structural geology; plate tectonics; economic geology. Practical work includes examination and identification of major rock-forming minerals, economic minerals and rock specimens, structural exercises and map interpretation.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB201 HISTORICAL GEOLOGY**

Geologic history of the Earth; interpretation of past geologic events emphasising the geologic development of Australia and the evolution of life; principles of stratigraphy; radiometric dating; paleontology and biostratigraphy. Practical work includes stratigraphic interpretations, study of fossils, and map interpretation. Field excursions to local areas of interest.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB220 PRINCIPLES OF MINERALOGY**

Introductory crystallography; fundamentals of crystal chemistry; mineral stability and reactions; crystallisation, growth and habit; geologic framework of minerals; classification of minerals; systematic treatment of the physical, chemical, and structural properties of different mineral groups; practical work includes symmetry, mineral analysis (SEM, TEM, EMP); x-ray diffraction; examination and identification of mineral specimens. Field excursions to sites of mineralogical interest.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB311 MANAGEMENT OF EARTH RESOURCES**

As assessment of known Earth resources; their properties, distribution and abundance; use; societal and environmental impact and future alternatives; economic mineral resources; energy sources; water and soil resources; realities and limits of earth resources; resource management; conservation versus exploitation; waste disposal; environmental pollution; future technological developments and their possible effects on earth resources.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB317 OPTICAL MINERALOGY & MINERAGRAPY**

The theory and identification of minerals in both transmitted and incident light. Introduction to mineragraphy; theory of reflected light; optical properties of ore minerals; identification of minerals in thin section, polished section, and grain mounts.

**Prerequisite:** ESB220

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB357 STRUCTURAL GEOLOGY**

Stress-strain relationships, rock deformation by brittle fracture and by ductile flow, metamorphic textures; geometric, kinematic and dynamic analysis of folded rocks. Techniques for structural analysis.

**Prerequisites:** ESB101, ESB102, ESB201

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB367 ECONOMIC MINERAL DEPOSITS**

The distribution of metalliferous and industrial mineral deposits of economic value, in Australia and the rest of the world. Geological occurrence, genetic models, supply and demand, extraction methods. Laboratory techniques for evaluating mineral deposits.

**Prerequisites:** ESB101, ESB102, ESB220

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB377 LAND LAW & MINING APPLICATIONS**

Introduction to English law; the historical background and political framework of mining law; the legal meaning of 'mine' and 'minerals'; Mining Acts and Miner's Rights; licensing procedures for prospecting search and exploration; mining leases on Crown Lands and mining on private land; the enforcement of mining interests; petroleum legislation in Australia; professional ethics; environmental impact studies; practical work involves applications for exploration licences, claim and leases.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **ESB397 FIELD TECHNIQUES**

Methods used in the accumulation, analysis and interpretation of geological field data. Geological mapping, sampling and presentation of reports. Excursions and day trips to areas of geological interest

are assessable by means of a combination of reports, assignments, and examinations.

**Prerequisites:** ESB101, ESB201

**Co-requisite:** ESB357

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB403 GEOCHEMISTRY

Distribution of elements in nature. Geochemical associations, mobility and dispersion. Sampling methods and design. Data processing, presentation and interpretation. Preparation of geochemical maps and reports. Practical aspects based on field work in selected localities.

**Prerequisites:** CHB101, CHB102, MAB227

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB417 PETROGRAPHY

The description and classification of igneous, metamorphic, and sedimentary rocks in thin section and hand specimen; optical mineralogy, textures; practical work involves identification of minerals in thin section; description of textures; classification of rocks. Field excursions of short duration are normally required.

**Prerequisite:** ESB317

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB437 GEOPHYSICS

An introduction to the theory of exploration geophysics. Gravity, magnetic, radiometric, well logging, seismic refraction and reflection, electrical resistivity, induced polarisation and electromagnetic techniques. Practical studies of the main techniques, together with limited field work.

**Prerequisites:** 8 credit points of first level physics and ESB397

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB453 APPLIED GEOMORPHOLOGY

The nature, origin and development of landforms and their relationships to underlying structures. The applied aspects concern problems related to economic alluvial deposits, landslides, coastal erosion, river development and environmental geology. Terrain evaluation by aerial photograph interpretation and satellite imagery is central to the practical work.

**Prerequisite:** ESB397

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB487 GEOLOGICAL FIELD STUDIES

An extended excursion (five or more days) with the possible addition of weekend commitments to areas of geological interest. The main emphasis is on mapping. For the extended excursion, students will be required (individually or in groups) to map the geology of an assigned area. Assessment will be based on the production of a geological map to the prescribed scale, together with supporting explanatory notes.

**Prerequisite:** ESB397

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB497 SEDIMENTOLOGY

Principles of sedimentation, including processes of generation, accumulation and redistribution of sedimentary deposits. Sedimentary depositional environments and the role of tectonism and diagenetic processes in redistribution and lithification of sedimentary deposits. Sedimentary basins, their geometric and structural components. Study of primary sedimentary structures and textures, and their application to environmental interpretation. Economic geology as related to sedimentary rocks, including both minerals and energy resources.

**Prerequisites:** ESB317, ESB201

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB517 MINERAL EXPLORATION

An introduction to a range of relevant aspects and references to develop an awareness of their importance, and to provide a foundation for further development during the students' future professional lives. The aspects introduced are: exploration programs, crustal evolution and mineralisation, ore distribution in space and time, wall rock alteration, gossans, mineral potential of the sea bed, isotope studies, geothermometry, clay technology. Additional topics are dealt with in seminars.

**Prerequisite:** ESB367

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB519 GEOLOGY FOR ENGINEERING

An introduction to the basic principles and theories of geology, emphasising the way in which mineralogy and petrology, geologic structures, geomorphology and groundwater interact with, and are related to engineering design and construction. The engineering properties of rock are considered, and the effect of geologic hazards on engineering construction are examined. The course incorporates a number of case histories to demonstrate and extend the relevance of various aspects of geology to the civil engineer's workplace.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ ESB520 APPLIED GEOCHEMISTRY

Techniques for establishing regional geochemical patterns. The application of geochemistry to the discovery of ore deposits and to the solution of environmental problems. Primary and secondary dispersion patterns. Optimum design of geochemical surveys and statistical rationalisation of geochemical data. The application of multipurpose regional geochemical mapping to land use evaluation and environmental impact studies. The relation of selected trace elements to health and disease in plants and animals. Practical work includes an industry oriented field project requiring several days of field work and also case history assignments based upon environmental and exploration problems.

**Prerequisite:** ESB403

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB537 EXPLORATION GEOPHYSICS

The reduction and manipulation of geophysical data, and their interpretation in geological terms; field data acquisition and computer modelling. Experience in a variety of geophysical methods is gained during a field excursion.

**Prerequisite:** ESB437

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB547 IGNEOUS & METAMORPHIC PETROLOGY

The origin, formation, and geologic history of igneous and metamorphic rocks as determined from field and laboratory studies of occurrences, mineral assemblages, rock composition, and texture. Interpretation of rock and mineral compositional diagrams; application of experimental investigations. Practical work examines the petrography and geochemistry of igneous and metamorphic suites. Field excursion.

**Prerequisites:** ESB417, ESB403

**Co-requisite:** ESB577

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB557 PETROLEUM GEOLOGY

Origin and physio-chemical characteristics of petroleum (oil and gas); principles of petroleum generation, migration and accumulation through time and space; development of structural, stratigraphic combina-

tion traps; reservoir rock characteristics; use of geophysical, geochemical and radiometric techniques in petroleum exploration and reservoir characterisation; drilling techniques, well log interpretation and modern seismic-stratigraphic correlation in petroleum exploration and development; methods of primary, secondary and tertiary oil and gas recovery. Review of economics of petroleum production.

**Prerequisite:** ESB497

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB577 FIELD EXCURSIONS

An extended (five or more days) excursion, with the possible addition of weekend commitments, to areas of petrological interest with the emphasis on igneous and metamorphic petrology together with related mineralisation. Assessed on the bases of field attitude, formal examination, and the production of an individually original written report.

**Prerequisite:** ESB417 **Co-requisite:** ESB547

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB607 COAL GEOLOGY

Coal properties, classification genesis and analysis; hydro-carbon generation from coal and oil shale. Coalfield geology. Basin analysis and subsurface mapping techniques, coal production and economics. Coal hand specimen study and microscopy. Field excursions of short duration as required, together with practical assignments.

**Prerequisites:** ESB101, ESB102, ESB201

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB617 MINING GEOLOGY

Search methods for economic materials, ore prediction, reserve assessment techniques. Interpretation of drilling information. Mining economics, case studies. Field excursions as required.

**Prerequisite:** ESB367

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB627 HYDROGEOLOGY

Introduction to the hydrological cycle, groundwater, aquifers, chemistry and usage of water; exploration, evaluation and exploration of aquifers is followed by assessment of resources, recharge problems and contamination including sea water intrusion; practical work includes evaluation of aquifers by pump tests, flow nets finite element analysis; seepage problems and dewatering of mines and excavations.

**Prerequisite:** ESB453

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB647 STRUCTURAL GEOLOGY & GEOTECTONICS

Geotectonics. Structure of the earth's crust. World structural patterns. Salt tectonics. Deformation of lineations in folded rocks. Folding of inclined surfaces, unconformities, superimposed folding. Structural methods for exploration.

**Prerequisite:** ESB357

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB653 ENGINEERING GEOLOGY

The application of geology to engineering, including an introduction to soil and rock mechanics, geological factors influencing engineering design and construction and the use of geological materials in construction. Foundation conditions and site investigation techniques. Case histories of various construction projects, including dams, bridges, buildings, roads, railways, tunnels and slopes. Field excursions to appropriate construction sites.

**Prerequisites:** ESB413, ESB437 and ESB397

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB677 FIELD EXCURSIONS

An extended (five or more days) excursion, with the possible addition of weekend commitments, to areas of geological interest, the emphasis being on economic geology. Students will be assessed on the bases of field attitude, the production of their individual original written report, and any other requirements of the examiner (eg, oral or written examination, seminar etc.).

**Prerequisite:** ESB577

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB687 GEOLOGICAL INVESTIGATIONS

Students are required to produce an original detailed map of a designated area, collect representative samples, observe and collate relevant information (eg, structures, mineralisation, lithological variation, geomorphic variations etc.). Appropriate laboratory and office work follows from the initial field work. Assessment based on the production of a final detailed report which will include maps. Each student is assigned to an adviser.

**Prerequisites:** ESB357, ESB517, ESB547, ESB497 and ESB437

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB697 MINING FEASIBILITY STUDIES

Economics of mine development and operation; problem solving involving concepts of value, cash flow, payback, depreciation, annuity, taxation, forecasting and marketing; sampling and tonnage grade calculations, cut-off grade, ore reserves and sensitivity analyses, sources and costs of capital. Practicals utilise computer programs and spreadsheets for DCFROI calculations.

**Prerequisite:** ESB517

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ ESB699 SELECTED STUDIES IN EARTH SCIENCE

Students are required to complete an assignment that examines in detail a topic in Earth Science. Topics will be selected in consultation with an advisor. Emphasis will be given equally to geological content and communication skills. The assignment will involve extensive literature search. Assessment will be made by written report and oral presentation.

**Prerequisite:** Completion of second level geology

**Credit Points:** 2

#### ■ ESP700 PROJECT

All students undertaking honours are required to select and undertake, in consultation with a supervisor, a substantial project in an appropriate area. Each project will be assessed on the basis of an extensive written report and an oral presentation.

**Credit Points:** 48 per semester

#### ■ ESP702 GEOLOGICAL CASE STUDIES

Preparation of case history assignments of one or several projects from inception to completion. This will include the philosophy of the project, project development, project results. The case history should be selected to complement the student's project thesis.

The study includes literature research from published and unpublished sources and if possible, interviews with project personnel. Presentation of the case history may include some or all of the following: relevant maps, sections, geochemical synthesis, and appropriate specimen material. Assessment includes the preparation of a publication quality report and an oral presentation.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ ESP704 ADVANCED SEDIMENTARY & ENVIRONMENTAL GEOLOGY

Advanced aspects of sedimentology and environmental geology, as related to rational assessment and development of economic resources. The topics that will be addressed include: historical development of sedimentology and environmental geology; sedimentological models (including facies concepts) and their application to basin analysis and mineral/fuel exploration; advanced field and laboratory-based techniques for sedimentological and environmental investigations; economic resources in sedimentary strata; role of sedimentology in scientific assessment of environmental issues, such as land degradation, dryland salting, coastal erosion, fluvial-estuarine siltation and water quality deterioration.

**Credit Points:** 6    **Contact Hours:** 28 total

### ■ ESP705 ADVANCED RESOURCE GEOLOGY

Metallogenic epochs and provinces; ore genesis models; advanced basin analysis; isotope geology; fluid inclusions and geothermometry; advanced mineralogy; resource geochemistry; resource petrology – new materials, aspects of special rocks, alteration zones, paragenesis; resource trends, exploration philosophy; resource assessment – geostatistics, pattern drilling methodology.

**Credit Points:** 6    **Contact Hours:** 28 total

### ■ ESP706 ADVANCED ENGINEERING GEOLOGY

Principles and scientific basis underlying the theory of engineering geological investigations and the application of modern techniques in analysis and investigation. Coursework is structured around engineering geology thesis topics being pursued in the current year, but includes: application of continuous seismic profiling, engineering behaviour on normally consolidated Holocene sediments, engineering geology of open pit mines, slope and underground opening stability, slope stability in tropical residual soils, geotechnical problems in damsite foundations.

**Prerequisite:** ESB653 or equivalent

**Credit Points:** 6    **Contact Hours:** 28 total

### ■ ESP707 PETROCHEMISTRY

The petrology, geochemistry, and petrogenesis of igneous and metamorphic rocks. Topics may vary according to student interest but will include field, petrologic, geochemical, isotopic and experimental aspects of magma generation and/or metamorphism. Quantitative modelling of magmatic processes using phase chemistry, major and trace element geochemistry, stable and radiogenic isotopes. Petrographic analysis of igneous and metamorphic textures.

**Prerequisite:** ESB547, ESB403 or equivalent

**Credit Points:** 6    **Contact Hours:** 28 total

### ■ ESP708 GLOBAL PLATE TECTONICS

Investigation of recent advances in global plate tectonics; the petrology, sedimentology, structural, geophysical and resource geology of divergent and convergent plate margins; application of plate tectonic concepts to the Australian continent.

**Credit Points:** 6    **Contact Hours:** 28 total

### ■ ESP720 ADVANCED TOPICS IN EARTH SCIENCE I

A program of advanced study on a specific geologic topic selected to complement a student's research thesis. Topics may be chosen from the fields of resource geology, igneous petrology, mineralogy, sedimentology, environmental geology, engineering

geology, geochemistry, geophysics, structural geology, regional geology, tectonics. Extensive literature survey is required to prepare a written report upon which the assessment will be made.

**Credit Points:** 12    **Contact Hours:** 5 per week

### ■ ESP721 ADVANCED TOPICS IN EARTH SCIENCES II

A program of advanced study on a specific geologic topic selected to complement a student's research thesis. Topics may be chosen from the fields of resource geology, igneous petrology, mineralogy, sedimentology, environmental geology, engineering geology, geochemistry, geophysics, structural geology, regional geology, tectonics. Extensive literature survey is required to prepare a written report upon which the assessment will be made.

**Credit Points:** 12    **Contact Hours:** 5 per week

### ■ ESP730 COMPUTER APPLICATIONS IN EARTH SCIENCE

A program of advanced study designed to enhance a student's knowledge and use of computer applications in geological investigations. Assessment is based upon an extensive project.

**Credit Points:** 12    **Contact Hours:** 5 per week

### ■ EST219 ENGINEERING GEOLOGY

A brief introduction to the definitions and principles of geology, an appreciation of the range of rock types and the effects of weathering leading to soil formation. Identification of common mineral and rock types, the occurrence and nature of rock defects or discontinuities; the flow and control of groundwater by stratigraphy; rock structure and surface profile; and the effects of rivers and coastal wave action in erosional/sedimentary cycles.

**Credit Points:** 8    **Contact Hours:** 3 per week

### ■ IFB880 PROJECT IN INFORMATION MANAGEMENT/SURVEYING

Students undertake a project requiring research, investigation or design of some topic or problem of interest to the profession.

**Prerequisite:** Successful completion of subjects totalling not less than 120 hours of weekly contact time

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

### ■ IFN001 ADVANCED INFORMATION RETRIEVAL SKILLS

Consolidates students' knowledge of the strategies and procedures for secondary research, especially using on-line searches and helps them to locate a wide range of published material relevant to their thesis topic. Students use the following modules: the QUT library and other information sources; accessing information through indexes and abstracts; computerised information retrieval; specialised resources; thesis presentation; organising information; evaluating information.

**Co-requisite:** CMN832

**Credit Points:** 4    **Contact Hours:** 1 per week

### ■ IFP222 PROJECT

Students undertake a project in the area of Quality with the aim of developing a student's capacity for managing his/her own work and for persistence within a circumscribed area. The project will normally involve presentation of a seminar in addition to the preparation of a full report. The topic selected will have regard to available expertise and selected field

of special interest to the candidate. In particular, it is expected that project work will be conducted across the wide variety of applications in areas serviced by the course. Most projects will be work-related and will have associate supervision from commercial/industrial sources. It is envisaged that, where appropriate, projects may be jointly supervised by staff of the Schools or Departments involved in the course.

**Credit Points:** 8      **Contact Hours:** 2 per week

■ **INB001 COMPUTING PRACTICE (N.O.T.E.) I**

**Credit Points:** 6      **Contact Hours:** 1 per week

■ **INB002 COMPUTING PRACTICE (N.O.T.E.) II**

**Credit Points:** 6      **Contact Hours:** 1 per week

■ **INB099 ENGLISH FOR ACADEMIC PURPOSES**

Written and oral English for tertiary purposes; extension of structure and grammatical knowledge as well as vocabulary.

**Prerequisite:** Approval from Dean of Faculty

**Credit Points:** 9      **Contact Hours:** 3 per week

**Semester 1**

■ **INB100 PRACTICE I (INJ232)**

■ **INB200 PRACTICE III (CSJ128)**

■ **INB201 PRACTICE III (ISJ210)**

■ **INB202 PRACTICE III (ISJ243)**

**Semester 2**

■ **INB150 PRACTICE II (INJ232)**

■ **INB250 PRACTICE IV (CSJ128)**

■ **INB251 PRACTICE IV (ISJ210)**

■ **INB252 PRACTICE IV (ISJ243)**

■ **INB302 PRACTICE V (CSJ128)**

Designed to coordinate the practical aspects of the lecture material presented each semester so that students both develop essential practical skills and benefit from cross fertilisation of the individual subjects. The importance of all aspects of personal communication will be emphasised throughout and students will also be strongly encouraged to perceive the social implications of computing activities and systems.

**Co-requisite:** Core topics in appropriate semester

**Credit Points:** 12      **Contact Hours:** 4 per week

**Semester 1**

■ **INB105 PRACTICE IA (INJ232)**

■ **INB125 PRACTICE IA (IFJ222)**

■ **INB155 PRACTICE IIA (INJ232)**

■ **INB205 PRACTICE IIIA (CSJ128)**

■ **INB206 PRACTICE IIIA (ISJ210)**

■ **INB207 PRACTICE IIIA (ISJ243)**

■ **INB225 PRACTICE IIIA (CSJ128)**

■ **INB255 PRACTICE IVA (CSJ128)**

■ **INB256 PRACTICE IVA (ISJ210)**

■ **INB257 PRACTICE IVA (ISJ243)**

■ **INB312 PRACTICE VA (CSJ128)**

**Semester 2**

■ **INB110 PRACTICE IB (INJ232)**

■ **INB130 PRACTICE IB (IFJ222)**

■ **INB160 PRACTICE IIB (INJ232)**

■ **INB180 PRACTICE IIB (IFJ222)**

■ **INB210 PRACTICE IIIB (CSJ128)**

■ **INB211 PRACTICE IIIB (ISJ210)**

■ **INB212 PRACTICE IIIB (ISJ243)**

■ **INB260 PRACTICE IVB (CSJ128)**

■ **INB261 PRACTICE IVB (ISJ210)**

■ **INB262 PRACTICE IVB (ISJ243)**

■ **INB275 PRACTICE IVA (IFJ222)**

■ **INB281 PRACTICE IVB (IFJ222)**

■ **INB322 PRACTICE VB (CSJ128)**

Designed to coordinate the practical aspects of the lecture material presented each semester so that students both develop essential practical skills and benefit from cross fertilisation of the individual subjects. The importance of all aspects of personal communication will be emphasised throughout and students will also be strongly encouraged to perceive the social implications of computing activities and systems.

**Co-requisites:** Core topics in appropriate semester

**Credit Points:** 6      **Contact Hours:** 2 per week

■ **INB270 DATA COMMUNICATIONS**

The role of data communications and on-line systems in a modern computing environment; the design, implementation and management of data communications networks; basic concepts and terminology; the International Standards Organisation reference model for open systems interconnection; communications equipment; data communications network design and management; network architectures; local area networks; Telecom facilities; transaction processing systems; distributed processing systems.

**Prerequisite:** CSB100

**Credit Points:** 9      **Contact Hours:** 3 per week

■ **INB280 INDUSTRIAL TRAINING EXPERIENCE**

Consists of a one-year work experience program. For more information about this program, see the 'Information for All Information Technology Students' at the front of the Faculty's Handbook entry.

**Credit Points:** 18

■ **INB285 DATA COMMUNICATIONS**

This subject describes the role of data communications in a modern computing environment. It examines in some detail aspects of the design, implementation and management of data communications networks. Topics to be discussed include basic telecommunications concepts, communications protocols, the ISO Reference Model for Open Systems Interconnection, wide area networks, local area networks and communications network security.

**Prerequisite:** CSB281 or CSB181 or CSB155

**Credit Points:** 12      **Contact Hours:** 4 per week

■ **INB300 PROJECT WORK**

Students, either individually or in small groups, undertake a substantial 12 month project relevant to the needs of industry and designed to give insight into industrial requirements. Each student/group is supervised by a member of staff. In addition, there is a

teaching contribution of one hour per week throughout the first semester from the School of Communication, designed to develop the student's communication skills.

**Prerequisite:** Successful completion of at least the equivalent of two-thirds of Bachelor of Business (Computing) and CMB104

**Credit Points:** 12 per semester

**Contact Hours:** 4 per week

#### ■ INB301 PROJECT WORK

Students, either individually or in small groups, undertake a substantial 6 month project relevant to the needs of industry and designed to give insight into industrial requirements. Each student, or group of students, undertakes a different project and is supervised by a member of staff who provides guidance throughout the project.

**Prerequisite:** Successful completion of the first two years of Bachelor of Business – Computing/Bachelor of Laws joint degree course.

**Credit Points:** 12

#### ■ INN200 RESEARCH METHODOLOGY

Topic of research by agreement between the student and a Faculty staff member acting as project supervisor. Students must attend lectures/seminars of approximately 1 hour every two weeks (on average). They will also engage in a literature search and generally other design aspects of their research project.

**Credit Points:** 12 **Contact Hours:** Not applicable

#### ■ INN201 RESEARCH METHODOLOGY

Topic of research by agreement between the student and a Faculty staff member acting as project supervisor. Students must attend lectures/seminars of approximately 1 hour every two weeks (on average). They will also engage in literature search and generally other design aspects of their research project.

**Credit Points:** 12

#### ■ INN202 COMPUTER SECURITY

Ensures that students recognise the requirement to design, implement and manage facilities in a manner consistent with an overall organisational security policy. Development of security plan; risk analysis; access control; cryptography; network security and encryption; key management; database security; secure operating systems and access control. On completion of this subject, students should be able to incorporate security and management controls into information systems in accordance with a formal risk analysis and assessment for the system.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ INN210 HONOURS PROJECT II

This is a continuation and completion of the research project initiated for INN200.

**Prerequisite:** INN200

**Credit Points:** 12 **Contact Hours:** Not applicable

#### ■ INN211 HONOURS PROJECT

This subject is a continuation and completion of the research project initiated for INN201.

**Credit Points:** 12

#### ■ INN300 MINOR PROJECT

#### ■ INN301 MINOR PROJECT

#### ■ INN302 MINOR PROJECT

#### ■ INN303 MINOR PROJECT

Students may undertake a number of minor projects so that they can pursue specialised areas of interest,

or broaden their knowledge in areas of relevance to their employment. Topics are to be decided by agreement between the student and a Faculty staff member acting as supervisor.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ INN310 ADVANCED DATA COMMUNICATIONS

This subject deals with advanced material in data communications. Topics covered include data communications network design and management (techniques and case studies); performance modelling of communications networks; comparative evaluations of data communications products and services; data communications software design and implementation; provision of integrated communications services (voice, data, video etc.); network security; communications industry policy (eg, deregulation vs regulation).

**Prerequisite:** INB270 (or equivalent)

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ INN400 MAJOR PROJECT – PART I

This subject comprises the first semester of a two-semester subject and enables students to pursue a specialised topic in greater depth than is possible in a single semester. Topics are to be decided by agreement between the student and a Faculty member acting as supervisor.

**Prerequisite:** Completion of eight subjects of the Master of Applied Science (Computing)

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ INN401 MAJOR PROJECT

Students may undertake a major project as an alternative to minor projects to pursue in depth a topic of interest in keeping with the course objectives. Project topics are to be determined after discussion between the student and a Faculty Staff Member acting as supervisor.

**Prerequisite:** Completion of at least 50 per cent of the Master of Information Technology

**Credit Points:** 48

#### ■ INN450 MAJOR PROJECT – PART II

This subject forms the second half of the major project component of the Master of Applied Science (Computing) course, and is a continuation of the same topic commenced in INN400.

**Prerequisite:** INN400

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ INN500 DISSERTATION

Comprises the undertaking and writing up of a significant piece of research work. The research will examine some aspect of concepts and principles dealt with in the course work components of the program. The research topic will be agreed on following discussions between the student and a Faculty staff member who will act as supervisor. Each student will present a seminar on his or her dissertation topic.

**Prerequisite:** Completion of at least 50 per cent of the Master of Information Technology

**Credit Points:** 48

#### ■ INP270 DATA COMMUNICATIONS

This subject describes the role of data communications in a modern computing environment. It examines in some detail, aspects of the design, implementation and management of data communications networks. Topics to be discussed include basic telecommunications concepts, communications protocols, the ISO Reference Model for Open Systems Interconnection, wide area networks,

local area networks and communications network security.

**Prerequisite:** CSP112 or ISP100

**Co-requisite:** ISP100 (for students in the Graduate Diploma in Commercial Computing)

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISB101 APPLICATION SYSTEMS

This subject examines the way business operates and the nature of business application systems. It also examines the features of some non-business applications. On completion of the subject, students will be able to describe the generalised applications needed to support of business; be aware of the need for custom designed systems; and be aware of career prospects in the information technology industry in Australia.

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ ISB102 REPRESENTATION OF INFORMATION

This subject will provide students with the ability to develop an abstract model of a real situation, being the first step in the process of creating a computer-based information system. The subject therefore forms a basis for the subsequent development of the concepts associated with the design and implementation of information systems.

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ ISB113 PRINCIPLES OF INFORMATION MANAGEMENT

This subject serves as an introduction to the core elements of information management and emphasises information as an essential organisational resource required by management to meet organisational goals and objectives. The subject examines the nature and creation of information, storage media, organisation for storage, retrieval techniques, transfer, effects of internal and external environments, security and obsolescence.

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ ISB156 MANAGEMENT INFORMATION SYSTEMS

This subject will examine the principles and technologies involved in the collection, analysis and presentation of information to aid management decision making. It will provide an overview of effective management information systems; and cover decision making underlying effective MISs; computer hardware and software for effective MISs; development, implementation and control of effective MISs. It will include a case study on major subsystems comprising a MIS.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISB180 COMPUTER APPLICATIONS

This subject will provide a basic understanding of commercial microcomputer systems as they apply to building and exposure to microcomputer applications, specifically a spreadsheet and a database package. This will include the design and implementation of spreadsheet models and creation of reusable templates; the use of a database management system (DBMS) including design of data files, creation of data views and reports; an introduction to problem definition, solution design and modular programming in conjunction with the DBMS.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ ISB182 REPRESENTATION OF INFORMATION

This subject will provide students with the ability to develop an abstract model of a real situation, being

the first step in the process of creating a computer-based information system. The subject therefore forms the basis for the subsequent development of the concepts associated with the design and implementation of information systems.

**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ ISB201 INFORMATION SYSTEMS ANALYSIS & DESIGN I

This subject provides a grounding in the methodology and techniques of systems analysis and design.

**Prerequisite:** ISB102

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ ISB202 DATABASE & PROCEDURAL LANGUAGES

The fundamentals and syntax of a procedural computer programming language (eg COBOL) and its use in the implementation of information systems (in particular database systems). Apart from developing techniques in commercial programming, the subject provides an appreciation of the advantages and disadvantages of a database approach.

**Prerequisites:** CSB100, ISB102

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ ISB203 ADVANCED DATABASE

This subject covers relational and network database architectures and the facilities provided by a database management system. The issues in the database area which impinge on on-line systems design will be discussed and students will be introduced to the relationship between database management systems and 4GL software.

**Prerequisite:** ISB102

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ ISB210 INFORMATION SYSTEMS ANALYSIS & DESIGN II

This subject teaches a complete method for developing an Information System, from initial analysis of the problem through to a working computer system. Emphasis is given to the practical application of the techniques, using a wide range of real life problems.

**Prerequisite:** ISB201

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ ISB214 THE INFORMATION RESOURCE

Methodologies for analysing information resources within an organisation with particular reference to information mapping techniques; comparisons between institutions that concentrate on one information function, and institutions that utilise a range of internal and external functions; the effect of convergent technologies on such use.

**Prerequisite:** MNB302

**Credit Points:** 9    **Contact Hours:** 3

#### ■ ISB215 EXTERNAL SOURCES OF INFORMATION

This subject encompasses the scanning of the environment using various information sources, technologies, avenues and methodologies. It will also provide practical skills including on-line searching. It will cover the definition of external information sources (personal and recorded); types of information provided by Government sources, industrial sources, academic sources and business sources; the publishing industries; on-line searching techniques; storage and retrieval media; computer conferencing.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB216 POLITICAL & SOCIAL ASPECTS OF INFORMATION TECHNOLOGY**

This subject introduces the major political and legal aspects of information technology. Government policies relevant to the information industry will be examined and comparisons drawn between policies adopted by different countries. The social consequences of technological convergence with particular emphasis on the changing nature of work and the evolution of the information professions will be discussed.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB219 ADVANCED COBOL**

This subject provides students with the opportunity of gaining greater proficiency in writing complex commercial programs in the COBOL language. A major programming project will be implemented to facilitate the above.

**Prerequisite:** ISB202 or ISB283

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB263 INTRODUCTION TO COMPUTERS & INFORMATION SYSTEMS**

This subject is designed to enable students to identify the necessary computing concepts involved in the design and use of information systems; to apply computing concepts in the area of nursing practice; and to demonstrate competence in using systems creation and retrieval techniques via a computer-based project.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **ISB281 INFORMATION SYSTEMS ANALYSIS & DESIGN I**

This subject provides a grounding in the methodology and techniques of systems analysis and design; and aims to develop competence in techniques and application of methodologies of information systems development.

**Prerequisite:** ISB182

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **ISB283 DATABASE & PROCEDURAL LANGUAGES**

This subject introduces the fundamentals and syntax of a procedural computer programming language (eg COBOL) and examines its use in the implementation of information systems (and in particular database systems). Apart from developing techniques in commercial programming, the subject provides an appreciation of the advantages and disadvantages of a database approach.

**Prerequisites:** CSB181, ISB182

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **ISB290 INFORMATION SYSTEMS ANALYSIS & DESIGN II**

This subject extends coverage of techniques of analysis and design to further develop competence in methodologies, skills and techniques used by systems analysts. It will teach a complete method for developing an information system, from initial analysis of the problem through to a working computer system. Emphasis will be given to the practical application of the techniques, using a wide range of real life problems.

**Prerequisite:** ISB281 or ISB492

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **ISB301 ADVANCED INFORMATION SYSTEMS**

This subject introduces students to the concept and practice of Decision Support Systems (DSS). It covers foundations architecture and developing DSS; the DSS environment, applications of DSS and the role

of DSS in an organisation; end-users and DSS; human factors in DSS; DSS and Management Information Systems; intelligent DSS.

**Prerequisite:** ISB201 or ISB281

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB302 DATABASE MANAGEMENT**

The subject focuses on the practical issues associated with the implementation and management of the database designs developed in previous subjects. It specifically addresses issues such as relational design and the performance and tuning of databases, as well as control issues such as integrity. It is intended to provide students with an appreciation of some of the more significant commercial implementations of database architectures.

**Prerequisite:** ISB202 or ISB283

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB303 OFFICE INFORMATION SYSTEMS**

This subject examines the development and implementation of information systems in the office context. It includes an assessment of the computer hardware, software and telecommunications products available to support the automated office. The subject is intended to extend students' competence in the design and management of data communications networks and to examine techniques and systems contributing to automation of the modern office.

**Prerequisite:** INB270

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB305 PROJECT**

Students, either individually or in small groups, undertake a substantial six month project relevant to the needs of industry and designed to give insight into industrial requirements. Each student, or group or students, undertakes a different project and is supervised generally by a member of staff who provides guidance throughout the duration of the project.

**Prerequisite:** Successful completion of at least the equivalent of two-thirds of the normal course program and CMB104.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **ISB313 EXPERT INFORMATION SYSTEMS**

This subject examines the role of expert systems in the commercial area and their impact on business information systems; provides an understanding of how expert systems could be used in the development of advanced business information systems; and gives some practical experience in developing and implementing information systems containing such techniques; includes discussion on social implications of expert systems.

**Prerequisite:** ISB202 and ISB210 or ISB283 and ISB290

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB314 INFORMATION SYSTEMS MANAGEMENT**

This subject is designed to develop a knowledge of the functions and practices of management in a computer installation, and to give competence in the evaluation and acquisition of a computer system. It will cover the data processing management process; criteria and techniques for selecting computer hardware, software and services; the RFP, project and operations management; site selection, evaluation of computing contracts and professional ethics.

**Prerequisite:** Completion of two-thirds of the relevant Bachelor of Business course

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB316 INFORMATION SUPPORT SYSTEMS**

Methods of describing information for the computer database; introduction to principles of content analysis, vocabulary control and thesaurus maintenance of indexing systems; planning and implementation of such systems together with database systems and software upgrades by an information centre, along with the establishment of such a centre and its interactions within an organisation.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB317 SPECIAL TOPIC – INFORMATION MANAGEMENT**

This subject will cover at each offering aspects of information management of specific interest at that time. The subject makes allowance for significant developments or emphasis in information management not included in the remainder of the course program.

**Prerequisite:** To be advised

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB318 STRATEGIC INFORMATION MANAGEMENT**

This subject integrates all learning occurring throughout the Information Management degree in the context of the working environment. The importance of strategic planning by organisations and the contribution of the information manager to this process is stressed. The subject covers methods of intelligence analysis and environmental scanning in support of strategic planning. The value of information to the strategic positions being adopted by the organisations is also covered.

**Prerequisite:** ISB214

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB350 MINOR STUDIES**

Students will undertake theoretical and/or practical work under supervision. Topics will be related to other coursework.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **ISB382 MICROCOMPUTER APPLICATIONS**

This subject aims to provide a basic understanding of commercial microcomputer systems as they apply to Science. It includes an introduction to three major microcomputer applications; the design and implementation of spreadsheet models and creation of reusable templates; the use of a database management system (DBMS) including design of data files, creation of data views and reports; an introduction to problem definition, solution design and modular programming in connection with the DBMS; understanding the basic capabilities of word processing packages and their applications.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISB385 MICROCOMPUTER SOFTWARE APPLICATIONS**

This subject is designed to provide a basic understanding of commercial microcomputer systems as they apply to Applied Science. It will include an introduction to three major microcomputer applications; the design and implementation of spreadsheet models and creation of reusable templates; the use of a database management system (DBMS) including design of data files, creation of data views and reports; an introduction to problem definition, solution design and modular programming in conjunction with the DBMS; and an understanding of the basic capabilities of word processing packages and their applications.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **ISB392 BUSINESS COMPUTING**

This subject is designed to provide an understanding of commercial computing, its terminology, hardware and software components; familiarity with specific electronic data processing applications, an ability to design a simple business system and an ability to describe manipulation of information to produce a desired result; an exposure to microcomputer applications, specifically a spreadsheet package; and an introduction to information analysis techniques and database design concepts.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **ISB393 COMPUTER BASED INFORMATION SYSTEMS**

The subject is designed to introduce engineering students to commercial computer applications. Some time will be spent on introducing systems concepts, file management and database systems. As practical work, the combination of database/spreadsheet package 'VP-Planner' has been selected.

**Credit Points:** 4    **Contact Hours:** 3 per week

■ **ISB492 COMPUTERISED ACCOUNTING SYSTEMS**

This subject is designed to introduce students planning a career in accounting to the nature and operation of computerised accounting systems. Students will study the basic concepts underlying such systems, features of common applications (eg, general ledger, sales) and the process of analysing and designing such systems. Practical experience in the use of the SYBIZ microcomputer accounting package will be provided.

**Prerequisite:** ISB392

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **ISB493 BUSINESS COMPUTER PROGRAMMING**

This subject introduces COBOL as a business programming language and develops competence in modern commercial programming techniques. It examines programming principles, structured design, fundamentals of COBOL, commercial data processing systems, algorithms for business applications, data structures and file processing. It includes practical projects in COBOL on HP3000 or VAX.

**Prerequisites:** CSB155, ISB392

**Credit Points:** 12    **Contact Hours:** 3 per week

**Note:** This subject is not compatible with CSB306 or ISB283; credit may not be retained for both.

■ **ISB998 SPECIAL TOPIC – BUSINESS COMPUTING**

■ **ISB999 SPECIAL TOPIC – BUSINESS COMPUTING**

These subjects are designed to allow for the significant development of or emphasis in business computing not dealt with in other course subjects. Selected topics and study areas will be offered as required and when the necessary expertise is available. See School announcements for full details of special topics being offered.

**Prerequisite:** See School announcements

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ISN100 INFORMATION SYSTEMS I**

This subject deals with advances in information system development approaches and techniques. It examines the theoretical basis underlying current approaches to decision support. A special focus is on the

impact on information systems development of increased user involvement.

**Prerequisite:** ISB201 (or equivalent)

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN110 FORMAL SYSTEMS SPECIFICATION

The description of information systems by means of formal languages; the concepts of formal specification, compared to informal specification languages such as Structured English. As well as being taught how to formally specify a system, students will be shown how to prove properties of that system, how to develop an executable implementation of the system and how to prove the equivalence of the two.

**Prerequisites:** ISB201, ISB302 (or equivalent)

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN120 DATABASE SYSTEMS

Examines aspects of database performance, data distribution and the special problems of storing unformatted data. Database performance is discussed in terms of query optimisation, whereby access statements, such as those written in SQL, are analysed so that they are executed efficiently. The advantages and disadvantages of distributed databases are presented, covering topics such as whether data should be replicated over a number of sites. Also deals with the special requirements of databases which contain unformatted data, such as text, voice and image data.

**Prerequisite:** ISB302

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN130 OBJECT-ORIENTED SYSTEMS

Object-oriented systems as an alternative to traditional procedurally based systems; looks at their benefits and weaknesses, including key concepts of data abstraction and encapsulation and the techniques of inheritance, polymorphism and genericity. Students learn to identify and design object classes. Builds competence in selection of strategies appropriate to improved systems design leading to lower long-term maintenance costs.

**Prerequisite:** ISB210

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN150 COMPUTER SECURITY RISK MODELLING

The tasks of identifying, valuing and securing data assets are fundamental to modern information systems security. Those tasks are explored in terms of the current state of computer risk model research and implementation. Several traditional models are compared to demonstrate sources of data for model development: asset identification and evaluation, threat, vulnerability and dependency analysis, and collection of supporting data. Students are introduced to modern risk modelling software and techniques, and are guided in the adoption of appropriate standards and methodologies.

**Prerequisites:** ISN110, ISB313 (or equivalent)

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN160 KNOWLEDGE-BASED SYSTEMS

This subject assumes a background in conventional systems concepts, programming and database, and an exposure to fundamental expert systems concepts. It explores four major themes in knowledge-based systems: (a) conceptual: problem selection and structure, inference and knowledge representation; (b) technical: declarative and functional programming; (c) pragmatic: improving the yield from existing information bases; and (d) methodological: questions

associated with the definition, design and control of knowledge-based systems.

**Prerequisites:** ISN110, ISB313 (or equivalent)

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN170 SPECIAL STUDIES

Students are offered the opportunity to study specific topics which are not dealt with elsewhere in the course and which are seen at the time of offering to be significant to business information systems. The subject takes account of the very dynamic nature of the information systems field in allowing treatment of newly emerged topic areas. It also permits utilisation of new specialist knowledge and skills among the Information Systems staff at the time.

**Prerequisite:** See School announcements

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN180 HUMAN COMPUTER INTERFACE (HCI)

Addresses the most significant issues and activities of the Human Computer Interface (HCI) and software design; includes the perceptual basis to the presentation of visual information, the basic aspects of visual information processing, and facets of representation of knowledge; examines the development of expert systems and how they will change the nature of interaction between person and machine and reviews features of interactions with systems, eg, keyboards through to advanced input modes. On completion of this subject, students should be able to apply principles from the current research in different aspects of HCI interactions and will be aware of future developments possible in this emerging field.

**Prerequisite:** ISP101

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN190 COMPARATIVE STUDY OF INFORMATION AGENCIES

Philosophies and modes of information provision which apply in different cultures and countries; comparative methods and studies and an investigation of sources relating to information agencies – including both libraries and computer-based information agencies worldwide. Students review and analyse examples of existing studies, services offered by different types of agencies and their community impact, national and international standards of services, the structure of the information professions, professional associations, literature, ethics and legal responsibilities in relation to national information policies and emerging trends in information provision.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN200 MAJOR ISSUES IN INFORMATION TECHNOLOGY

Explores aspects of Information Technology of great potential significance to Information Systems professionals, such as the status of information system standards, the extent of integration of computer technology and data communications technology, as well as emerging social and ethical considerations with regard to information technology.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN210 AUTOMATED SYSTEMS MANAGEMENT

Identification of management challenges entailed by automated systems; the development of system specifications and Request for Proposal; evaluation of proposals; contracts and legal responsibilities; staff training and development; the effect on management structure of centralised versus distributed systems and

the implications of introducing/upgrading automated systems.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN220 BUSINESS COMPETITOR INTELLIGENCE

The use of competitor intelligence to enhance effectiveness of business strategies and the various methodologies and analytical techniques for obtaining and using competitor intelligence in support of strategic planning; competitor intelligence and strategic planning; the interrelationship between intelligence and planning in corporate decision making; the organisation framework; establishing an intelligence collection network; analytical techniques; applications in different strategic environments, and sources and types of competitor intelligence.

**Prerequisite:** ISB215

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN240 CLASSIFICATION

The theory and practice of the classification of knowledge and its role in the advancement of knowledge; selected schemes and their applications, research into automated classification, and creation of schemes for special situations will be considered.

**Prerequisite:** ISP432

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN250 THE INFORMATION INDUSTRIES

The nature of the information industries and information policies; the social and legal issues involved in the expansion of these industries; the information industries in the information economy, public policy, Queensland as an information economy; information industry development abroad, Information Law, Intellectual Property, Privacy/Freedom of Information Computer Crime Transborder Data Flow/Sovereignty issues, social justice and equity issues in the information industry and education for the information society.

**Prerequisite:** ISB216

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN260 EVALUATION OF INFORMATION SERVICES & ORGANISATIONS

Techniques applicable to the evaluation of libraries and other information centres; including the statistics collected, their usefulness, and the means used to collect them as well as non-statistical methods and their value. Previous research will be studied to determine applicable methods and isolate trends, especially those which may have implications for the future.

**Prerequisite:** INN201

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN270 SOCIAL IMPACTS OF INFORMATION TECHNOLOGY

The significant issues in the realm of speculative information systems and technologies; scenarios of information rich/poor interactions within and without organisational environments are examined. Emerging issues in Information Technology and the implications for information systems and organisational structures are defined and predicted. A compact synthesis for an organisational system, incorporating environmental and societal integration is considered.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN280 ORGANISATIONS, SYSTEMS & INFORMATION

The structure of organisations, systems and information; theoretical aspects of environmental and

managerial influences are explored and common linkages identified. Socio-technical areas and system failures are defined. Appropriate strategies to deal with system failures are formulated and presented. The role of information in organisations is illustrated and the symbiotic relationship established. This enables interface constraints to be identified and alternative solutions to be proposed.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISN300 INFORMATION SYSTEMS II

This subject provides an advanced treatment of contemporary issues of information system development. It deals particularly with the issues of development of corporate information systems.

**Prerequisite:** ISN100

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP100 THE COMPUTER SYSTEM

This subject is designed to provide an overview of the computer as a tool to be applied to a variety of problems concentrating on applications in commerce; to develop the perception for the process necessary in systems development: software engineering; and to develop skills in program development and a basic competence in algorithm development and implementation using PASCAL. It will cover computer hardware and software; an introduction to software engineering; computational linguistics; algorithm development and implementation in PASCAL.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP101 DATA DESIGN & PROCESSING

This subject is designed to introduce the theory of data modelling and the techniques associated with development of database solutions for a variety of information problems and in conjunction with the above, to familiarise students with modern post-procedural approaches to database retrieval and manipulation.

**Co-requisite:** ISP100 or CSP112

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP113 PRINCIPLES OF INFORMATION MANAGEMENT

This subject serves as an introduction to the core elements of information management and emphasises information as an essential organisational resource required by management to meet organisational goals and objectives. The subject examines the nature and creation of information, storage media, organisation for storage, retrieval techniques, transfer, effects of internal and external environments, security and obsolescence.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP200 SYSTEMS ANALYSIS & DESIGN

This subject is designed to give students an understanding of methodologies for undertaking the development of a computer-based business system; to develop competence in the use of a number of techniques of systems analysis and design; to develop understanding of design considerations related to important business application areas; and to extend the understanding of the application of data modelling.

**Prerequisite:** ISP101

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP301 ADVANCED DATABASE

On completion of this subject, students should be able to accomplish the following: discuss the functions of a DBMS; describe the relational and network approaches to database construction; describe one DBMS in detail; design a database to support the

outputs required of some information system; distinguish between databases and knowledge bases, and describe the features expected of a 4GL and how they facilitate the use of prototyping.

**Prerequisite:** ISP101 or ISB182

**Prerequisite/Co-requisite:** ISP400 (for students in the Graduate Diploma Commercial Computing)

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP303 PROGRAMMING

This subject is designed to develop: advanced algorithms and implement these algorithms; structured program design techniques for commercial applications; practical aspects of program testing, debugging and style; and competence in the 'C' programming language. The subject will cover structured program design (top-down development); advanced data structures and algorithm development; and sound program development, testing and debugging using Pascal and C. It will include practical work on VAX, PCs or HP9000.

**Prerequisites:** ISP100 and ISP101

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP313 EXPERT INFORMATION SYSTEMS

This subject examines the role of expert systems in the commercial area and their impact on business information systems. It provides an understanding of how expert systems could be used in the development of advanced business information systems, and gives some practical experience in developing and implementing information systems containing such techniques. It includes discussion on the social implications of expert systems.

**Prerequisites:** ISB283, ISB290

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP314 INFORMATION SYSTEMS MANAGEMENT

This subject is designed to develop a knowledge of the functions and practices of management in a computer installation, and to give competence in the evaluation and acquisition of a computer system. It will cover the data processing management process; criteria and techniques for selecting computer hardware, software and services; the RFP, project and operations management; site selection, evaluation of computing contracts and professional ethics.

**Prerequisite:** Completion of one-half of the Graduate Diploma in Commercial Computing

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP380 QUALITY INFORMATION SYSTEMS

This subject examines methodologies and techniques for achieving a high level of quality in business information systems, relating these to broader principles of quality control and quality assurance. Areas covered include: types of information systems; information as a resource; past and current approaches to information systems; decision making based on information systems; analysis and design; prototype concepts; information system modelling.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ ISP381 ADVANCED INFORMATION SYSTEMS

This subject is designed to introduce students to the concept and application of Decision Support Systems (DSS), to study the development and architecture of DSS; and to introduce students to the role and relationship of the user and the organisation to DSS. It will cover foundations architecture and developing

DSS; the DSS environment, applications and the role in an organisation; end-users and DSS; human factors; DSS and Management Information Systems (MIS); and intelligent DSS.

**Prerequisite:** ISB281

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP383 OFFICE INFORMATION SYSTEMS

This subject examines the development and implementation of information systems in the office context. It includes an assessment of the computer hardware, software and telecommunications products available to support the automated office. The subject is intended to extend students' competence in the design and management of data communications networks and to examine techniques and systems contributing to automation of the modern office.

**Prerequisite:** INB285 or INP270

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP400 ADVANCED PROGRAMMING

This subject is designed to examine and study the implementation of business information systems in COBOL. It will cover a review of programming principles; fundamentals of COBOL; commercial data processing systems; data structures, serial and random file processing; and will include extensive practical projects in COBOL.

**Prerequisite:** ISP100

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP401 COMPUTER PROJECT

A major project allocated to or proposed by the student in any of the specialist areas (covered or otherwise) in the course, eg, a development of project, software implementation, or the solution to a particular problem in computer business applications.

**Prerequisite:** Completion of six subjects of the Graduate Diploma in Commercial Computing

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP414 LIBRARY SERVICES TO YOUNG PEOPLE

Introduces the most important aspects of library services to children and young adults; covers the evolution of literature with emphasis on the effects of social, political and religious movements on its purposes, form and content; the development of library services in both schools and public libraries; the importance of literary awards; the criteria for selection of resources; the planning and carrying out of programs to promote reading, including effective storytelling.

**Prerequisites:** ISP431, ISP433

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP419 GOVERNMENT DOCUMENTS

The production, acquisition and organisation of government documents, and issues related to their use. Topics include why governments publish, the range of subjects, the value of government information, bibliographic control, freedom of information, commercialisation/privatisation of government information, and organisation of government documents collections. Australian, United States, United Kingdom, and international government documents are studied.

**Prerequisite:** ISP433

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ ISP427 SPECIAL TOPIC - LIBRARY SCIENCE

This subject is designed to allow for significant development of or emphasis in library science not

deal with in other course subjects. Selected topics and study areas will be offered as required and when the necessary expertise is available.

**Prerequisite:** See School announcements

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP428 FIELD EXPERIENCE

This subject is designed to give students an opportunity to participate in the day-to-day work of a library at a beginning professional level. Students are required to undertake work at a level appropriate to beginning professionals in two approved libraries for a total period of 30 working days. During this period, they should have substantial experience in at least two different areas of library work under the supervision of professionally qualified librarians.

**Prerequisite:** Completion of 50 per cent of other subjects

**Credit Points:** 4

#### ■ ISP431 COLLECTION BUILDING & ACQUISITIONS

The concept of information and its relationship to information resources and needs; the various formats by which information is communicated are compared and appropriate selection criteria discussed; the characteristics of the book and other media trades, and the means by which these media are acquired; collection building in light of the needs of the immediate clientele to be served and of the wider Australian community. Other topics include procedures for keeping collections current, evaluating their usefulness, and the legal and ethical dimensions of collection building.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP432 ORGANISATION OF KNOWLEDGE

The organisation of knowledge in libraries and information agencies. Emphasis is placed on the description, classification, and subject analysis of information in print media using AACR2 (1988 revision), DDC, and LCSH. Other related topics will be mentioned briefly, eg, LCC, MARC, ABN, and other cooperative efforts.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP433 INFORMATION SOURCES & SERVICES

Interpersonal communication, the reference interview and search strategies, and general and Australian reference tools; National Information Policy, reference theory and service, communication and the reference interview, search strategies, lead-in tools, general reference tools, government documents, resources in the humanities, social sciences, science and technology, user pays, document delivery and microcomputers and reference work.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP437 SPECIAL TOPIC

This subject allows for significant development of or emphasis in library science not dealt with in other course subjects. Selected topics and study areas will be offered as required and when the necessary expertise is available.

**Prerequisite:** See School announcements

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ ISP441 ONLINE INFORMATION SERVICES

Teaches students to act as the interface between users and information they may require, using a variety of available resources, systems, and technologies; in-

cludes development of online information services, database producers, search strategies, services offered by major vendors, in-house systems (including CD-ROM), and trends and issues in computer assisted retrieval of information.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP442 LIBRARY PROGRAMS MANAGEMENT

Patterns of administrative organisation in libraries; authority relationships and the nature of the library as a bureaucracy; position classification and personnel administration; the management of library finances; applications of computer technology in library management; and change in organisations; the management functions of planning, organising, staffing, directing, and controlling; the concepts of leadership and professionalism.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP451 ADVANCED ORGANISATION OF KNOWLEDGE

The organisation of knowledge in libraries and information agencies. Topics include description of selected non-print media, enumerative and faceted classifications, special classifications, problems with alphabetical subject indexes, and automated indexing.

**Prerequisite:** ISP432

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP452 INDIVIDUAL STUDY

Students can pursue in depth a personal interest in library science not covered by the Graduate Diploma course core or other elective subjects. On completion of this subject students should be able to demonstrate a detailed knowledge of the area chosen.

**Prerequisite:** To be determined by the nature of the study

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ ISP453 INTRODUCTION TO RECORDS MANAGEMENT

An introduction to records management theory, techniques and trends. Topics include the history and role of records management and the creation, control, organisation, maintenance, disposition, and evaluation of records.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ ISP454 LIBRARY PROGRAMS & SERVICES

An introduction to the evaluation of users' informational needs and the development of library programs and services to meet the needs of special groups in the community, eg, young people, elderly people, disabled people, ethnic minorities, business people etc.

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ ISP998 SPECIAL TOPIC – COMMERCIAL COMPUTING

This subject is designed to allow for significant development of or emphasis in commercial computing not dealt with in other course subjects. Selected topics and study areas will be offered as required and when the necessary expertise is available.

**Prerequisite:** See School announcements

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ ISP999 SPECIAL TOPIC – COMMERCIAL COMPUTING

This subject is designed to allow for significant development of or emphasis in commercial computing not dealt with in other course subjects. Selected

topics and study areas will be offered as required and when the necessary expertise is available.

**Prerequisite:** See School announcements

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ LPN111 COMPARATIVE PLANNING THEORY

The roles of planners (statutory, pluralist, advocate, consultant); different models of planning at different scales and in different contexts – national, regional and local; planning under different economic and social conditions – free market, centrally planned, indicative, directive, interventionist, participatory.

**Credit Points:** 3    **Contact Hours:** 3 per week

#### ■ LPN112 CONCENTRATION STUDIES

In consultation with the lecturer in charge of the course, and with the approval of the Head of Department, each student will undertake an agreed program of study which may involve taking selected courses from outside the Urban and Regional Planning curriculum, focusing on a particular aspect of urban and regional planning which relates to the student's thesis topic. Every student is required to prepare a draft outline of the thesis and write a preliminary chapter or discussion paper which will normally deal with the theoretical background or broad context of the topic selected for study.

**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ LPN113 OPTION PROJECTS

Working in small groups, students will undertake projects which broadly relate to their theses topics. Projects may relate to topics such as Urban Development and Design, Regional Development Planning and Management, Recreation and Tourism Planning, and Planning in Developing Countries.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ LPN114 APPLIED RESEARCH TECHNIQUES

Lectures on and instruction in a variety of research techniques, including surveys of various types, statistical analysis, remote sensing and others as appropriate.

**Credit Points:** 3    **Contact Hours:** 1 per week

#### ■ LPN115 METROPOLITAN PLANNING PRACTICES & LAW

Growth and changes in metropolitan areas with particular reference to Australia; urban sprawl or urban consolidation; the future of metropolitan Brisbane; the current planning and legislative framework; suggestions for reform; group project on an aspect of metropolitan planning, normally in the context of Brisbane.

**Credit Points:** 22    **Contact Hours:** 3 per week

#### ■ LPN121 PLANNING THESIS

The thesis will normally be required to be 30-50,000 words in length, or equivalent, and is normally related to the Concentration Studies and Option Project chosen by the student, and provides an opportunity to pursue in depth an issue or problem within his or her special field of interest. The precise subject and objectives are chosen in consultation with an appropriate tutor. Field work is usually a necessary component of the research required in the production of the Planning thesis which should make an original contribution to knowledge in the field of Urban and Regional Planning or a closely related area.

**Credit Points:** 32    **Contact Hours:** 2 per week

#### ■ LPN122 PROFESSIONAL SEMINARS

Contributions by local and visiting speakers with specialist expertise or knowledge of specific issues or projects related to the work and interests of the Built Environment professions. Students from the different majors of MAppSc (Built Environment) program are expected to attend, and to participate fully in the discussions.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ LPN123 PLANNING IN DEVELOPING COUNTRIES

The concept of the Third World – characteristics and setting; theories of national development relevant to the Third World; the roles of international agencies, governments, expatriate urban and regional planners, local expertise and the international community; the problems of rapid social and cultural change; the role of nationalism. Urban issues: rapid urbanisation, dual economies, the provision of shelter, squatters, social and physical infrastructure. Rural issues; definitions and theories of development, rural development schemes and case studies – capital intensive, economic transformations, the future of urban-rural relations in developing countries.

**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ LPN124 OPTION COURSE

These courses will be selected by students with the approval of the Head of Department from among offerings in the three Brisbane universities for their interest and relevance to the student and her or his chosen Planning thesis topic.

**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ LPP201 CULTURAL VALUES

Concepts of garden, landscape and environment. Formative influences on late twentieth century thinking. Landscape as art or artefact, the fine arts tradition, and iconography. The continuing influence of the picturesque and gardenesque. The scientific, rationalist approach and evolving environmental romanticism. Functionalism, symbolism and meaning. The demystification (quantification) of aesthetic and personal response and the influence of the social sciences. Pursuing a public art form.

**Credit Points:** 4    **Contact Hours:** 1 per week

#### ■ LPP202 RESIDENTIAL LANDSCAPE DESIGN

Landscape design problems dealing with single and multiple dwellings. Introduction of the range of housing and subdivision types. How private and common land are controlled and managed. Consequences for design. Controls, by-laws, standards, and regulations for residential development using examples in various States. Relevant international examples including Radburn planning, experimentation with residential forms in the last 50 years, and the Commonwealth's 'Affordable Housing' program. Expectations of residents and the development of attitudes to suburban and urban gardens in Australia over the last century. Fashion, style and environmental constants. Microclimatic control, viewsheds and privacy, noise amelioration. Formulating and resolving briefs.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ LPP203 URBAN LANDSCAPE DESIGN

Theory: client and user analysis, data gathering and information requirements, programming of work for site planning and detailed design services, programming of implementation; user/function analysis and site capacity considerations and preparation of a

project brief. Open space theory and the principles of spatial design. Studio: a medium scale intensive/multiple use project which demands re-design and rehabilitation will be undertaken to apply concurrent theory lectures and seminars. Students will be expected to make time available outside studio hours to visit project site(s) and carry out such site surveys and 'client' interviews as are necessary to establish project briefs and carry out the design project. Expectations of an advanced level of professional presentation will attach to the project output.

**Credit Points:** 10    **Contact Hours:** 3 per week

#### ■ LPP204 LANDSCAPE PLANNING

Studies will include medium to large-scale projects involving a range of biophysical, cultural, and visual issues with a relatively high degree of complexity. The focus will be on assessment and evaluation of related landscape attributes and issues with emphasis on deriving landscape management options in the form of policies, guidelines, and implementation strategies. The studio will incorporate a lecture/seminar program which will promote an understanding of the theoretical framework of landscape planning.

**Credit Points:** 10    **Contact Hours:** 4 per week

#### ■ LPP205 LANDSCAPE DESIGN

Landscape design problems of increased scope, complexity and constraint. There will be at least one one-day esquisse project in addition to the primary theme project extending for the duration of the subject. Emphasis will be on the consistent resolution of design from broad concept through to the most detailed level. Matters of appropriate style and morphology will be dealt with in depth with the selected theme applied consistently through scale and organisation of layout, selection of materials, forms and elements, and integration with surrounding context. Projects will emphasise design of planting, constructed elements.

**Credit Points:** 10    **Contact Hours:** 3 per week

#### ■ LPP206 FORUM/WORKSHOP A

#### ■ LPP207 FORUM/WORKSHOP B

Content will depend on the needs of students as perceived by staff during each semester. Forum discussions will be structured around topical issues as debates, panel discussions, or seminars which may involve visiting specialist lecturers and/or participants. Skills extension sessions will be seminars of studio tutorials in areas such as graphic and other communication techniques, new materials or processes, innovative approaches to design, or specialised survey/analysis techniques.

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ LPP208 LANDSCAPE PRACTICE

Practical experience for a period of at least three weeks in landscape architectural office or offices as approved by the Course Coordinator. This experience may be prerequisite to or co-requisite with the second part of the subject. Experience will be logged as directed. Principles of contract law, forms of contract, standard conditions of contract and conditions of engagement, contract administration, professional presentation.

**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ LPP209 ADVANCED LANDSCAPE ECOLOGY

Structure of landscape and impact of human settlement; heterogeneous landscapes, patches, corridors, and the matrix; contrast and grain size; interaction

between adjacent elements, wind, soil, and water; connectivity of habitats and the dispersal of plants and animals; landscape and vegetation dynamics, scales of change; wildlife and conservation evaluation; GIS and other computer graphics and modelling in landscape ecology; multiple use and integrated landscape management; case studies in landscape ecology practice; potential for biological habitat reconstruction – issues, ethics, and practice.

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ LPP210 LANDSCAPE MANAGEMENT A

Assessment and evaluation including environmental impact analysis and an outline of current Commonwealth and State environmental assessment procedures and applications. Visual and scenic quality assessment techniques. An introduction to computerised three-dimensional modelling. Ecosystem protection, corridor and catchment management. An introduction to broadscale computerised monitoring and management programs including a range of case studies. Rural land use issues and systems. Resource management issues and systems.

**Credit Points:** 10    **Contact Hours:** 4 per week

#### ■ LPP211 LANDSCAPE MANAGEMENT B

The relationship between management and construction. Management created/dependent landscapes and construction created landscapes. Specifying and programming both construction and management as part of design implementation. Monitoring. The role of horticultural, agricultural and environmental sciences; specialisations and appropriate case studies. Horticulture, urban horticulture, arboriculture, plantscapes. Bushland management (including the Bradley method), regeneration, and monitoring. Catchment and watercourse management, embankment stabilisation. Coastal management and monitoring, particularly in use areas.

**Credit Points:** 10    **Contact Hours:** 4 per week

#### ■ LPP212 ADVANCED GRAPHICS

Applications of larger format design presentation; case studies and examples; advanced colour techniques; relating verbal and visual material; relating design concepts to visual themes.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ LPP213 ADVANCED LANDSCAPE CONSTRUCTION

Introduction to theory and techniques of a range of types of landscape construction including platforms, land stability and stabilisation, clearing and demolition, earth dams, lakes and flood levees, broadscale stormwater drainage and control, sports facilities and swimming pools, irrigation systems. Introduction to the types of documentation used for the implementation of landscape works including working drawings, specifications, bills and schedules of quantities and methods of production. Students will be required to produce a set of working drawings and specification of a competent standard for inclusion in their personal portfolios.

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ LPP214 LANDSCAPE ENGINEERING

Common philosophies of civil engineering designs; site influences on structural form; residential subdivisions – structural and engineering design, services, design standards, controls; major road systems – hierarchy, route selection, design parameters, noise constraints, associated services/facilities; waste disposal – land fill; large dams, canals, marinas, coas-

tal development – engineering constraints, design parameters, standards, erosion control methods; airfields, power reticulation – controlling authorities and legislation.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ LPP215 DEPARTMENTAL FIELD TRIP

The Field Trip will be a 7-10 day organised trip either interstate or in Queensland away from Brisbane. Environments may be natural, rural, or urban and the work and issues for discussion may relate to any or all of these. Current projects and complexity, areas of work, or contextual issues not able to be experienced locally will form the major thrust of the Field Trip.

**Credit Points:** 2

#### ■ LPP216 COMPUTER AIDED DATA ANALYSIS A

The development of skills and application of computer aided data analysis in Landscape Architecture. The emphasis is on building graphical data and attribute data skills; database management software; input and manipulate data; development of graphic skills using the Autocad system.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ LPP217 COMPUTER AIDED DATA ANALYSIS B

The subject presumes not only basic understanding of the use and application of computers but also a sound knowledge of and some skill in graphic software and data input analysis in database management systems. Exploration of the types of GIS, potentials and problems, and current issues; in working knowledge of ArcInfo (PC version) and the current applications in Landscape Architecture.

**Credit Points:** 2      **Contact Hours:** 1 per week

#### ■ LPP401 RURAL LAND USE & PLANNING

Rural land use patterns. The characteristics and dynamics of rural land uses – forestry, pastoral and arable agriculture, extractive industries, water collection, recreation and tourism, conservation systems. Impacts of rural resource developments. Rural land evaluation. Rural planning and characterisations of rural settlements. The rural urban fringe. Rural issues, problems and conflicts. Case studies of rural land use, abuse and conservation in Australia and overseas. Associated project and field work.

**Credit Points:** 3      **Contact Hours:** 1 per week

#### ■ LPP402 SOCIAL PLANNING

The genesis of social welfare policies in Australia – employment, health, housing, income and education. The aims and conduct of social surveys. Community development and organisation schemes in Australia and overseas. Public participation and community action; planning aid and advocacy planning.

**Credit Points:** 4      **Contact Hours:** 1 per week

#### ■ LPP403 INTRODUCTION TO PLANNING PROCESSES

Creativity, scientific method and planning method. Prediction, uncertainty, partial rationality and planning horizons. Deductive, inductive and hypothesis-based approaches to planning method. The shape of the planning process. Objective formulation, data selection and analysis, resource and potential surface analysis. Policy formulation and plan generation. Evaluation techniques. Cyclic monitoring and reformulation of objectives.

**Credit Points:** 6      **Contact Hours:** 2 per week

#### ■ LPP404 INTRODUCTION TO THEORIES OF PLANNING

Ideas and theories in planning; theory as a basis for practice. The political and philosophical determinants of land use planning. Values in planning, models of human nature and planning's relationship to important value traditions: liberalism, utilitarianism, empiricism, idealism, socialism, conservatism. The concepts of the public interest, social justice and public intervention.

**Credit Points:** 6      **Contact Hours:** 2 per week

#### ■ LPP405 PROCEDURAL PLANNING THEORY

Theory, explanation and prescription and the development of planning and decision theory; comprehensive planning and incrementalism, flexibility and commitment, the management of uncertainty, levels of decision making – the concept of mixed scanning, strategic and local planning, 'procedural' planning theory and recent critiques.

**Credit Points:** 4      **Contact Hours:** 1 per week

#### ■ LPP406 PROFESSIONAL PROCEDURES & ETHICS

The nature and role of a profession and professionalisation. Codes of practice and ethics. The role of the expert witness. Situations of professional conflict. The role of the professional planner in public and private practice. Office practice and procedures setting up an office, filing, costing, control systems, preparation of briefs, estimating.

**Credit Points:** 4      **Contact Hours:** 1 per week

#### ■ LPP407 URBAN POLICY PROCESSES

Models of public decision making: rational, incremental, bureaucratic, etc. The roles of political, administrative and private actors in public policy-making. Organisational and inter-organisational theory, including theory of bureaucracy, organisational structure and change, inter-organisational decision making. Ways of improving urban policy making at the organisational and inter-organisational level: corporate planning, PPBS, management by objectives, strategic choice etc.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ LPP408 SOCIAL & POLITICAL STRUCTURES

The focus and exercise of power in society; analysis of modern industrial societies, with particular reference to Australia; structure of society, family, political groups, ethnic groups, alternative societies etc.; relevance to and implications for statutory planning.

**Credit Points:** 4      **Contact Hours:** 1 per week

#### ■ LPP411 PLANNING PRACTICE & LAW (URBAN)

This subject takes the form of a problem-solving group project set in an inner metropolitan or small town location, often undertaken in conjunction with local communities and councils. In the course of the project, which is accompanied by a series of lectures, the student group formulates policies and strategies relating to a specific urban area. Topics discussed include the statutory basis for urban planning and development in Queensland, including land use allocation, zoning, development control, statutory and non-statutory plans, consultation and participation, and the sources and use of statistical and other data relevant to urban planning.

**Credit Points:** 14      **Contact Hours:** 4 per week

■ **LPP412 PLANNING PRACTICE & LAW (REGIONAL & STRATEGIC)**

The regional concept and its relevance to planning; aims of regional and strategic planning, eg, integration of urban and rural development, reduction of regional disparities, resource development; statutory basis of strategic planning; the case of Queensland. Strategy and policy formulation in a group project relating to a specific region.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LPP413 ADVANCED URBAN STRUCTURE**

Critique of models of urban land use; justice, equality and welfare in the urban context; marginalisation and polarisation of groups within society; issues related to the problems and requirements of groups such as women, children, the aged, disabled, ethnic minorities, and access to housing, transport etc.; relevance to and implications for planners.

**Credit Points:** 4    **Contact Hours:** 1 per week

■ **LPP414 RESOURCE MANAGEMENT**

Aims and processes of resource management. Alternative approaches and techniques, resource inventories and evaluations. Environmental impact analysis and statements, statutory requirements. Multi-purpose schemes and the planning and management of regional landscapes in Australia and overseas. Policy studies of land and other resource management schemes.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **LPP415 RESEARCH METHODS & INDIVIDUAL PROJECT**

The place of objectives in research method; delimitation of areas of concern; structuring the research program; identification of primary and secondary sources; purposes and limitations of analysis; inference, uncertainty and exclusion of false conclusions; selection and adaptation of techniques. Preparation of an individual research study 10-12,000 words in length (or equivalent).

**Credit Points:** 10    **Contact Hours:** 2 per week

■ **LPP416 URBAN POLICY IMPLEMENTATION**

Overview of the roles of the three levels of government in Australia as they impact on urban policy making and implementation. Statutory Authorities. The roles of the private sector, through pressure groups, development proposals and the like. Implementation and evaluation in the urban planning process. The general problems of change, implementation and evaluation: motivation, conflict, coordination, flexibility, information, resources etc. Development of skills for improving the implementation of urban policies, including conflict resolution and negotiation skills. As far as possible material will be linked to case studies.

**Credit Points:** 4    **Contact Hours:** 1 per week

■ **LPP418 COMPUTER APPLICATIONS IN PLANNING**

Information storage and retrieval; sources of information and data bases (census, local surveys, networked data bases etc.), the use of information in decision making; manipulation of information by use of statistical packages, spread sheets and data bases; Geographical Information Systems, and CAD, including 'hands on' experience with drafting, digitising etc, and the specific use of Land Information Systems; and planning techniques including the use of programs developed in the Department and

linked to material being taught in other current subjects in the GDURP.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **LPP420 DEPARTMENTAL FIELD TRIP**

One field course of approximately 7-10 days duration to provide a comparative dimension to students' studies and to develop skills in observation, data collection, recording and interpretation.

**Credit Points:** 4    **Contact Hours:** 7-10 days

■ **LPP501 THEORY OF SITE PLANNING**

Exploration of open space theory at regional and local scales; definition of spatial characteristics by edges, nodes, landmarks, districts, and paths. Sense of place; structure and form; legibility; imageability; etc; human responses and expectations and their effects on site planning decisions.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **LPP502 SITE PLANNING TECHNIQUES**

Introduction to the processes of site planning and detailed site design that lead to defensible and accountable solutions; role and objectives of survey and analysis phases; types of information required and the methods of processing the resultant data; data analysis, its scope and documentation; the use of data analysis to generate and evaluate possible problem solutions in conceptual form as a basis for strategic and master planning and the value of these processes as a long-term mechanism for adaptation of master planning to meet changing needs.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **LPP503 HISTORY OF LANDSCAPE DESIGN**

The form and content, influencing factors, and implication of the creation and development of historically, regionally, and religiously significant consciously designed landscape throughout the world; the evolutionary processes in development of cultural landscapes.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **LPP504 PLANTING DESIGN**

Design characteristics and criteria. The use of plants as structural and design elements within landscape. Principles of planting design. Scale. Design for change, growth, replacement, and maintenance. Planting design in typical schemes such as streets, highways, parks, urban forecourts and interior plantscapes, gardens, and broadscale regeneration and stabilisation.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **LPP505 CONSERVATION THEORY**

Introduction to the concepts of conservation and preservation. Outline of the development and current status of the conservation movement. The structure of conservation legislation and responsibility in Australia. ICOMOS and the 'Burra' Charter. The particular requirements of places, landscapes, and precincts in mixed or public ownership. Application of conservation concepts and their use in the National Listings process. Local and Regional Case Studies.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **LPP506 USER & CHARACTER DESIGN STUDIES**

The first project will be concerned with user behaviour and requirements using two or three city centre pedestrian spaces. The second project uses the same locations to analyse the spaces in the light of both their own inherent characters and the user needs

and responses defined earlier. As an introduction to the concept of abstraction, a final project may be held consisting of individuals or small groups of students making sculptures or models expressing the spirit of the places studied earlier in the semester.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ LPP507 SITE PLANNING

Application of site planning principles and theory at all scales and types of projects; site utilisation and selection; application of site survey and analysis techniques; natural and man-made influences in physical design; environmental and social implications of design decisions; siting and integrating activities, structures, and services; land form manipulation. Emphasis will be given to alternative concept formulation and evaluation as a critical decision-making phase of the design process.

**Credit Points:** 11    **Contact Hours:** 3 per week

#### ■ LPP508 INTRODUCTION TO PRACTICE

The concept of professionalism and contemporary social expectations of the environmental design professions. Current issues and controversies in environmental design and planning in Australia. Roles, ranges of employment and activities within the profession. Organisation and activities of the professional Institute. The future directions, potentials, and opportunities. Introduction to the range of professions associated with Landscape Architecture. Introduction to the importance and techniques of CVs and portfolios.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ LPP509 QUANTITIES & COSTS

Measurement and costing of time, resources, and materials for professional services, production of documents, and implementation of projects. The techniques and tools available for both preliminary and detailed measurement and costing and their control. Time and percentage measurement and costing related to the professional services. Costs of documents, including relative costs of different methods of production. Units of management and costing of broad development types and for more detailed landscape architectural and urban design projects. The techniques of cost control.

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ LPP510 INTRODUCTION TO LAW

Laws, regulations and their interpretation. A review of the Australian and Queensland acts, local authority by-laws and regulations of statutory authorities as they affect the built environment. Legal aspects of land and land transfer. Planning and land use regulations. Introduction to professional liability, design registration, and copyrights.

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ LPP511 ENVIRONMENTAL PSYCHOLOGY

The social and cultural development of Australian urban environments, with particular reference to the local built environment. The study of human functioning in urban environments. Theory: privacy, personal space, territoriality, environmental meaning and cognition, cognitive ways and wayfinding, intercultural and intracultural differences. Application via examination and analysis of an urban environment or an artefact with respect to its sociocultural function.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ LPP512 INTRODUCTION TO PLANT SCIENCE

Consideration of plants as living organisms; survey of the plant kingdom emphasising evolutionary trends –

complexity of organisation and integration of structural elements, evolution of specialised organs such as leaves, roots, flowers, and propagules; consideration of plant systematics and taxonomy as scientific approaches to coping with diversity, the concept of classification, and the development and use of keys for identification. Values and use of numerical classification techniques are introduced; an introduction to physiological processes – photosynthesis and respiration, responses to light, temperature, nutrients, water balance and stress, nutrient and mineral deficiencies, and diseases and pathogens.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ LPP513 INTRODUCTION TO PLANT ECOLOGY

The individual organism as an ecological unit; life forms as an expression of environmental influences; the concept of 'species' in plants and animals; population and population regulation; limiting factors; life cycles; pollination and dispersal; life history patterns; concept of 'niche'; resources, competition, dynamics of plant communities; herbivory and other interactions with the fauna; introduction to ecosystems and energy and nutrient flows.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ LPP514 LANDSCAPE ECOLOGY

Broad divisions of the earth related to climate and soils – biomes, formations, alliances, associations, and societies; ecosystem concept and its development and application historically and in Australia; plant communities as expressions of ecosystems; energy and water balance; concepts of community ecophysiology and growth equations; vegetation classification in Australia and its functional significance; ecological biogeography of Australian vegetation; classification of landscape – concepts of biogeographic regions, provinces, land systems, and land units; landscape structure and function and significance for nature conservation and conservation planning; landscape ecology and landscape planning practice.

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ LPP515 IMPACTS & ASSESSMENT

Decision-making and conflict resolution techniques relevant to land and other natural resource planning and management; analysis of ecological processes which structure and maintain the major terrestrial and aquatic ecosystems as background to assessing impact of human activities of urbanisation, resource exploitation, mining, and other landscape changes; forms of impact assessment and analysis considering ecological, social, and economic issues; statutory assessment systems especially those pertaining to Queensland and under Federal legislation.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ LPP516 VISUAL COMMUNICATION – GRAPHICS

Studio sessions focus on lettering, layout, and visual themes in display communication. Scale, emphasis, readability, and organisation of various types of information (photos, diagrams, text, sketches, plans etc.) Sessions demonstrate and develop the use of diagrams as major tools to explore and to communicate all types of information from concepts through to physical relationships. Exercises introduce and develop the range of sketch types and their appropriateness to different types of work such as exploration of form, analysis, and communication of concepts.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **LPP517 ORAL COMMUNICATION SKILLS**

Formal oral communication techniques including meetings, conferences, interviews and speeches (informative and persuasive).

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **LPP518 REPORT PREPARATION**

Formal writing techniques, including reports, instructions, proposals, specifications, correspondence and essays. Report writing. Structure and content of reports. Summaries and subdivision of material. Precis. Use of tables, charts, and illustrations in written presentation. Clarity and the selection and management of relevant data.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **LPP520 LANDSCAPE GRAPHICS**

Combined application of freehand, drafting and colour techniques. The selection of colour, theme and emphasis in graphic packages. Realism, abstraction and symbolism in landscape communication. Monochromatic graphics for simple reproduction. Integration of various graphic techniques and media. Efficient processes for production and reproduction.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **LPP521 MAP & AIR PHOTO INTERPRETATION**

Types, sources, uses, and availability of maps and air photos; map reading, understanding of contours, land form, and use of sections; methods and techniques of map production; introduction to photogrammetry and use of stereoscopes; introduction to remote sensing.

**Credit Points:** 4    **Contact Hours:** 1 per week

■ **LPP522 MEASUREMENT OF SITES**

Introduction to basic equipment for site measurement – levels, staffs, chains and tapes, prismatic compass, optical square, clinometer, range poles – and their uses in horizontal and vertical measurement. Introduction to recording of field data and the preparation of measured site drawings from recorded data.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **LPP523 LANDSCAPE CONSTRUCTION**

Introduction to structures. Definition of terms; basic actions/reactions of beams, columns, slabs, structural units and types of structures; loadings and types (including wind loading). Development of understanding of the properties of common construction materials and their application in landscape construction; establishment of sound techniques of technical drawing in the preparation of construction documents. Topics covered include the common materials; an understanding of foundation soils; basic services of site stormwater drainage, water and electrical services; applied systems including paving, steps and ramps; and construction for planting and small water features.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **LPP524 LAND GRADING**

Manual techniques of land surface manipulation including the construction of platforms for building, carparks, sports ovals, and other features; and the associated provision of surface drainage.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **LPP551 LAND USE GENERATION**

Changing patterns of urban land use, medieval to industrial revolution; segregation of land uses in planned settlements of the twentieth century; planning for urban diversity; the logic of design from values through activities to land uses; the formation

of value system; analysis and projection of activity systems; electronic communications, urban decentralisation, and emerging settlement patterns in the western world.

**Credit Points:** 7    **Contact Hours:** 2 per week

■ **LPP552 INTRODUCTION TO GRAPHICS**

Freehand sketching of objects from observation, rendering textured surfaces, design developmental graphics, understanding two-dimensional layout and competence in presentation of two-dimensional design in reports and drawings.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **LPP553 SITE PLANNING DATA & TECHNIQUES**

Natural influences in physical planning – geology, climate, topography, hydrology, soils and vegetation etc. Ecological considerations in design and development processes. Impact of natural hazards and other physical constraints on design, including air, water, and noise pollution. Impacts of development on the natural environment. Landscape evaluation techniques.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **LPP554 SITE PLANNING PRACTICE**

Layout of lots, buildings, roads and services; the retention of existing desirable features of the site; use of trees and other plant material; modification of land surface eg, cut and fill; subdivision design; planning application and approval process.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **LPP555 THEORY OF SITE PLANNING**

Exploration of open space theory at regional and local scales; definition of spatial characteristics by edges, nodes, landmarks, districts, and paths. Sense of place; structure and form; legibility; imageability etc.; human responses and expectations and their effects on site planning decisions.

**Credit Points:** 3    **Contact Hours:** 1 per week

■ **LPP556 PROFESSIONAL COMMUNICATION**

Oral and written presentation. Clarity and the selection and management of relevant data. Report writing. Structure and content of reports. Summaries and subdivision of material. Precis.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **LPP557 TRANSPORT PLANNING**

Movement and its alternative modes: foot, cycle, car, bus, train, plane, pipeline, inland waterway and marine modes. The origin and destination approach to traffic management interchange studies. Inter-urban traffic and regional transport planning. This relationship between land use and traffic generation.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **LPP558 POPULATION & URBAN STUDIES**

Basic urban definitions, spread and characteristics of urbanisation, the structure of cities and the economic and social processes at work within cities, particular aspects such as housing and gentrification, basic concepts of population and demography, recent and historical analyses of the Australian population, familiarisation with the role of ABS and with statistical and data analysis of population, world demographic trends.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **LPP559 APPLIED NATURAL SCIENCE**

Applied studies in geology and geomorphology, climate and micro-climate, soils and hydrology, the broad soil and plant community associations. The

influence of these systems collectively and separately on environmental design decisions.

**Credit Points:** 5      **Contact Hours:** 2 per week

#### ■ LPP560 HISTORY OF PLANNING

The links between society, ideas and urban form. Urban evolution from ancient to modern times in Africa, Asia, Europe, America and Australasia. The Industrial Revolution and its effect on urban form and on planning ideas. Australian urban history and the development of environmental management and town planning in Australia.

**Credit Points:** 3      **Contact Hours:** 1 per week

#### ■ LPP561 INTRODUCTION TO URBAN DESIGN

Design method, visual thinking; principles of perception and spatial arrangement; the vocabulary of design and urban imagery; design elements; the evolution of designer theory; techniques for analysing the quality of existing built environments; analysis of examples. Urban design project.

**Credit Points:** 18      **Contact Hours:** 3 per week

#### ■ LPP562 ECONOMICS OF TOWN PLANNING

Introduction to economics – the factors of production and their organisation. Demand and supply. The free market and its imperfections. The market as an allocator of preferences; concepts of private and public interest. Market failure. Social objectives and the role of government. Economic growth and stability – the enabling of development. The problem of negative externalities – the economic justification of the public control of development. Economic methodology, such as regional accounting, cost benefit analysis. Economics of land use; land as an economic concept, public and private costs. The features and operation of the real property market. Theories of land value. Land valuation theories and techniques. Land tenure – the rights of ownership – resumption by the Crown – problems of compensation and recoupment of betterment. Land use controls.

**Credit Points:** 5      **Contact Hours:** 2 per week

#### ■ LPP563 INTRODUCTION TO COMPUTERS IN PLANNING

Introduction to the use of computers in planning, including their potential benefits and problems; the computing facilities available at QUT, particularly PCs. The course provides an overview of computers including: their structure, development and uses in the modern world; problems and advantages of computer use; introduction to the 'hands on' experience in using QUT's computer facilities; gaining access, file structures, information storage and retrieval, editing, and related utility functions; introduction to flow-charting and programming logic. Simple programming exercises. Spreadsheets and databases. Introduction to Geographical Information Systems. Word processing on microcomputers. Class sessions will include 'hands on' tutorial experience.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ LPP564 INTRODUCTION TO MAPS & AIR PHOTOS

Types of maps, their uses and limitations. Orientation, scale, cartographic symbols, representation of relief etc., grid coordinates. Vertical and oblique air photos; black and white, colour, false colour. Mosaics and stereopairs. Introduction to stereoscopy and simple mapping from air photos. Introduction to various types of remote sensing imagery available to planners.

**Credit Points:** 3      **Contact Hours:** 1 per week

#### ■ LPP565 URBAN LAND DEVELOPMENT

Structural and engineering design requirements in urban development – local physical services, roads and drainage, sewers, water, gas, electricity and Telecom services. Design and control systems, design standards, the effects of standardised requirements and alternative approaches. The roles of statutory authorities – gas, electricity, water, telephone, public transport, railways, waterways, road construction authorities. Development teams – the roles of associated disciplines – civil, municipal and transport engineers, earth and environmental scientist, and others. The role of the private developer.

**Credit Points:** 3      **Contact Hours:** 1 per week

#### ■ LPP566 HOUSING & COMMUNITY SERVICES

Population, dwellings and households. Techniques of analysis and projection of housing stock. Housing conditions and preference surveys: housing issues and policies. The economics of the building and land development industries. The physical place of educational institutions in communities – schools, colleges, universities. Share use of facilities. Location and space standards. Social and welfare services and their role in the community. Planning and management aspects of welfare.

**Credit Points:** 5      **Contact Hours:** 2 per week

#### ■ LPS102 INTRODUCTION TO TOWN PLANNING

The concept and administrative procedures of town planning; the objectives of town planning; conflicts in land use; development control; planning criteria; planning schemes; development applications and decision making.

**Credit Points:** 2      **Contact Hours:** 2 per week

#### ■ LWB101 INTRODUCTION TO LAW

The purpose of the course is to introduce students to the institutions of the law – the courts, Parliament, the judiciary, the legal profession – and their working, and the doctrines and methodology of the Law, including the doctrine of precedent and the principles of statutory interpretation.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

#### ■ LWB102 LAW OF CONTRACT

The substantive principles of contract law, as taught, include: definition of the Law of Contract, outline of remedies; formation of contract – agreement equitable estoppel; contents of a contract express and implied terms; factors vitiating contracts; capacity to contract; privity of contract; discharge of contract; breach of contract.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

#### ■ LWB103 TORTS

At its most general level this branch of the law is concerned with the question of compensation to be given by a person causing a loss to a person suffering a loss. Areas of everyday conflict which may be resolved by principles of tort liability include damage sustained as a result of a motor-vehicle collision, and injury to a person's reputation from publication of defamatory material. The rules are examined to ascertain whether they satisfy the critical test: functional adequacy in terms of contemporary values.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

**■ LWB104 LEGAL RESEARCH & WRITING I**

An introductory subject to teach students basic legal research methodology, and how to write assignments and solve legal problems. It includes a study of the hierarchy of the courts, the history of law reporting and the doctrine of precedent; how to use a law library effectively; and gives students practice in handling the most important research materials. An introduction to the use of computerised legal research also is included.

**Credit Points:** 4 per semester

**Contact Hours:** 1 per week

**■ LWB201 LAND LAW**

The principles relating to the law of Real Property in Queensland – the rights, interests and obligations which can exist in relation to land, and the methods of creating, enforcing, assigning and extinguishing such rights, interests and obligations. The course encompasses: the concept of real property; the doctrines of tenure and of estates; equitable interests; the Torrens system; easements; mortgages; leasehold interests; covenants affecting land; co-ownership; future interests and perpetuities; building units title and group title; time-sharing; and Crown leasehold.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

**■ LWB202 CRIMINAL LAW & PROCEDURE**

The criminal law in force in Queensland, encompassing (inter alia) criminal responsibility, parties to offences, and major indictable offences. The wider context of the operation of the criminal law is considered, introducing students to penal principles and the justifications for imposing punishment by the State, to aspects of the disposition of offenders in the sentencing part of a criminal trial, and to a consideration of imprisonment and release procedures.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

**■ LWB203 CONSTITUTIONAL LAW**

A study of the extent of power of the institutions which make, administer or apply the law – particularly important in a federation such as the Commonwealth of Australia. The federal constitution divides power between the State and Commonwealth governments, and between the legislative, executive and judicial branches of the Commonwealth government and actions which ignore those divisions can be challenged successfully in courts of law.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

**■ LWB301 EQUITY**

Equitable doctrines were developed to complement the sometimes inflexible rules of the common law. In Semester 1, students are introduced to basic equitable principles, including a study of equitable estates and interests. Unconscionable dealings are also studied in some detail. In Semester 2, major areas of study include the law of trusts and equitable remedies (including some defences).

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

**■ LWB302 FAMILY LAW**

An examination of the manner in which the law treats the special social relationships which exist among members of a family and transforms them into legal rights and duties. Subjects examined include the family as a legal phenomenon; annulment of marriages; dissolution of marriages; and consequences of separa-

tion and divorce, such as maintenance, adjustment of interests in property and custody.

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ LWB303 COMMERCIAL LAW**

The legal rules which govern mercantile dealings in personal property. The course encompasses the legal framework, the various kinds of personal property recognised in the Australian legal system, and rules which especially affect commercial transactions. Matters considered in detail include: nature and sources of commercial law; personal property; negotiable instruments including bills of exchange and cheques; bailment; sale of goods; and consumer protection under the Trade Practices Act 1974; insurance.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

**■ LWB305 JURISPRUDENCE**

Jurisprudence (the 'philosophy of law' or 'legal theory') involves the application of insights gained from philosophy – in particular, from logic and from moral, political and social philosophy – to the study of law. The course includes the following topics: historical background to modern theories, sociological and historical descriptions of law and legal change, and theories of limited or unlimited government power, of recognition of valid law and legal systems, of legal reasoning, and of the proper objects of law and the proper direction of legal change.

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ LWB306 LOCAL GOVERNMENT LAW**

The course considers the source of legal authority for the government of cities, towns and shires, with particular reference to the City of Brisbane; the laws relating to town planning and subdivision, including the principles applicable to the rezoning of land; uses of land; the control of developments by local authorities; rights to object to developments; the control exercised over subdivision of land by local authorities; rights of appeal from local authority decisions; and the structure, purpose and procedure of the Local Government Court.

**Credit Points:** 8    **Contact Hours:** 2 per week

**■ LWB307 INSOLVENCY LAW**

The course consists of two parts. The first deals with the insolvency of individuals and involves a study of the Bankruptcy Act 1966 (Cth). The second part of the course covers winding up of companies, procedures other than winding up which may be open to an insolvent company, and the law relating to receivership of an insolvent company's assets – this includes a consideration of the relevant provisions of the Companies (Queensland) Code.

**Credit Points:** 8    **Contact Hours:** 2 per week

**■ LWB308 INDUSTRIAL LAW**

The Industrial Law course examines the rights and duties of employers and employees under the law of employment, breach of these duties, and the remedies of both parties; a worker's entitlement to workers compensation, and the benefits available; the law governing the operation of trade unions and the rights of members; and settlement of industrial disputes in the Commonwealth and State spheres by conciliation and arbitration.

**Credit Points:** 8    **Contact Hours:** 2 per week

**■ LWB309 SUCCESSION**

Intestate and testate succession; definitions; joint and mutual wills; formal requirements for execution of valid will; alteration, revocation and revival of wills;

administration of assets – duties, powers, rights and liabilities of personal representatives; family maintenance provisions – power of court to vary a will.  
**Credit Points:** 8      **Contact Hours:** 2 per week

#### ■ LWB311 ADMINISTRATIVE LAW

An examination of the basis on which the courts review both administrative action taken by governments and delegated legislation, and of the remedies available and restrictions on judicial review. The alternative means of review (the Ombudsman and the Administrative Appeals Tribunal) and access to government information are examined also. The special position of the Crown and the question of government liability in contract and tort are also considered.

**Credit Points:** 12 per semester  
**Contact Hours:** 3 per week

#### ■ LWB312 LAND CONTRACTS

This course examines in detail the principles involved in the construction of Contracts for the sale of land, with special emphasis upon the current standard REIQ Contract in use in Queensland. Special consideration is given to statutory requirements as they affect such contracts, including those relating to building units and group titles conveyancing.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ LWB313 DISCRIMINATION/EQUAL OPPORTUNITY LAW

An examination of the law and policy with respect to discrimination and equal opportunity in Australia; relevant international treaties and Australian legislation such as the Racial Discrimination Act, Sex Discrimination Act, Human Rights and Equal Opportunity Commission Act and Privacy Act are considered; the practice and procedure of the Human Rights Commission and state bodies.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ LWB401 COMPANY LAW & PARTNERSHIP

Company Law dominates the course and is mostly concerned with registered companies. The law relating to proprietary companies is dealt with fully, that relating to public companies in outline only. Topics dealt with include: nature of registered companies, including procedure to obtain registration, and classification of registered companies; prospectuses; general meetings; enforcement of directors' and controlling members' duties; shares, share capital and dividends; and winding-up.

**Credit Points:** 12 per semester  
**Contact Hours:** 3 per week

#### ■ LWB402 EVIDENCE

The rules and principles that relate to the presentation and proof of facts to a Court of Law. Litigation largely involves the application of substantive law to the facts that are determined according to the rules of evidence – students' knowledge of the substantive law is assumed. In addition to the technical rules that are considered during the course, students are encouraged to view the principles in the context of the adversary system and to recognise the problems of applying rigid rules within that system.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ LWB403 TAXATION LAW

The course examines the Income Tax Assessment Act 1936 (Cth) and some related statutes. Matters dealt with in income tax include the administrative structure and scheme of the Act, residence of taxpayers,

determining assessable income and deductions, taxation of partnerships, trusts and companies, capital gains tax; tax planning; liability of tax advisors, and some aspects of fringe benefit tax.

**Credit Points:** 12 per semester  
**Contact Hours:** 3 per week

#### ■ LWB404 CIVIL PROCEDURE

The procedure by which Courts resolve civil disputes. The course emphasises (but is not restricted to) the practice in the Supreme Court of Queensland, covering the rules of that Court and principles of law arising from them. Topics studied include commencement of proceedings, interlocutory applications, costs, appeals and execution of orders and judgements. The course is relevant to anyone dealing with jurisdictions based on the Judicature system.

**Credit Points:** 12 per semester  
**Contact Hours:** 3 per week

#### ■ LWB405 SOLICITORS' TRUST ACCOUNTS

**Credit Points:** 8      **Contact Hours:** 2 per week

#### ■ LWB406 PUBLIC INTERNATIONAL LAW

An examination of the legal rules which govern the activities of nations between themselves and with international organisations, such as the UN; the creation of international law (treaties, customary law, general principles of law); the concept of international legal personality (statehood, self-determination, recognition); the effects of international law (sovereignty, international responsibility, human rights, the law of armed conflict); the problem of the status of the law itself; comparative approaches to international legal thinking.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ LWB407 CONFLICT OF LAWS

An in-depth analysis of the body of law governing the resolution of private legal problems with a significant foreign element. It includes: jurisdiction of domestic courts to determine matters having a foreign element; enforcement of foreign judgments in the domestic jurisdiction; choice of law for the resolution of the dispute, both generally and in relation to family law, contract, tort, property and succession.

**Credit Points:** 12      **Contact Hours:** 3 per week

#### ■ LWB409 PROFESSIONAL CONDUCT

All LLB students, whether they intend to become barristers or solicitors, must study both parts of this subject. Barristers – Lectures cover conduct and etiquette at the Bar, and deal specifically with the character of practice at the Bar; regulation of practice at the Bar in Queensland; and the respective duties of Barristers to the Law, the Court, the public, the client and the opponent. Solicitors – Matters dealt with include professional courtesies, division of the profession in Queensland, the Statutory Committee, malpractice, professional conduct, duties of a solicitor, respective functions of barristers and solicitors, a solicitor acting for more than one party, advertising fees, trust accounts and legal professional negligence.

**Credit Points:** 2  
**Contact Hours:** 2 per week for 5 weeks (10 hours)

#### ■ LWB410 TRADE PRACTICES LAW

This elective course deals with the law established by the Trade Practices Act 1974 (Cth), as amended, and related State Laws. The course studies: background to, and need for, the legislation; constitutional basis of the Commonwealth Act; administrative arrange-

ments and enforcement procedures; control of 'restrictive' practices; prohibition of 'unfair' practices; and jurisdictional problems and remedies.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ LWB412 RESEARCH & WRITING PROJECT

An arranged and supervised piece of research into some area of legal knowledge, and the writing of a paper of between 10,000 and 15,000 words on the results of the research and conclusions drawn therefrom. The paper will be the property of the Faculty of Law and may be placed in the Law Library. A student wishing to undertake the Research and Writing Project should discuss the matter as early as possible in the semester immediately before that in which he/she proposes to undertake it. The written proposal must reach the Dean at least two clear weeks before the beginning of the teaching semester in which the project will be undertaken, and the proposal will be accepted or refused – and the student notified accordingly – not later than the first day of that teaching semester.

**Credit Points:** 12

#### ■ LWB414 DRAFTING & LEGAL TRANSACTIONS

A study of the general principles of drafting and analysis of instruments commonly used in practice including deeds, special conditions in Torrens Title conveyancing contracts, options to purchase and renew, Land Act contracts, and business contracts and leases. The course includes an introductory study of stamp duty and its applications, and an examination of securities and trust instruments. Drafting covers mortgages, unit trusts and discretionary trusts, together with stamp duty implications.

**Credit Points:** 8 per semester

**Contact Hours:** 2 per week

#### ■ LWB415 LEGAL RESEARCH & WRITING II

This advanced subject revises, extends and tests students' legal research skills acquired in the introductory subject. Sources from other jurisdictions such as the UK, Canada, New Zealand and the USA are included. An important section of this subject is the researching/writing of an assignment based on a problem which involves a number of subjects studied during the LLB course, including researching recent developments in the law in those areas.

**Credit Points:** 4 per semester

**Contact Hours:** 1 per week

#### ■ LWB480 MEDIA LAW

The laws which shape the news media, their industry structure and their message content. Topics include journalists and their sources of information, defamation, contempt, confidential information, access to information, the Broadcasting Tribunal, and regulation of advertising and of ownership.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ LWB481 MINERAL LAW

Predominantly, the law governing and affecting the mining of 'hard' minerals. The course begins with a short explanation of basic concepts, and then analyses mining legislation – with particular emphasis on Queensland legislation – and other legislation which has an impact on mining. The structure of mining ventures is also considered. Specific topics considered include: ownership of minerals; State agreements; securities; mining on private land; administration of mining legislation: Warden's Court; and environment protection legislation.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ LWB482 COMPUTERS & THE LAW

Computers and their impact upon the law including: use of computers in the individual legal practice; computerisation of the Titles Office, Companies Register, Parliamentary Drafting, Government Printer, Supreme Court; computer contracts; computer records as evidence; and implications of data storage for privacy, and freedom of information. The course includes instruction in the use of Computerised Legal Information Retrieval System (CLIRS).

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ LWB483 MEDICO-LEGAL ISSUES

The constitutional framework supporting the regulation of health care; the relationship between the individual and the health care provider in terms of consent to treatment and negligence; the impact of the criminal law – abortion, removal from life support systems; mental illness and fitness to plead; medical records and evidence – ownership and confidentiality of records, expert evidence; the role of the coroner; complaints against hospitals and health care workers.

**Prerequisites:** LWB101, LWB103

**Credit Points:** 8    **Contact Hours:** 2 per week

#### ■ LWD001 LAW FOR NURSES

Introduction to the Australian legal system; Commonwealth and State powers concerning health; consent and treatment/restraint of patients; negligence; the relationship between employer and employee; removal of patients from life support equipment and the law on euthanasia; abortion; transplantation of organs and tissue; medical records and confidentiality; control of poisons; the Coroners Act (Qld).

**Credit Points:** 3    **Contact Hours:** 2 per week

#### ■ LWN001 ADVANCED COMPANY LAW

The first part of this course considers the Companies (Acquisition of Shares) Code which regulates acquisition of shares effecting a change in a company's control. The second part of the course considers the law of company liquidations; emphasis is given to a creditor's application for a winding-up order, and effects of a winding-up and duties/powers/rights of liquidators are also considered.

**Prerequisite:** LWB401 or equivalent

**Credit Points:** 10 per semester

**Contact Hours:** 2 per week

#### ■ LWN004 ADVANCED LAW OF TRUSTS

The underlying principles of areas of conceptual difficulty from the law of trusts which are of particular practical importance. A specialised examination of the principles and practice in respect of establishment, administration, distribution, taxation, liability and recognition.

**Credit Points:** 24    **Contact Hours:** 2 per week

#### ■ LWN005 TRADE PRACTICES & CONSUMER PROTECTION

This course studies various aspects of the current Australian Trade Practices Act 1974, not only from a purely professional viewpoint but also from a wider viewpoint of the policy issues involved. No knowledge of economics is required, although some readings will be drawn from economics. Topics dealt with include: the common law doctrine of restraint of trade; the economics of competition; markets, competition and market power; mergers; price fixing; misleading and deceptive conduct in general, and specifically; enforcement, remedies and authorisations under the Act.

**Credit Points:** 10 per semester

**Contact Hours:** 2 per week

#### ■ LWN007 COMMERCIAL ARBITRATION

Commercial arbitration – Australian and international. Course content includes: nature and conduct of arbitration proceedings, court control of arbitration, awards and their enforcement, and international commercial arbitration.

**Credit Points:** 10 per semester

**Contact Hours:** 2 per week

#### ■ LWN008 COMMERCIAL LEASES

A detailed examination of the principles underlying modern commercial leases in the light of recent case law and Queensland statutory provisions affecting those interests, particularly the Retail Shop Leases Act, 1984. Included are sessions from specialist practitioners on drafting techniques and registration practice.

**Credit Points:** 10 per semester

**Contact Hours:** 2 per week

#### ■ LWN011 LITIGATION

Successful litigation is a product of both favourable substantive law rights and a thorough knowledge and application of the rules of procedure and evidence. The course examines current issues in the litigation process which present interest or difficulty in legal practice. The emphasis is on procedure and evidence in the Supreme Court of Queensland, although other jurisdictions are considered.

**Credit Points:** 10 per semester

**Contact Hours:** 2 per week

#### ■ LWN013 COMMERCIAL REMEDIES

The main emphasis is on study of judicial remedies in civil actions relating to commercial transactions. The course initially discusses the theory and function of such remedies, and then considers in detail remedies such as damages, equitable remedies, restitutionary claims, and some statutory remedies. A knowledge of the substantive law giving rise to the existence of a right to seek a remedy is assumed, and the focus is on the process of selecting remedies to best enforce the particular right.

**Credit Points:** 10    **Contact Hours:** 2 per week

#### ■ LWN017 RESTITUTION

A restitutionary claim is allowed when a defendant obtains a benefit which must be restored to the plaintiff. The basis on which restitution is made is that the defendant has been enriched at the plaintiff's expense and that it would be unjust to allow the defendant to retain the benefit. Liability lies outside the traditional areas of civil obligation, contract and tort. The course will examine the principles of restitution, that is those circumstances in which a remedy is allowed on the basis of unjust enrichment.

**Credit Points:** 12    **Contact Hours:** 2 per week

#### ■ LWN019 TAXATION OF BUSINESS ENTITIES

The consequences of a sole trader setting up business in partnership with others, carrying on business activities by way of a business trust and a corporation. Approximately three-quarters of the course will be devoted to the carrying on of business activities through a corporation.

**Credit Points:** 12    **Contact Hours:** 2 per week

#### ■ LWN020 NON-RESIDENT & FOREIGN SOURCE TAXATION

Questions relating to residence, source, transfer pricing and the legislation relating to Controlled Foreign Entities; the effect of Double Tax Treaties.

**Credit Points:** 12    **Contact Hours:** 2 per week

#### ■ LWN021 BANKING & FINANCE LAW I

Lending on the security of goods and priorities in relation to chattel securities; lending on the security of proceeds, assignment of choses in action and chattel paper, credit cards; financing through negotiable instruments, promissory notes and letters of credit; unitisation and property financing; project financing.

**Credit Points:** 12    **Contact Hours:** 2 per week

#### ■ LWN022 BANKING & FINANCE LAW II

Securitisation of debts; SWAP transactions; international financing (including capital adequacy requirements); corporate reconstructions; tax based finance transactions.

**Credit Points:** 12    **Contact Hours:** 2 per week

#### ■ LWN023 INTERNATIONAL TRADE LAW

Origins, sources and modern developments; harmonisation of law; international commercial transactions; international sale of goods; countertrade; marketing arrangements; financing international transactions; carriage of goods by sea; carriage of goods by air; litigation; international commercial arbitration; other alternative dispute resolution; export assistance; investment protection; ANZCERTA; globalisation of legal services; principles of international business conduct; examination of the trade law of a selected trading partner of Australia.

**Credit Points:** 24    **Contact Hours:** 2 per week

#### ■ LWN024 SELECT PROBLEMS OF TRIBUNALS & ENQUIRIES

Legal questions associated with principles and procedures of various public tribunals, at both Federal and State levels, including bodies such as Royal Commissions of Inquiries by parliamentary Committees.

**Credit Points:** 12    **Contact Hours:** 2 per week

#### ■ LWN025 RESEARCH PROJECT I

A supervised research project over one semester approved by the Post-Graduate Studies Committee.

**Credit Points:** 12

**Contact Hours:** Variable supervision equivalent to two per week.

#### ■ LWN026 RESEARCH PROJECT II

A supervised research project over the whole year approved by the Post-Graduate Studies Committee.

**Credit Points:** 24

**Contact Hours:** Variable supervision equivalent to two per week.

#### ■ LWN032 CREDIT FOR UQ SUBJECT I

Under the course rules, a coursework student may, with the prior approval in writing of the Deans of the Faculties of Law of the Queensland University of Technology and of the University of Queensland, undertake one whole year or two one-semester subjects offered in the LL.M. degree by Coursework at the University of Queensland. This subject code represents a one-semester subject taken pursuant to that course rule at the University of Queensland.

#### ■ LWN033 CREDIT FOR UQ SUBJECT II

Under the course rules, a coursework student may, with the prior approval in writing of the Deans of the Faculties of Law of the Queensland University of Technology and of the University of Queensland, undertake one whole year or two one-semester subjects offered in the LL.M. degree by Coursework at the University of Queensland. This subject code represents a one-semester subject taken pursuant to that course rule at the University of Queensland.

### ■ LWN034 CREDIT FOR UQ SUBJECT III

Under the course rules, a coursework student may, with the prior approval in writing of the Deans of the Faculties of Law of the Queensland University of Technology and of the University of Queensland, undertake one whole year or two one-semester subjects offered in the LL.M. degree by Coursework at the University of Queensland. This subject code represents a whole year subject taken pursuant to that course rule at the University of Queensland.

### ■ LWS001 MEDICINE & THE LAW

This subject seeks to teach students to appreciate the impact of some important fields of law upon the medical profession and upon hospital staff, patients and visitors. Introduction to law and the legal system. The Federal and State systems. General principles of the law of tort. Principles of negligence. Trespass. Liability of hospitals. Industrial law and industrial relations. Workers' compensation. Legal aspects of medical practice. Medico-legal investigations. Medical ethics. A consideration of emerging legal issues surrounding surrogate motherhood and test-tube babies. Relevant Commonwealth and Queensland legislation and regulations will be introduced and court decisions will be studied.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ LWS003 LAW & ENVIRONMENTAL HEALTH

How laws are made; statutory interpretation; contract; negligence; negligent advice given by professionals; local government law; evidence; conduct of a criminal trial; and civil court procedure.

**Credit Points:** 4    **Contact Hours:** 3 per week

### ■ MAA251 STATISTICS & DATA PROCESSING

A basic subject in statistics, including statistical terminology and organisation of data, elementary probability, binomial and normal distribution, sampling theory, regression and correlation.

**Prerequisite:** Approval of Head of School of Mechanical and Manufacturing Engineering

**Credit Points:** 8    **Contact Hours:** 3 per week

### ■ MAB001 MATHEMATICS FOR SCIENCE & TECHNOLOGY

Data handling; algebra; analytical geometry; trigonometry and calculus; vectors; complex numbers.

**Credit Points:** 12  
**Contact Hours:** 21 per week over four weeks

### ■ MAB150 QUANTITATIVE TECHNIQUES

The interpretation of data and the application of numerical techniques.

**Credit Points:** 6    **Contact Hours:** 2 per week

### ■ MAB151 QUANTITATIVE TECHNIQUES

A basic mathematics unit with emphasis on the interpretation of data and the application of numerical techniques.

**Credit Points:** 6    **Contact Hours:** 2 per week

### ■ MAB156 STATISTICS

Organisation and analysis of data; introduction to statistical packages; probability and probability distributions; sampling theory; estimation: testing of hypothesis; regression and correlation; non-parameter statistics; analysis of variance.

**Credit Points:** 6    **Contact Hours:** 2 per week

### ■ MAB172 QUANTITATIVE METHODS IB

Organisation and analysis of data; probability and probability distributions; sampling theory: estimation: testing of hypothesis; regression and correlation.

**Credit Points:** 9    **Contact Hours:** 3 per week

### ■ MAB173 QUANTITATIVE METHODS

To enable students to use mathematical reasoning and skills to obtain solutions to financial, economic and general business problems. On completion, students should have an understanding of the types of problems amenable to a mathematical solution; they should be able to develop appropriate mathematical models and appreciate any limitations or assumptions in the models and in addition they should be able to obtain solutions to these models.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MAB174 COMPUTER DATA ANALYSIS

Introduction to the use of a microcomputer in business, the use of the microcomputer for spreadsheet, word processing and descriptive statistical analysis; use of the 'VP-Planner' and 'Word Perfect' packages. Conducting surveys; analysis of survey sample data using the 'statgraphics' package; the theoretical measures of statistics involving central tendency dispersion, probability and probability distributions.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MAB193 ENGINEERING MATHEMATICS I

Accuracy, relative and absolute errors; solution of systems of linear equations, determinants; vectors; complex numbers; elementary matrix algebra; differential and integral calculus of one variable, elementary multiple integrals; centre of gravity and moment of inertia.

**Credit Points:** 6 per semester  
**Contact Hours:** 3 per week

### ■ MAB195 QUANTITATIVE METHODS I

Applications of plane and solid geometry in design, revision of basic geometry; construction and packing of solids; spherical geometry and its applications. Application of trigonometry in design; calculation of heights, distances, areas and volumes.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ MAB196 QUANTITATIVE METHODS II

Data collection and analysis in design; introduction to statistics; use of computers in data analysis.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ MAB199 SURVEY MATHEMATICS I

Calculus: differentiation, partial differentiation, complex numbers, sequences and series, integration, applications. Matrix algebra; basic operations, linear equations, inversion, determinants, Cramer's rule. Coordinate geometry. Statistics.

**Credit Points:** 12    **Contact Hours:** 6 per week

### ■ MAB211 MATHEMATICS IA

Elementary functions; differentiation; integration; matrices.

**Credit Points:** 8    **Contact Hours:** 3 per week

### ■ MAB216 DISCRETE MATHEMATICS

Axiomatic systems; modular arithmetic; finite groups; elementary number theory.

**Co-requisite:** MAB211

**Credit Points:** 8    **Contact Hours:** 3 per week  
**Note:** This subject is not compatible with MAB409; credit may not be retained for both.

**■ MAB224 MATHEMATICS IB**

Integration; elementary ordinary differential equations; partial differentiation; analytic geometry.

**Prerequisite:** MAB211

**Credit Points:** 8     **Contact Hours:** 3 per week

**■ MAB225 MATHEMATICS IC**

Introduction to vector algebra, complex numbers and in finite series.

**Prerequisite:** MAB211 **Co-requisite:** MAB224

**Credit Points:** 8     **Contact Hours:** 3 per week

**■ MAB226 MATHEMATICS ID**

Limits and continuity, vector geometry; curve sketching.

**Prerequisite:** MAB211

**Co-requisites:** MAB224, MAB225

**Credit Points:** 8     **Contact Hours:** 3 per week

**■ MAB227 STATISTICS**

Data handling; probability; sampling; estimation; tests of hypothesis; regression and correlation; experimental design.

**Co-requisite:** MAB211

**Credit Points:** 8     **Contact Hours:** 3 per week

**■ MAB251 MATHEMATICS I**

Data handling; determinants and matrices; differentiation with applications; partial differentiation; integral calculus with applications; numerical methods.

**Credit Points:** 8     **Contact Hours:** 4 per week

**■ MAB252 STATISTICS**

Organisation and analysis of data; probability and probability distributions; sampling theory; estimation; tests of hypothesis; regression and correlation.

**Prerequisite:** MAB150 or MAB251

**Credit Points:** 4     **Contact Hours:** 2 per week

**■ MAB258 EXPERIMENTAL DESIGN**

Goodness of fit tests and tests of independence using Chi-square distribution; introduction to multiple regression; statistical quality control; analysis of variance, introduction to non-parameter methods.

**Prerequisite:** MAB252

**Credit Points:** 4     **Contact Hours:** 4 per week

**■ MAB259 BIOMEDICAL STATISTICS**

Goodness of fit tests and tests of independence using Chi-square distribution; introduction to multiple regression; statistical quality control; analysis of variance; introduction to non-parameter methods.

**Prerequisite:** MAB252

**Credit Points:** 6

**Contact Hours:** 2 hours per week

**■ MAB297 MATHEMATICS FOR CONSTRUCTION**

Data handling and basic algebra, geometry, trigonometry, vector techniques; introduction to financial mathematics; introduction to probability and statistics.

**Credit Points:** 4     **Contact Hours:** 2 per week

**■ MAB298 MATHEMATICS & STATISTICS**

Data handling, basic algebra, geometry, trigonometry, vector techniques; introduction to financial mathematics; introduction to probability and statistics.

**Credit Points:** 4     **Contact Hours:** 2 per week

**■ MAB301 CALCULUS & ANALYSIS A**

Real valued functions; differentiation; introduction to partial differentiation; integration; techniques of integration; elementary special functions.

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB302 CALCULUS & ANALYSIS B**

Infinite series; improper integrals; complex numbers; functions of complex variables, analyticity; introduction to differential equations.

**Prerequisite:** MAB301

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB309 MODERN ALGEBRA**

Set theory; relations and functions; binary operations; number theory; group theory; rings and fields.

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB310 LINEAR ALGEBRA**

Matrices; vector spaces; linear transformations; eigenvalues and eigenvectors. Euclidean spaces; quadratic forms.

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB317 MATHEMATICAL STATISTICS I**

Collection and representation of data, parameters and statistics; introduction to the theory of probability and probability distributions; elementary treatment of sampling theory leading to the normal, t, F and chi-squared distributions; statistical estimation and tests of hypotheses based on the normal, t, F and chi-squared distributions.

**Co-requisite:** MAB301

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB318 MATHEMATICAL STATISTICS IIA**

Introduction to quality control, introduction to non-parametric tests of hypotheses; simple linear regression and introduction to multiple linear regression; correlation; fundamentals of one factor and two factor experimental design and the analysis of variance.

**Prerequisites:** MAB301, MAB317

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB331 INTRODUCTORY VECTOR ANALYSIS**

Introduction to determinants; addition and subtraction of vectors; vector products, physical and geometrical applications; differential geometry of curves; conic sections; kinematics of a particle; relative motion.

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB342 MATHEMATICS OF FINANCE**

Interest rates; solution of problems in compound interest; annuities; applications of annuities; capital redemption policies; valuation of securities; effects of taxation; introduction of basic modelling techniques.

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB409 MODERN ALGEBRA**

Set theory, relations and functions, binary operations, number theory, group theory; rings and fields.

**Prerequisite:** MAB211

**Credit Points:** 10     **Contact Hours:** 3 per week

**Note:** This subject is not compatible with MAB216; credit may not be retained for both.

**■ MAB410 LINEAR ALGEBRA A**

Matrices; vector spaces; linear transformations; eigenvalues and eigenvectors; Euclidean spaces; quadratic forms.

**Prerequisite:** MAB225

**Credit Points:** 10     **Contact Hours:** 3 per week

**■ MAB411 MATHEMATICS IIA**

Laplace transforms; ordinary differential equations; multivariable calculus; applications particularly relevant to physics.

**Prerequisite:** MAB225

**Credit Points:** 10     **Contact Hours:** 3 per week

**MAB412 MATHEMATICS IIB**

Fourier series; partial differential equations; vector analysis; applications particularly relevant to physics.  
**Co-requisite:** MAB411

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB417 MATHEMATICAL STATISTICS A**

Collection and representation of data, parameters and statistics; introduction to the theory of probability and probability distributions; elementary treatment of sampling theory leading to the normal, t, F and chi-squared distributions; statistical estimation and tests of hypotheses based on the normal, t, F and chi-squared distributions.

**Prerequisite:** MAB224

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB418 MATHEMATICAL STATISTICS B**

Introduction to quality control; non-parametric tests of hypothesis; simple linear regression and introduction to multiple linear regression, correlation; fundamentals of one factor and two factor experimental design and the analysis of variance

**Prerequisite:** MAB417

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB425 MATHEMATICS 2C**

Partial differentiation, complex analysis, differential equations; special functions; applications particularly relevant to physics.

**Prerequisite:** MAB411

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB442 FINANCIAL MATHEMATICS**

Interest rates, solution of problems in compound interest, annuities and applications; capital redemption policies; valuation of securities, effects of taxation; introduction to basic modelling techniques.

**Prerequisite:** MAB211

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB493 ENGINEERING MATHEMATICS II**

Solution of systems of linear equations by direct and iterative methods, rank of a matrix; representation of a function by Taylor series, Maclaurin series, Fourier series; finite differences, polynomial interpolation, Newton-Gregory interpolation formula; solution of first and second order differential equations, operator-D and Laplace transform methods. Taylor series and Runge-Kutta techniques; basic descriptive statistics, probability theorems, distributions.

**Prerequisite:** MAB193

**Credit Points:** 6 per semester

**Contact Hours:** 3 per week

**MAB495 SURVEY MATHEMATICS II**

Calculus. Matrix algebra. Spherical trigonometry. Three-dimensional coordinate geometry.

**Prerequisite:** MAB199

**Credit Points:** 12    **Contact Hours:** 6 per week

**MAB499 BASIC STATISTICS FOR SURVEYORS**

Descriptive statistics, frequency distributions and their graphical representation, probability, sampling, estimation, tests of hypothesis, regression and correlation.

**Prerequisites:** MAB199 [R]

**Credit Points:** 5    **Contact Hours:** 2 per week

**MAB601 MULTIVARIABLE CALCULUS A**

Differentiation, extrema, double integrals, triple integrals, surface integrals, complex integration.

**Prerequisites:** MAB301, MAB302, MAB331

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB602 MULTIVARIABLE CALCULUS C**

Vector algebra; scalar and vector fields; line integrals; surface integrals; differential field operators; the integral properties of fields; curvilinear coordinates; application to potential theory, hydrodynamic theory and electromagnetic theory; calculus of variations, functionals; Euler's differential equation; variational problems with subsidiary conditions.

**Prerequisite:** MAB331

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB608 MATHEMATICAL STATISTICS IIB**

Properties and uses of the beta, gamma and exponential probability distribution; introduction to bivariate and multivariate distribution theory; multiple and curvilinear regression theory; three factor, factorial and fractional factorial experimental designs.

**Prerequisite:** MAB318 **Co-requisite:** MAB601

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB610 APPLIED LINEAR ALGEBRA**

Vector spaces and matrices; vector and matrix norms; discrete Markov chains with a finite number of states; vector spaces over finite fields; quadratic forms, least square solution of linear equations; random vectors and matrices.

**Prerequisite:** MAB310 **Co-requisite:** MAB612

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB612 DIFFERENTIAL EQUATIONS**

Vector spaces with inner product; linear operators in finite dimensional spaces; linear differential equations; series methods; Laplace transform; self adjoint boundary value problems and Fourier series; partial differential equations.

**Prerequisite:** MAB301, MAB302 and MAB310

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB618 NUMERICAL ANALYSIS I**

Errors; systems of linear equations (direct methods); solution of non-linear equations; interpolation and approximation; numerical quadrature; numerical solution of first order differential equations.

**Prerequisites:** MAB301[R], MAB310[R] and CSB155

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB619 NUMERICAL ANALYSIS II**

Systems of linear equations (iterative methods); solution of non linear equations; interpolation and approximation; numerical quadrature; eigenvalue problem; ordinary differential equations.

**Prerequisites:** MAB618, MAB301 and MAB310

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB635 CLASSICAL THEORETICAL MECHANICS**

Mathematical model of Newtonian mechanics; statics; conservation laws of dynamics; impulsive motion in one dimension; motion of a particle in one dimension, examples; motion of a particle in two-dimensions, examples.

**Prerequisites:** MAB302, MAB331

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB637 OPERATIONS RESEARCH IA**

The simplex algorithm; simulation, replacement, maintenance and reliability; networks.

**Prerequisites:** MAB301, MAB317, MAB310 and CSB155

**Credit Points:** 10    **Contact Hours:** 3 per week

**MAB638 OPERATIONS RESEARCH IB**

The revised simplex method; transportation and transshipment; assignment; parametric analysis; inventory; introduction to queuing.

**Prerequisite:** MAB637

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB641 ACTUARIAL MATHEMATICS**

The life table; demographic techniques; pure endowments and annuities; assurances; policy values; laws of mortality; benefits depending on other contingencies; pension funds.

**Co-requisite:** MAB342

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB710 LINEAR ALGEBRA B**

Vector spaces and matrices; vector and matrix norms; discrete Markov chains with a finite number of states; vector spaces over finite fields; quadratic forms, least square solution of linear equations; random vectors matrices.

**Prerequisite:** MAB410

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB718 NUMERICAL ANALYSIS A**

Errors; systems of linear equations (direct methods); solution of non-linear equations; interpolation and approximation; numerical quadrature; numerical solution of first ordinary differential equations.

**Prerequisites:** MAB224, CSB155

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB719 NUMERICAL ANALYSIS B**

Systems of linear equations (iterative methods); solution of non linear equations; interpolation and approximation; numerical quadrature; eigenvalue problem; ordinary differential equations.

**Prerequisites:** MAB718, MAB410

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB735 MECHANICS**

Mathematical model of Newtonian mechanics; statics; conservation laws of dynamics; impulsive motion in one dimension; motion of a particle in one dimension; motion of a particle in two dimensions.

**Prerequisites:** MAB411 and MAB226 or MAB412

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB737 OPERATIONS RESEARCH A**

The simplex algorithm, simulation; replacement, maintenance and reliability; networks.

**Prerequisites:** MAB417, MAB410 and CSB155

**Co-requisite:** MAB442

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB738 OPERATIONS RESEARCH B**

The revised simpler method; transportation and transshipment, assignment, parametric analysis; inventory; introduction to queuing.

**Prerequisite:** MAB737

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB741 ACTUARIAL MATHEMATICS**

The life table; demographic techniques; pure endowments and annuities; assurances; policy values; laws of mortality; benefits depending on other contingencies; pension funds.

**Prerequisite:** MAB211 **Co-requisite:** MAB442

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB782 FIELD THEORY**

Tensor analysis; curvilinear coordinates; application to potential theory, hydrodynamic and electromagnetic theory; calculus of variations, functionals.

**Prerequisite:** MAB425

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB788 MATHEMATICAL STATISTICS**

Properties and uses of the beta, gamma and exponential probability distribution; introduction to bivariate and multivariate distribution theory; multiple and curvilinear regression theory; three factor, factorial and fractional factorial experimental designs.

**Prerequisites:** MAB418, MAB411

**Credit Points:** 10 **Contact Hours:** 3 per week

**MAB795 SURVEY MATHEMATICS III**

Transformation in three dimensions: central projection, the nearparallel case. Numerical analysis: propagation of errors, solution of nonlinear equations. Approximation and interpolation. Solution of simultaneous linear equations, Gaussian elimination, compact methods, Cholesky, iterative methods.

**Prerequisite:** MAB495

**Credit Points:** 6 **Contact Hours:** 3 per week

**MAB893 ENGINEERING MATHEMATICS III**

Eigenvalues and eigenvectors, quadratic forms, determination of dominant eigenvalue by iteration; sampling theory, hypothesis testing, linear regression and correlation, analysis of variance; introduction to linear programming.

**Prerequisite:** MAB493

**Credit Points:** 6 **Contact Hours:** 3 per week

**MAB894 ENGINEERING MATHEMATICS IV**

Solution of linear systems of differential equations employing operator-D and Laplace transform methods, variation of parameters methods for non-homogenous equations; solution of partial differential equations, separation of variables method, introduction to numerical techniques; complex variables, Cauchy-Riemann equations, conformal mapping.

**Prerequisite:** MAB493

**Credit Points:** 6 **Contact Hours:** 3 per week

**MAB906 TOPICS IN ANALYSIS**

Topics selected from the following: measures; Lebesgue integrals; product of measures; normed spaces; metric spaces; constrained optimisation, Gateaux and Frechet derivatives.

**Prerequisites:** MAB601, MAB612

**Credit Points:** 12 **Contact Hours:** 3 per week

**MAB907 MATHEMATICAL STATISTICS IIIA**

Distributions of functions of random variables; estimation theory; introduction to multivariate normal distribution theory.

**Prerequisite:** MAB608

**Credit Points:** 12 **Contact Hours:** 3 per week

**MAB908 MATHEMATICAL STATISTICS IIIB**

Experimental design; three factor designs, balanced incomplete designs, introduction to the analysis of covariance; introduction to stochastic processes; random walk, branching processes, Markov chains; sampling theory; random and stratified sampling; multi-stage sampling; probability proportional to size sampling.

**Prerequisite:** MAB608

**Credit Points:** 12 **Contact Hours:** 3 per week

**MAB913 NUMERICAL ANALYSIS III**

Approximation; numerical solutions of ordinary differential equations; partial differential equations; overview of finite element method.

**Prerequisite:** MAB619

**Credit Points:** 12 **Contact Hours:** 3 per week

■ **MAB920 CODING & ENCRYPTION TECHNIQUES**

Number theory, finite fields, linear shift registers, block coding theory, Cyclic codes, BCH and Reed-Solomon codes, block coding techniques, convolutional codes, introduction to cryptography stream ciphers, block ciphers, public key systems, and secure speech communications.

**Prerequisite:** MAB610 or EEB661

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MAB921 METHODS OF MATHEMATICAL PHYSICS A**

Equations of mathematical physics; mathematical methods, separation of variables; transform method; conformal transformation; theory of distributions and applications to Green's function method; finite difference method; two-dimensional wave equations, examples; two-dimensional heat equation, examples; two-dimensional Laplace equation.

**Prerequisite:** MAB601, MAB612

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MAB924 APPLIED STATISTICAL TECHNIQUES**

The general linear model; errors in variables; autocorrelation; single equation problems; simultaneous equations problems; estimation methods.

**Prerequisite:** MAB608

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MAB927 OPERATIONS RESEARCH IIA**

Linear programming; integer and non-linear programming; dynamic programming; Heuristic methods.

**Prerequisite:** MAB638

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MAB928 OPERATIONS RESEARCH IIB**

Simulation; queueing; decision analysis; implementation in operations research.

**Prerequisite:** MAB637

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MAB929 STATISTICAL FORECASTING**

Introduction; smoothing methods; decomposition methods; ARMA time series methods; Box-Jenkin method, causal models; quantitative and technological methods of forecasting; comparison and selection of forecasting methods.

**Prerequisite:** MAB608

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MAB941 METHODS OF MATHEMATICAL ECONOMICS**

Mathematical models in economics; macroeconomic models; techniques for dynamic economic models; introduction to stability theory; stability of non-linear systems; optimisation theory; the maximum principles of Pontryagin; optimal economic growth.

**Prerequisites:** MAB601, MAB612

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MAB960 PROJECT WORK**

Students, either individually or in small groups, undertake a substantial project which is relevant to the needs of industry and which is designed to give students insight into industrial requirements. Each student, or group of students, undertakes a different project and is supervised, generally by a member of staff, throughout the duration of the project.

**Prerequisite:** Successful completion of at least two third level optional units in addition to all mandatory mathematics units.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MAN255 STATISTICS**

Development of a sound working knowledge of basic ideas and the application of this knowledge to situations frequently occurring in the fields of Analytical Chemistry.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **MAP111 STATISTICAL METHODS IN QUALITY**

Describing variation, frequency distribution, histogram, estimation of parameters. Important distributions useful in describing quality-related phenomena, binomial, hypergeometric, Poisson, normal, exponential, Weibull. Approximations, Poisson to binomial, normal to binomial etc. Sampling distributions. Interval estimation and tests of hypotheses. Type I and type II errors.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **MAP121 STATISTICAL PROCESS CONTROL**

Basic concepts and preliminary considerations. Control chart procedures for variables, S and R charts, pattern analysis and interpretation. Process capability study, natural tolerances, capability ratio, modified control charts. Attribute control charts, construction and interpretation of p, c and u charts. Cumsum techniques for continuous data, scope and principles, procedure and interpretation, testing techniques - V mask, decision interval. Cumsum applications to discrete data. SPC computer software.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **MAP211 SAMPLING PROCEDURES**

Basic concepts and principles in sampling. Attribute batch sampling, sampling plans (single, double and multiple), O.C. curves. AS199, terminology and definitions, choice of plan and switching rules. Attribute batch sampling with rectifying inspection, Dodge Romig procedure, use of tables. Attribute continuous sampling and the Dodge system (CSP-1 etc). Sampling by variables, plans and procedures. AS2490, terminology and definitions, inspection rules.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **MAP221 QUALITY PROBLEM SOLVING TECHNIQUES**

Collection of data and use of check sheets. Histogram as a diagnostic tool. Pareto diagram, stratified data, use of weighted factors; Ishikawa chart, dispersion analysis and process classification type. Kepner Tregoe technique. Correlation analysis, scattergram and the Tukey corner test, independence and spurious correlation, regression equation and prediction. Design of experiments, principles and basic concepts, Latin Square design, factorial experiments, hierarchical designs.

**Credit Points:** 8    **Contact Hours:** 2 per week

■ **MAP256 STATISTICS**

Probability distributions; sampling techniques; statistical inference and hypothesis testing; basic experimental designs; regression analysis; correlation; non-parametric techniques.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **MAS090 MATHEMATICS**

This intensive subject is aimed at providing an appropriate background for those who may wish to undertake a tertiary course in science, business or other areas which require competence in certain mathematical areas prior to entry. Topics introduced include algebra, analytical geometry, trigonometry, differential and in-

tegral calculus, matrices and a selection of applications from elementary statics, kinematics, dynamics and statistics. The treatment assumes some initial knowledge of basic algebra, such as manipulation of indices and factorisation, and elementary trigonometry at a level equivalent to Year 10 Advanced Mathematics.

**Credit Points:** 6 per semester  
**Contact Hours:** 3 per week

#### ■ MAS091 MATHEMATICS

This intensive subject is aimed at providing an appropriate background for those who may wish to undertake a tertiary course in science, business or other areas which require competence in certain mathematical areas prior to entry. Topics introduced include algebra, analytical geometry, trigonometry, differential and integral calculus, matrices and a selection of applications from elementary statics, kinematics, dynamics and statistics. The treatment assumes some initial knowledge of basic algebra, such as manipulation of indices and factorisation, and elementary trigonometry at a level equivalent to Year 10 Advanced Mathematics.

**Credit Points:** 12  
**Contact Hours:** 6 per week, Semester 2; 21 per week, Summer School

#### ■ MAS092 MATHEMATICS A

This subject is aimed at providing a mathematical background pertinent to those who may wish to undertake a tertiary course in computing. Topics introduced include algebra, matrices, analytical geometry, trigonometry, propositions and truth tables, set theory. The treatment assumes some initial knowledge of basic algebra, such as manipulation of indices and factorisation, and elementary trigonometry at a level equivalent to Year 10 Advanced Mathematics.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB010 DYNAMICS I

Simplified analysis and modelling methods; motion found in architecturally relevant machines and mechanisms; forces due to inertia, impacts, and collisions; damage and vibration arising from forces; fluids, transmission in pipes and channels, mechanisms of erosion, forces exerted on structures; methods of measurement and testing; physical modelling with readily available materials and easily constructed models.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ MEB012 DYNAMICS II

Continuation of MEB010; further treatment of machines and mechanisms; unbalanced forces in rotating bodies; gyroscopic effects; vibrations due to unbalance; vibration control; earthquakes and their effects; interaction of fluids and structures under gusty conditions, ocean waves, and natural phenomena; further work on measurements; model studies of more realistic cases.

**Prerequisite:** MEB010  
**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ MEB031 MATERIALS TECHNOLOGY

A structure property approach to orthotic materials; plastics; rubber; metals; composites; modes of failure; strength; creep; fatigue; resilience; selection procedures.

**Credit Points:** 8      **Contact Hours:** 2 per week

#### ■ MEB035 SAFETY TECHNOLOGY I

The importance and relevance of safety in the workplace; analysis of the accident process; the

hazards associated with machinery and materials failure.

**Prerequisites:** BGB151, PHB250

**Co-requisite:** PNB211

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ MEB101 DESIGN I

Mechanical design: power transfer; V-belt drives; chain drives; gear drives; selection of machine components.

**Prerequisites:** MEB121, CEB184

**Co-requisites:** MEB133, CEB185, MEB111

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ MEB111 DYNAMICS

Basic concepts of the principles of dynamics; kinetics of particles and systems of particles in plane motion; coordinate systems; relative motion; various methods for the solution of mechanisms; freebody diagrams; work-energy equations; impulse; momentum and impact.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB121 ENGINEERING GRAPHICS

Principles of geometric drawing; orthographic projection; auxiliary views; sectioning; component detailing; surface developments; assembly drawing; CAD.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB133 MATERIALS I

Bonding; thermodynamics of solids; state and phase changes; defects; elasticity, plasticity and fracture; recovery diffusion; recrystallisation; hot and cold deformation; creep and fatigue mechanisms; heat treatment. Alloying and strengthening in metals, polymers and ceramics.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB171 INTRODUCTION TO MANUFACTURING

The role of manufacturing industry in the Australian economy; modern concepts in manufacturing systems design; interrelationship between design, materials selection, manufacturing, processes, marketing and information processing of products will be presented; choice of manufacturing technologies in relation to product quantity and quality.

**Credit Points:** 3      **Contact Hours:** 1.5 per week

#### ■ MEB173 MANUFACTURING PRACTICE

The role of manufacturing industry in the Australian economy; modern concepts in manufacturing systems design; the interrelationship between design, materials selection, manufacturing processes, marketing and information processing of products; the choice of manufacturing technologies in relation to product quality and quantity; hands-on experience in manufacturing processes; metrology laboratory and systems modelling.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB200 INDUSTRIAL EXPERIENCE I

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both student and the employer.

**Contact Hours:** 5 weeks

#### ■ MEB230 MATERIALS II

Solidification of ingots and castings; segregation; defects; properties of cast irons; steel and non-ferrous alloys. Properties of welded materials; arc characteristics; metal transfer; thermal diffusivity; cooling

rates and transformations; carbon equivalents; hot and cold cracking; residual stresses and dilution effects. Properties of wrought materials; strain hardening; anisotropy, preferred orientation; defects; toughness. Microstructures and properties of high strength low alloy steels. Important non-ferrous alloys.

**Prerequisite:** MEB133

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB231 MATERIALS III

The structure and properties of polymers; composites and modern engineering ceramics; stress transformations; fibre and matrix properties; fibre density and orientation; rule of mixtures; modern engineering polymers; properties and applications; fracture toughness of polymers, ceramics and metals; linear elastic fracture mechanics; applications to static and dynamic forces such as fatigue and stress corrosion cracking.

**Prerequisite:** MEB133

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB250 THERMODYNAMICS I

The basics of engineering thermodynamics; reversibility; first and second laws of thermodynamics; applications to heat engines, compressors, engines testing etc; particular emphasis being given to single phase systems; field visit.

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB251 THERMODYNAMICS II

Steam plant; impulse and reaction turbines; gas turbines and refrigeration; field visit.

**Prerequisite:** MEB250

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB270 INDUSTRIAL EXPERIENCE I

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both the student and the employer.

**Contact Hours:** 5 weeks

### ■ MEB300 INDUSTRIAL EXPERIENCE II

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both student and the employer.

**Contact Hours:** 5 weeks

### ■ MEB313 MECHANICS I

Kinematic and dynamic analysis of linkages and mechanisms; linkage synthesis applied to spatial mechanisms and robotics; the design and synthesis of crans and the kinematic analysis of gears.

**Prerequisites:** CEB184, MEB111, CEB185

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB339 MATERIALS & MANUFACTURING PROJECT

The project exposes the student to self-regulated but supervised research on a specific topic associated with materials or manufacturing engineering. A survey of relevant literature and organised experimental work resulting in conclusions presented in a formal report.

**Prerequisites:** MEB230, MEB231

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB361 FLUIDS I

Fluid mechanics; forces in a fluid at rest and its action on submersed and floating bodies; manometry; pressure distribution in a liquid subjected to acceleration;

different types of flow, momentum and energy-equations; flow through orifices and vortex flow.

**Prerequisites:** MEB111, PHB132, MAB193

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB370 MANUFACTURING SYSTEMS I

Practical machining principles; mechanics of chip formation; speeds and feeds selection; practical applications in metrology; Numerical Control and parts programming; processing of plastics.

**Prerequisite:** MEB171

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB381 DESIGN II

Methodology for mechanical design: design of machine elements; design for strength and fatigue; computer-aided design.

**Prerequisites:** MEB121, MEB101, CEB184, CEB185

**Co-requisite:** MEB313

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB402 INDUSTRIAL EXPERIENCE III

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both student and the employer.

**Contact Hours:** 5 weeks

### ■ MEB408 PROJECT A (MECHANICAL)

Investigate in depth and present a formal report on a mechanical engineering problem; project may be industry based or arise from applied research.

**Prerequisite:** MEB339 **Co-requisite:** MEB489

**Credit Points:** 16 per semester

**Contact Hours:** 6 per week

### ■ MEB409 PROJECT B (MECHANICAL)

Investigate in depth and present a formal report on mechanical engineering problem; project may be industry based or arise from applied research.

**Prerequisite:** MEB339 **Co-requisite:** MEB489

**Credit Points:** 8 per semester

**Contact Hours:** 3 per week

### ■ MEB411 THEORY OF MACHINES

Balancing of mechanisms and rotors; gyroscopic effects in mechanisms, rotors and vehicles; gear trains, simple and epicyclic; friction and centrifugal devices such as clutches and governors.

**Prerequisites:** MEB111, CEB184, CEB185

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ MEB450 AIR CONDITIONING

Psychrometry, cooling load calculations; air conditioning systems; vapour compression; refrigeration cycle analysis; multipressure systems; absorption refrigeration; field visit.

**Prerequisites:** MEB251, MEB462

**Co-requisite:** MEB550

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ MEB462 FLUIDS II

Fluid flow in closed conduits; rotodynamic machines; hydraulic transmissions; water hammer in pipes; dimensional analysis and dynamic similarity.

**Prerequisite:** MAB193

**Co-requisites:** MEB361, MAB493

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ MEB463 TRIBOLOGY

The fundamentals of tribology; specification and measurement of surface roughness; lubrication

modes; lubricants; wear modes; bearing design; lubrication of machine elements; seals.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB464 FLUIDS III

Boundary layer theory; a general approach to viscous flow via the Navier-Stokes and Reynold's equations; isentropic compressible flow; normal and oblique shock waves.

**Prerequisites:** MEB462, MAB893

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB470 INDUSTRIAL EXPERIENCE II

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both student and the employer.

**Contact Hours:** 5 weeks

#### ■ MEB471 MANUFACTURING ENGINEERING I

Practical machining principles and mechanics of chip formation; economics of machining; practical applications in metrology; NC part programming.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB472 MANUFACTURING SYSTEMS II

Fundamentals and applications of plastic theory in the deformation of metals and plastics; concepts and applications of non-traditional machining and forming processes; introduction of numerical control technology and practical applications in NC part programming.

**Prerequisite:** MEB370

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB483 DESIGN III

The design of mechanisms; welded structures; flexible components, journal bearings; computer-aided design.

**Prerequisites:** MEB133, MEB111, CEB102, CSB191, MEB381

**Co-requisites:** MEB411, MEB231, MEB313

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB489 MECHANICAL DESIGN PROJECT

A team approach to design: projects drawn from either QUT or industry; application of theoretical and practical design principles; design, draw and supervise manufacture of project; presentation of formal report.

**Prerequisites:** MEB483, MEB610, MEB511, MEB773

**Co-requisites:** MEB772, MEB911

**Credit Points:** 7 per semester

**Contact Hours:** 3 per week

#### ■ MEB500 SPECIAL TOPIC I

A series of lectures and tutorials in subject areas which are of special professional relevance to the student's intended career path, or which may be available on occasions from visiting scholars and which may be relevant to the undergraduate program.

**Prerequisite:** Students will need to have achieved an appropriate level of preparation in the topic area concerned.

**Co-requisite:** Will depend on the syllabus of the particular special topic offered.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB510 NOISE & VIBRATIONS

Introduction to noise and vibration measurements and instruments, free and forced vibration, normal mode vibration, Holzer's method, Mykelstad's method.

Noise levels, A-weighting, leq, SEL, noise dose and standards. Sound power, absorption, fields and the behaviour of sound relating to rooms, enclosures and partitions.

**Prerequisites:** PHB132, MAB493

**Co-requisite:** MAB893

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB511 STRESS ANALYSIS

Analysis of strain and stress; including strain-displacement relations and stress and strain transformation; two-dimensional problems including curved bars, thick-walled cylinders and rotating discs; tension of prismatic bars and thin-walled sections; failure criteria and their applications; experimental strain measurement and analysis.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB531 ADVANCED MATERIALS

Properties and applications for modern advanced composites; fibre reinforcements of ceramic, metal and polymer materials; coatings of metals and ceramics by vapour deposition; plasma and advanced techniques; surface treatments for frictional and wear performance; properties of ultra high strength steels.

**Prerequisites:** MEB230, MEB231

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB550 HEAT TRANSFER

Conduction (steady-state, 1 and 2 dimensions, unsteady-state); convection (boundary layers, forced, natural) and radiation (black and grey bodies, shape factors).

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB571 MANUFACTURING ENGINEERING II

Fundamentals and applications of plasticity theory in the deformation of metals and plastics; analysis of forming machine performance and selection of machine tools.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB600 INDUSTRIAL EXPERIENCE III

Students should engage in at least five weeks' employment, approved by the Head of School. For the employment to be recognised, students must submit an industrial experience record form which has been completed by both student and the employer.

**Contact Hours:** 5 weeks

#### ■ MEB601 SPECIAL TOPIC II

A series of lectures and tutorials in subject areas which are of special professional relevance to the student's intended career path, or which may be available on occasions from visiting scholars.

**Prerequisites:** Students will need to have achieved an appropriate level of preparation in the topic area concerned.

**Co-requisites:** Will depend on the syllabus of the particular special topic offered.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MEB610 MECHANICS II

Introduction to mechanical frames and methods of analysis, with the emphasis placed on investigation the effects of static and dynamic loading upon frames and frame members.

**Prerequisites:** MEB411, MAB493, MEB510

**Co-requisite:** MEB511

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MEB640 AUTOMATION I

Mathematical models of mechanical systems: system response to given inputs; modification of system

parameters to obtain a more desirable response in closed loop.

**Prerequisite:** MAB493

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB650 THERMODYNAMICS III**

Properties and testing methods of solid, liquid and gaseous fuels; combustion calculations; flue gas analysis; energy tariffs and audits; major applications of energy management, eg, buildings, process plant, compressed air systems, vehicle fleets; economic evaluation of energy projects; introduction and management of energy saving programs; field visit.

**Prerequisites:** MEB550, MEB251

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **MEB660 FLUID POWER**

Introduction to fluid power; graphical symbols; simple circuits; cascade method; Boolean algebra; fluid logic; Karnaugh-Veitch method; hydraulic components; hydraulic system design; hydraulic circuits.

**Prerequisite:** MEB462

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **MEB670 INDUSTRIAL ENGINEERING I**

Project planning and control; plant location and layout; work study; design of experiments; linear programming applications.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **MEB673 MANUFACTURING ENGINEERING III**

Advanced manufacturing technology; tool chatter and vibration; optical metrology; an introduction to CAM and robotics.

**Prerequisite:** MEB471

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB680 ADVANCED MECHANICAL DESIGN**

The application of modern materials and analytical techniques to mechanical design; case studies; statistical analysis of failures; application of materials science in design; fracture mechanics; computer-aided optimisation techniques.

**Prerequisites:** MEB483, MEB230, MEB231, MEB411

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB701 SPECIAL TOPIC III**

A series of lectures and tutorials in subject areas which are of special professional relevance to the student's intended career path, or which may be available on occasions from visiting scholars and which may be relevant and important to the undergraduate program.

**Prerequisite:** Students will need to have achieved an appropriate level of preparation in the topic area concerned.

**Co-requisite:** Will depend on the syllabus of the particular special topic offered.

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB710 AUTOMATION II**

Use of computer packages in control system design (eg, Matrix, 'X'); fundamentals of discrete time systems; instrumentation used in the acquisition and analysis of digital data (eg, Labtech); Programmable Logic Controllers.

**Prerequisites:** MEB640, MEB660

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB771 INDUSTRIAL ENGINEERING II**

Forecasting; manufacturing resources planning; scheduling; capacity planning; total quality control; modelling and simulation.

**Prerequisite:** MEB670

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **MEB772 ENGINEERING PROJECT APPRAISAL**

Rational economic analysis of engineering projects at product level and project level; techniques needed to establish the cost of a project; techniques for determining design changes needed to reduce the manufacturing cost of a product; strategies for new product planning.

**Prerequisites:** MEB483, MEB339, MEB472

**Co-requisites:** MEB773, MEB670

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB773 DESIGN FOR MANUFACTURING I**

Value analysis and principles related to product design; tolerance technology; design of jig and fixtures; cutting tools applicable for various machining operations including assembly.

**Prerequisite:** MEB171

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB800 SPECIAL TOPIC IV**

A series of lectures and tutorials in subject areas which are of special professional relevance to the student's intended career path, or which may be available on occasions from visiting scholars and which may be relevant and important to the undergraduate program.

**Prerequisites:** Students will need to have achieved an appropriate level of preparation in the topic area concerned.

**Co-requisites:** Will depend on the syllabus of the particular special topic offered.

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB810 INDUSTRIAL NOISE & VIBRATION**

Vibration measurements; spectrum analysis; Kurtosis, Cepstrum and envelope analysis; averaging; gear, bearing and rotor vibration; whole body and arm vibration; noise power; industrial standards; attenuation methods.

**Prerequisite:** MEB510

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB900 MANUFACTURING PROJECT**

The student is required to investigate in depth and present a formal report on a problem area taken from the full range of manufacturing engineering practice. Project may arise through investigation in applied research programs or specific topic from industry.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

■ **MEB911 FINITE ELEMENT ANALYSIS**

General description of the finite element method; static and dynamic analysis of mechanical engineering problems; review of finite element packages.

**Prerequisites:** MEB462, MEB550, MEB610, MEB511

**Credit Points:** 7      **Contact Hours:** 3 per week

■ **MEB950 PROCESS PLANT DESIGN**

Duct and industrial pipework system design; pressure vessel design methods; field visits.

**Prerequisites:** MEB251, MEB462

**Co-requisite:** MEB511

**Credit Points:** 7      **Contact Hours:** 3 per week

### ■ MEB960 FLUID SYSTEMS DESIGN

Analysis of selected fluid systems; performance characteristics of individual components; performance characteristics of systems.

Co-requisite: MEB464

Credit Points: 7 Contact Hours: 3 per week

### ■ MEB974 DESIGN FOR MANUFACTURING II

Design of press tools, dies for forming operations and joining processes; an overview of CAD in tool and die design.

Prerequisite: MEB571

Credit Points: 7 Contact Hours: 3 per week

### ■ MEB975 DESIGN OF MANUFACTURING SYSTEMS

Design and integration of flexible fixtures, palletisers and conveyors to FMS; the use of robots and automatic guided vehicles in materials handling; total integrated manufacturing systems; selection of machine tools for CIM implementation.

Prerequisites: MEB976, MEB977

Credit Points: 7 Contact Hours: 3 per week

### ■ MEB976 COMPUTER INTEGRATED MANUFACTURING

Requirements for implementing CAD/CAM systems; component design using geometric modelling techniques; classification systems for part family formation and computer-aided process planning; concepts and applications of Flexible Manufacturing Systems (FMS).

Credit Points: 7 Contact Hours: 3 per week

### ■ MEB977 COMPUTER CONTROL OF MANUFACTURING SYSTEMS

Use of computers in machine tool control; computer control of production systems; control of robots; interfacing and networking.

Prerequisite: MEB976

Credit Points: 7 Contact Hours: 3 per week

### ■ MEB978 MANUFACTURING SYSTEMS ENGINEERING

Concepts and fundamentals of manufacturing system analysis and production management; simulation and modelling of manufacturing systems.

Credit Points: 7 Contact Hours: 3 per week

### ■ MEB980 DESIGN OF POWER TRANSMISSION SYSTEMS

Design of systems for the generation and transmission of mechanical power; solid elements (gears, clutches, belts etc); fluid elements (pneumatic and hydraulic).

Prerequisites: EEB209, MEB411, MEB313, MEB483

Co-requisites: MEB510, MEB511

Credit Points: 7 Contact Hours: 3 per week

### ■ MEB981 DESIGN OF MATERIALS HANDLING SYSTEMS

Design of bulk material conveying and process plant, storage silos and bins, ground stockpiling systems, and the associated supporting structures.

Prerequisites: MEB483, MEB411, CEB184, CEB185, MEB111, MEB511

Credit Points: 6 Contact Hours: 3 per week

### ■ MEP173 QUALITY CONTROL PLANNING

Quality systems, a succinct explanation; case studies; TQC and the Deming Philosophy; getting things into perspective; the business plan; quality management; continuous training and productivity improvement on

the path to business success; quality assurance, its organisation and function; TQ principle; procedures and audits; everyone's responsibility; the role of the QA entity; organisation structure; the quality manual; standards and their applications; procedures preparation and format; the quality plan; inspection and test plans; design control; procurement to control; audit and corrective action; the quality manual assignment. Credit Points: 6 Contact Hours: 1.5 per week

### ■ MEP201 SAFETY TECHNOLOGY & PRACTICE I

Overview of models of the accident phenomenon; technological background necessary for the understanding of potential hazards with electrical power; construction site mechanical equipment hazards and failure; failure modes of engineering materials; mechanical properties of engineering materials and their effects on failure modes.

Credit Points: 12 Contact Hours: 3 per week

### ■ MEP273 QUALITY MEASUREMENT & TESTING

Measurement basics; measurement and standards; measurement errors; reliability of measurements; application of statistics; the cumulative distribution function; weights and errors; statistical interpretation of test results; the hypergeometric distribution; the binomial distribution; the poisson distribution; the pascal distribution; the normal distribution; the central limit theorem. Quality assurance in the laboratory; calibration in the laboratory; uncertainty of measurements; the laboratory quality manual; assignments and laboratory audits.

Credit Points: 6 Contact Hours: 1.5 per week

### ■ MEP301 SAFETY TECHNOLOGY & PRACTICE II

The psychology of industrial accidents; the technology of electrical power plant mechanical equipment and materials failure pertaining to accident prevention; accident prevention and hazard recognition; risk management and control; design and maintenance of personal protection equipment; safe habits and the effective use of personal protection equipment.

Prerequisite: MEP201

Credit Points: 12 Contact Hours: 3 per week

### ■ MEP371 RELIABILITY & MAINTAINABILITY

Reliability and maintainability; relationship between reliability and quality; relationship between designer, manufacturer and operator; means of achieving high reliability and maintainability; fundamental theory of reliability; reliability data analysis; practical applications of Weibull's distribution to reliability and maintainability; modelling for reliability; computerised maintenance systems, economics and systems availability.

Credit Points: 6 Contact Hours: 1.5 per week

### ■ MEP473 QUALITY SYSTEMS & ASSESSMENT

Subject and class breakdown on the basis of syndicates for leading topic discussion; lectures on quality system requirements; policy and organisation; planning; purchasing; work instructions; inspection; corrective action; review and reorganise; application of topics to AS3900 - 1987/ISO9000 - 1987 to AS3904 - 1987/ISO9004 - 1987; application of topics to AS2990 - 1987; syndicate presentation; quality system requirements and assessment; the mechanics of step-by-step auditing.

Credit Points: 8 Contact Hours: 2 per week

**MET101 ENGINEERING DRAWING**

Engineering graphics for electrical engineering students; orthographic projection; preparation of circuit diagrams; other drawing relevant to electrical engineering associates; computer-aided drafting techniques.

**Credit Points:** 7      **Contact Hours:** 3 per week

**MET120 ENGINEERING DRAWING I**

Lettering and linework; principles of third angle projection; orthographic projection; pictorial drawings; assembly drawings; sectional views; CAD.

**Credit Points:** 7      **Contact Hours:** 3 per week

**MET121 DRAFTING PRACTICE IA**

Complements MET120: drawing mechanical engineering components; detail exercises; CAD.

**Co-requisite:** MET120

**Credit Points:** 3      **Contact Hours:** 3 per week

**MET123 ELECTRICAL ENGINEERING DRAWING IA**

Preparation of block diagrams; logic diagrams; circuit diagrams.

**Co-requisite:** MET101

**Credit Points:** 3      **Contact Hours:** 3 per week

**MET140 ENGINEERING MATERIALS I**

General properties of materials; materials selection; service requirements and properties of ferrous and nonferrous metals and alloys; corrosion types and prevention; testing procedures; plastics, ceramics and other materials.

**Credit Points:** 8      **Contact Hours:** 3 per week

**MET141 MATERIALS (CIVIL)**

Properties of common ferrous and nonferrous metals and alloys; timber, bricks, bitumen and plastics; corrosion mechanism and protective systems; quality control of engineering materials.

**Credit Points:** 7      **Contact Hours:** 3 per week

**MET170 MANUFACTURING TECHNOLOGY**

Basic methods of converting raw material into manufactured goods; an introduction to metrology; safety in the work place.

**Credit Points:** 8      **Contact Hours:** 3 per week

**MET171 TRADE TRAINING IA**

Skill training in basic fitting and welding; the practical and applied aspects of fitting and welding skills.

**Credit Points:** 6      **Contact Hours:** 7 per week

**MET175 WORKSHOP TRAINING (MECHANICAL) IA**

An introduction to workshops and field training; the use of sketches; working drawings; materials; safety and legal requirements.

**Credit Points:** 3      **Contact Hours:** 3 per week

**MET201 APPLIED MECHANICS**

Statics; friction; velocity and acceleration; inertia and change of motion; dynamics of rotation; periodic motion; balancing; work and energy; impulse and momentum; strain and stress; fluids at rest and in motion.

**Credit Points:** 7      **Contact Hours:** 3 per week

**MET210 APPLIED MECHANICS I**

Force and its effects; equilibrium; moments of forces; displacement; velocity and acceleration; inertia; friction and friction machines.

**Credit Points:** 8      **Contact Hours:** 3 per week

**MET220 ENGINEERING DRAWING II**

Auxiliary views, sectional views; intersections; surface developments; CAD.

**Prerequisite:** MET120

**Credit Points:** 8      **Contact Hours:** 3 per week

**MET221 DRAFTING PRACTICE IIA**

Cam and gear geometry; spatial geometry; mechanical drive component selection; CAD.

**Co-requisite:** MET220

**Credit Points:** 3      **Contact Hours:** 3 per week

**MET223 ELECTRICAL ENGINEERING DRAWING IIA**

Printed circuit board layout; plant layout; transformer construction; single line diagrams; CAD.

**Prerequisite:** MET120

**Credit Points:** 3      **Contact Hours:** 3 per week

**MET250 THERMODYNAMICS**

Basic engineering thermodynamics concepts; systems; reversibility; first and second law; working fluids; IC engine cycles and simple performance evaluations.

**Credit Points:** 6      **Contact Hours:** 3 per week

**MET271 TRADE TRAINING IIA**

Skill training in basic metal machining techniques; practical and applied aspects of turning, milling, shaping, surface and cylindrical grinding.

**Credit Points:** 6      **Contact Hours:** 7 per week

**MET310 APPLIED MECHANICS II**

Work, power and energy; efficiency; introduction to simple machines; mechanical advantage and velocity ratio; hydrostatics and fluid friction; section properties; shearing force and bending moments; torsion.

**Credit Points:** 8      **Contact Hours:** 3 per week

**MET320 ENGINEERING DRAWING III**

Geometric tolerancing; structural drafting; simplified dimensioning techniques; CAD.

**Prerequisites:** MET120, MET220

**Credit Points:** 6      **Contact Hours:** 3 per week

**MET350 PROCESS ENGINEERING**

Steam plant; positive displacement compressors; refrigeration plant; positive expanders; reciprocating engines; gas turbines.

**Prerequisite:** MET250

**Credit Points:** 7      **Contact Hours:** 3 per week

**MET352 REFRIGERATION & AIR CONDITIONING**

Ideal and actual refrigeration cycles including variation of operating conditions; performance of refrigeration equipment; psychrometry; cooling load estimation; air supply systems.

**Prerequisite:** MET250

**Credit Points:** 7      **Contact Hours:** 3 per week

**MET420 ENGINEERING DRAWING IV**

Specialist drafting techniques; electrical/electronic drafting; hydraulic/pneumatic diagrams; CAD.

**Prerequisites:** MET120, MET220

**Credit Points:** 7      **Contact Hours:** 3 per week

**MET421 MECHANICAL PROJECT IA**

Report and presentation; projects selected from list; each project deals with a specific engineering environment.

**Prerequisite:** MET320

**Credit Points:** 3      **Contact Hours:** 3 per week

**■ MET433 ENGINEERING MATERIALS II**

Properties and selection of advanced engineering materials.

**Co-requisite:** MET140

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ MET475 WORKSHOP (MECHANICAL) IIIA**

An introduction to workshop machines and practices.

**Co-requisite:** MET175

**Credit Points:** 3      **Contact Hours:** 3 per week

**■ MET511 NOISE, STRESS & VIBRATION PRACTICE**

Instrumentation used to measure vibrations, noise and stress; fundamental principles and equations related to such measurement; vibration isolation; noise standards; stress/strain transformations.

**Co-requisites:** MET210, MET310

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET560 THERMOFLUIDS**

Fluid statics; fluid flow and measurement; dimensionless groups; elementary heat transfer by conduction, convection and radiation.

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ MET572 PRODUCTION PLANNING & CONTROL**

Overview of production management; introduction to quality control; types of production; plant layout; scheduling and inventory control.

**Prerequisite:** MET171

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET573 CAD/CAM TECHNOLOGY**

Introduction to the fundamentals of CAD/CAM and geometrical modelling; practical applications in CNC programming and economics of machine tools; the use of robots and principles of integrated manufacturing systems.

**Credit Points:** 7      **Contact Hours:** 3 per week

**■ MET580 MACHINE ELEMENTS I**

Practical application of shear force and bending moment diagrams; selection of components from BHP manual; use of handbooks; codes and rolled steel section tables; bolted and welded connections; application of standard rolled steel sections; selection of shafts.

**Prerequisites:** MET210, MET120, MET220

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET600 MATERIALS FOR ELECTRICAL ENGINEERS**

Properties of materials; materials selection; service requirements and properties of ferrous and nonferrous metals and alloys; corrosion types and prevention; testing procedures; plastics, ceramics and other materials.

**Credit Points:** 4      **Contact Hours:** 1.5 per week

**■ MET601 MECHANICAL PLANT**

Manufacturing processes and workshop practices; power station equipment (turbines and boilers); mining machinery; air-conditioning equipment; fans and pumps; hoists; compressors; cranes; welding; heat transfer principles.

**Credit Points:** 3      **Contact Hours:** 1.5 per week

**■ MET650 PLANT ENGINEERING IA**

A series of investigatory practical sessions related to design parameters; performance characteristics and plant maintenance practices associated with engineering plant systems; the machinery within the system and maintenance procedures.

**Credit Points:** 3      **Contact Hours:** 3 per week

**■ MET680 MACHINE ELEMENTS II**

Selection and application of shafts and couplings; selection of spur, helical and worm reduction unit; determination of gear forces; selection of springs and brakes; curved beams.

**Prerequisite:** MET580

**Credit Points:** 7      **Contact Hours:** 3 per week

**■ MET733 INDUSTRIAL METALLURGY**

Techniques in casting; metallurgical advances in materials and their evaluation.

**Prerequisite:** MET433

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET782 JIG & TOOL DESIGN**

Design of jig and fixtures for various machine operations and assembly; principles in design of blanking and forming dies; special forming techniques; dies used in blow and injection moulding; simple press capacity calculation.

**Prerequisite:** MET171

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET850 ENERGY MANAGEMENT**

Tariff framing and objectives; energy and power losses in electrical and mechanical plant; equipment and buildings; identification of losses; energy audits; load forecasting and control.

**Co-requisites:** EET500, MET250

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET901 SUGAR MILL TECHNOLOGY I**

This subject provides the basic knowledge and skills in the technology and equipment associated with sugar mill processes and operation.

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET902 SUGAR MILL TECHNOLOGY II**

This subject provides further knowledge and skills in the technology and equipment associated with sugar mill processes and operation.

**Prerequisite:** MET901

**Credit Points:** 7      **Contact Hours:** 3 per week

**■ MET920 COMPUTER AIDED DESIGN & DRAFTING**

Computer based drafting: 2-D drafting; design and solid modelling.

**Prerequisites:** MET120, MET220

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET933 INDUSTRIAL TRIBOLOGY**

Maintenance and maintenance systems; types and mechanisms of wear; bearings and seals; friction, lubricants; oils; greases; solid lubricants; gas as a lubricant; application of lubricants.

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ MET940 MECHANICAL MEASUREMENTS**

Instruments used to measure mechanical quantities; function and method of application; speed; acceleration; frequency; force; torque; pressure; level; flow and temperature.

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ MET960 FLUID POWER**

Introduction to fluid power; compressed air systems; graphical symbols; cascade method of pneumatic system design; hydraulic components; hydraulic circuits.

**Credit Points:** 7      **Contact Hours:** 3 per week

**■ MET961 FLUID MECHANICS**

Characteristics of pumps; turbines; compressors and fans; fluid coupling and torque converters; Friction

losses in pipes and fittings. Analysis of complete pumping systems.

**Prerequisite:** MET560

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MET971 INDUSTRIAL PRACTICE

Human resource management; work study; aspects of communication; leadership and teamwork; practical applications in planning and control; basic engineering metrology.

**Credit Points:** 7      **Contact Hours:** 3 per week

#### ■ MNB002 PSYCHOLOGY FOR ENGINEERS

Introductory psychology; basic elements of transactional analysis and their application to work settings; self-concept and its relationship to socially effective behaviour; attitudes and attitude change; the dynamics of supervision in the work place.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ MNB004 MANAGEMENT

The subject acts as an introduction to the theory and practice of management and lays a foundation on which to build managerial knowledge and techniques through a life time career. Functions of management: planning, organising, leading and controlling are presented in the framework of a systems approach to decision making.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ MNB007 BEHAVIOURAL SCIENCE

An introduction to perception, motivation, individual personality, social attitudes, group interaction and dynamics; social motives and the sources and resolution of conflict. Students will be introduced to the practical application and limitations of behavioural studies through the use of readings and case studies drawn from the building industry. An introduction to the job and responsibilities of management; the functions and role of the manager including planning, organisation, control, budgeting and decision-making; styles of leadership. Students will discuss and assess the various leadership styles and their application in the building industry, together with an assessment of the decision-making roles of the contractor, architect, unions, government and owner on the building site. Students will be introduced to employee selection training, appraising and promotion. Worker efficiency and working conditions.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MNB018 INDUSTRIAL RELATIONS

Structure and development of the industrial relations system in Australia. Federal and State conciliation and arbitration systems, authority and extent of jurisdiction. Industrial relations issues such as wages, conditions, claims and disputes. Role of the trade unions, the employers' and employees' representatives, the commission, awards and agreements. Acts, regulations and workers' compensation. Law of Master and Servant. Strikes and Lockouts. Public liability insurance. Law of Professional Negligence.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ MNB025 ECONOMIC ANALYSIS FOR GEOLOGISTS

Topics include a general overview of the economic approach and method. Importance of statistics, theory and practice in Economics. Neo-classical economics: Relevance to Australia and other western nations. The macro, micro distinction, comparative systems, and the role of values. Development models; Kaldor, Myint, Robinson, Graffa and mineral economics.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ MNB026 ADMINISTRATION FOR GEOLOGISTS

The subject aims to introduce geology students to management practices and principles. It covers the managerial functions of planning, controlling, organising, directing, and staffing, as well as the management of change and conflict. Also included are the areas of business planning for new ventures, budgets and financial controls, and time management.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MNB040 MANAGEMENT

An introductory study of management including the functions of management, leadership, motivation and supervision of staff, and employee relations.

**Credit Points:** 4      **Contact Hours:** 1 per week

#### ■ MNB043 INDUSTRIAL MANAGEMENT

The management process planning, leading, organising, controlling. Human resources management aspects of communication, motivation, leadership and teamwork, with practical applications to planning and control, personnel relations, job design.

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ MNB067 PSYCHOLOGY

This subject seeks to educate students to: critically evaluate statements about behaviour; state and give examples of higher order motives, and apply this knowledge to work and interpersonal situations; understand factors which cause us to misperceive others, and explain how to minimise misperceptions; use effective social skills in interpersonal and group settings; understand theories of attitude, change and know implications for changing the behaviour of others; use skills to reduce interpersonal stress.

**Credit Points:** 6      **Contact Hours:** 1 per week

#### ■ MNB072 PRACTICE MANAGEMENT

The focus of the course is on Small Business Management. It considers the various roles that small business managers must develop at least rudimentary proficiency in. The structure, organisation, finance, planning, control, taxation, marketing, and environmental factors will be discussed in order to equip students with basic skills necessary for starting a successful small business.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ MNB091 MARKETING

The course is designed to concentrate on breadth rather than depth, to provide an overall view of marketing. The areas pursued will be the definition of marketing including its fit into the strategic plans of a firm or institution, either profit or non profit; full explanation of the components of the Marketing Mix with emphasis on a systems approach. The components of the marketing mix are defined as price, promotion, product and distribution; the integration of the above elements with branding, packaging sales and sales promotion to create the Marketing Plan.

**Credit Points:** 9      **Contact Hours:** 2 per week

#### ■ MNB111 INTRODUCTORY PSYCHOLOGY FOR HEALTH PROFESSIONALS

A course of lectures and tutorials on psychology as a science and interpersonal behaviour and skills.

**Credit Points:** 4      **Contact Hours:** 2 per week

#### ■ MNB120 ELEMENTARY JAPANESE

Introduction to a basic knowledge of the spoken Japanese language through models of dialogues based on situational conversation essential to business and

travel. Additionally, it includes special lectures on cultural background studies which are related to business practices in Japan.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB121 COLLOQUIAL JAPANESE

Emphasises spoken and aural comprehension based on situational conversation related to Australian business-people, including study of hiragana/katakana (Japanese syllables reading and writing) and an introductory lesson of Kanji (Chinese characters).

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB130 GENERAL PSYCHOLOGY

This course is designed to give students an ability to demonstrate effective interpersonal skills in relation to patients and other health professionals; indicate bases of individual differences; diagnose patient needs and respond appropriately; state causes of stress, effects on health, and indicate appropriate techniques to reduce stress; indicate techniques that may be used to modify patient attitudes.

**Credit Points:** 4    **Contact Hours:** 3 per week

#### ■ MNB151 MICROECONOMIC ANALYSIS

This subject will examine how managers make decisions in firms in the Australian economy. The role of consumers and firms in various markets will be studied. Production and market strategies for managers in different types of firms will be examined. Lastly, constraints on managers' decisions and other contemporary issues in Australian microeconomics will be examined.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB153 ANALYSIS & METHODOLOGY IN MANAGEMENT

The first part of the course is designed to establish a conceptual base suitable for the analysis of both abstract and empirical argument. The second part of the course builds upon the concept of a valid argument by introducing the notion of the empirical research process, both historical and scientific. Specifically, the research cycle of problem definition, research design, data collection, analysis and reporting will be introduced. Normal empirical research will be concentrated upon, though in the context of a discussion of a wide range of research processes. Primary and secondary data sources will be considered, with case studies utilising archival material, market research and questionnaire design to provide practical anchoring. A final project which requires the construction of an argument and integration of data will be introduced to help integrate the analytical and empirical material, and demonstrate the student's ability to communicate meaning in an appropriate fashion. This may draw on introductory statistics and computing subjects.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB154 PSYCHOLOGY

An introduction to selected areas of psychology to give a behavioural base to subsequent studies in the management and organisational science area and to provide limited skills training in some areas for personal development. A learning unit investigates conditioning, imitation and higher order learning. A second unit on individuals and groups examines the development and assessment of individuals within groups. Other units examine perception human development and social skills, including assertiveness and stress management.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB181 AUSTRALIAN NATIONAL GOVERNMENT B

This subject provides an introduction to the Australian political system at the national level. It aims to foster an understanding of the major participants in the system and to evaluate their interaction with Australian society. The Australian Constitution, the Commonwealth Parliament, the Cabinet, Ministry and Public Service, the High Court, the electoral system, political parties and interest groups are examined and related to basic political theory and current political issues. The role of the State Governments is also considered.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB183 AUSTRALIAN NATIONAL GOVERNMENT A

This subject provides an introduction to the Australian political system at the national level. It aims to foster an understanding of the major participants in the system and to evaluate their interaction with Australian society. The Australian Constitution, the Commonwealth Parliament, the Cabinet, Ministry and Public Service, the High Court, the electoral system, political parties, and interest groups are examined and related to basic political theory and current political issues. (For Bachelor of Business – Public Administration only).

**Note:** One hour per week is set aside for a communication component.

**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ MNB184 INTRODUCTION TO ADMINISTRATIVE & POLITICAL ANALYSIS

The aim of the subject is to ensure the student develops a basic understanding of the aims and methods of the social sciences. It is also intended to help the student develop an understanding of what constitutes a valid explanation of social phenomena that can be utilised in other subjects. It will help develop habits of thought that can be applied to a wide variety of problems and decisions.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB231 GOVERNMENT ECONOMIC POLICY

This subject is designed to examine some of the problems in the economics of government social policy. Social policy will be analysed in terms of its impact on the allocation of resources and the distribution of income and wealth. The theory of public sector economics will not be studied since the subject Microeconomic Policy covers this area. The latter is a recommended but not a necessary prerequisite for MNB231. However, the theory of taxation, fiscal federalism and the significance of the size and growth of the public sector will be studied. The application of economic analysis in a number of areas of social policy including health and medical care, social security, education, environmental protection and housing will be demonstrated.

**Prerequisite:** MNB151 or MNB471

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB250 DEVELOPMENTAL PSYCHOLOGY

This subject provides students with a basis for the study of the promotion of psychological health of individuals at differing developmental stages. The content includes psychological adjustment, developmental theories, developmental aspects of childhood, adolescence, middle and old age and specific areas such as sexual development, death and dying.

**Prerequisite:** MNB101

**Credit Points:** 9    **Contact Hours:** 3 per week

### ■ MNB251 MACROECONOMIC ANALYSIS

Macroeconomic Analysis is concerned with the economic problems that occur at the national level. The aim of the subject is to ensure that students understand the economic problems at this level and appreciate the effects on the business community and on individuals of the Federal Government's attempts to manage these problems in Australia. Specific topics covered in the subject include economic systems, management techniques associated with a capitalist economy, unemployment, inflation – its causes and effects, and international trade.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB252 BUSINESS STATISTICS

Introduction to the field of statistical inference; fields of management and commerce; statistical analysis; use of microcomputer statistical package.

**Prerequisite:** MNB152 or CSB191

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB253 INTRODUCTORY MARKETING

This introductory subject focuses on the role of marketing and its importance in contemporary organisations. The subject material covers the key marketing decision areas including the marketing concept; understanding consumer behaviour and preferences; marketing research and marketing information systems; market segmentation and positioning; and an introduction to marketing planning, strategy and control. Emphasis is given to understanding the components of the marketing mix, viz. product planning, management and development; pricing methods and strategies; the elements of promotion, including personal selling, advertising, publicity and sales promotion; and distribution.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB254 PERSONNEL MANAGEMENT & INDUSTRIAL RELATIONS

This subject is about the way human resources act and are acted upon. It examines human resources from the points of view of the employer, employees, government and other stakeholders. It utilises the pipeline concept to introduce some of the key processes of personnel management. It examines a variety of theoretical perspectives on industrial relations, introduces industrial relations concepts appropriate to middle managers, supervisors, and employee representatives, to enable students to understand the interpersonal and communication skills appropriate to the area. Current issues are highlighted throughout and students are introduced to the basic framework of Australian industrial law.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB267 PSYCHOLOGY

In studying this subject, students will be taught to critically evaluate statements about behaviour; state and give examples of higher order motives, and apply this knowledge to work and interpersonal situations; understand factors which cause us to misperceive others, and explain how to minimise misperceptions; use effective social skills in interpersonal and group settings; understand theories of attitude, change and know implications for changing the attitudes of other persons; know theories of behaviour change and understand implications for changing the behaviour of others; use skills to reduce interpersonal stress.

**Credit Points:** 4    **Contact Hours:** 3 per week

### ■ MNB281 POLITICAL BEHAVIOUR

The aim of this course is to provide students with an understanding of the causes and significance of politi-

cal behaviour in Australia. The course is structured around two related perspectives, that of political behaviour at the individual level, and political behaviour as a feature of collective political activity. The course examines the major perspectives used to explain political behaviour in Australia, relating these both singly and together to specific examples of political activity. Finally, the implication of these explanations for patterns of political power is examined.

**Prerequisite/Co-requisite:** MNB183 or MNB181

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB282 STATE GOVERNMENT

This subject aims to provide an analytical scrutiny of Australian state government with attention concentrated on Queensland. The interaction of parties, groups and institutions is highlighted. The course attempts to identify the outstanding demographic, economic, social and political features of the states and the dominant themes of political life therein. It looks at the political parties, at elections, electoral and voting systems, at pressure groups and the press. It investigates the workings of state parliaments and cabinets. Finally it has something to say about state government administration, about functions and financing and about intergovernmental relations.

**Prerequisite:** MNB451 or MNB181/183

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB302 PRINCIPLES OF MANAGEMENT

Introduction to the concepts, principles and practical techniques involved in managing organisations. Topics covered include strategic and operational planning; the organising function; staffing of organisations; motivation and effective leadership; the dynamics of groups and the management of organisational culture; the design and operation of effective control systems; the management of quality; managing change and conflict.

**Credit Points:** 9    **Contact Hours:** 2 per week

### ■ MNB319 HEALTH INFORMATION MANAGEMENT I

An introduction to the principles of health record management and their application in hospitals. The subject will present an overview of the interrelationships between the various processes of the medical record department and functionally related areas in health care facilities. Topics include the structure, format and uses of medical records, the function of medical record departments, quantitative analysis of medical records, and health information collection and retrieval systems, both manual and computerised.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB320 MEDICAL TERMINOLOGY

This subject is designed to enable the student to understand, define, spell and pronounce terms related to the diseases and systems of the body, the activities of health professionals and medical technology. A thorough knowledge of medical terminology is necessary for health information managers and health administrators to communicate effectively with other health care professionals and contribute to health care planning, evaluation and research studies.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB322 INTRODUCTORY TRAINING AND DEVELOPMENT

Training in Australia. Instructional models and theories of learning. Training needs analysis, task analysis process. Basic training techniques – the information giving model, the skill development model, the discussion model. Training aids/audio-visuals, al-

gorithms. Administering a training course. Evaluating learning, writing and scoring test items. Follow-up training.

**Prerequisite:** The completion of the equivalent of the first year of the course in which the student is enrolled or MNN100.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB323 SOCIAL PSYCHOLOGY

The focus is upon issues and problems which arise when people interact with each other. Students are expected to master social psychological theories, principles and concepts in order to assist them to describe, explain, predict and influence interpersonal behaviours in both their work and their personal life.

**Prerequisite:** MNB154 or MNB412 or MNN100

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB330 AUSTRALIAN HEALTH INDUSTRY

A broad overview of the systems of health care in Australia and their methods of operation. The public and private health and medical care sectors are discussed. The political environment, health care institutions, community health, public health, and the problems of coordination and integration of health services are also studied. Students are introduced to the role of the Health Services Administrator.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB331 HEALTH CARE ECONOMICS I

This subject applies economic analysis to the health care industry. It includes an examination of the demand for health care, the supply of health care, and the market for health care.

**Prerequisite:** MNB151

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB351 ORGANISATIONAL ANALYSIS & MANAGEMENT

This subject is designed to explain how modern organisations operate and their import for the study and practice of management. It focuses on two key areas: analysis and understanding of organisational theory and social processes in organisations. In this context the specific skills held to be valuable to managers will be identified and discussed. The major processes will be examined, with a focus on decision and communication processes.

**Prerequisite:** MNB153

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB361 HUMAN RESOURCES & THE ORGANISATION

This foundation subject examines the interface of human resources with the organisation and its requirements. Concepts and processes for analysing jobs will be examined. Human resources planning, job evaluation, job design and performance appraisal concepts and processes will be built on the foundation data. A substantial level of analytical and professional competence is expected in this subject.

**Prerequisite:** MNB254 or MNN100

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB362 RECRUITMENT & SELECTION

This is a practical subject with strong conceptual and research foundations. It builds on job analysis competencies to deal in depth with recruitment and selection. Major topics include use of advertising, private agencies, the Commonwealth Employment Services and other approaches in recruiting; the use of aptitude and ability tests for selection; screening devices (for example, the weighted application

blank); practical selection interviewing; other issues in recruitment and selection. Where appropriate, attention is given to underlying statistical methods (for example, in the estimation of reliability and validity). Legal requirements are emphasised throughout (eg, anti-discrimination, EEO).

**Co-requisite:** MNB361

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB363 INDUSTRIAL RELATIONS I

This subject aims to provide students with an understanding of the principles and practices of industrial relations in Australia. While considerable help is given by the lecturer in the form of lectures and seminar discussion, this subject should appeal to students who appreciate conducting their own individual research. A comprehensive, annotated bibliography is provided and students must use this as the resource base for their own study of the subject. Particular references to the bibliography are noted under the lecture topics.

**Prerequisite:** 96 credit points successfully completed from Faculty of Business Degree Program, including MNB254

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB364 PERSONNEL ADMINISTRATIVE SYSTEMS/OCCUPATIONAL HEALTH & SAFETY

Introduction to human resources information systems. An examination of entitlements systems, discipline systems, remuneration packages, workers compensation coverage. Award and legal requirements. Computerised systems. Occupational health and safety requirements under the law. Work conditions and employee behaviour. Managing occupational health and safety.

**Prerequisite:** MNB361 or MNN100 or the completion of the equivalent of the first year of the course in which the student is enrolled

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB371 MICROECONOMIC THEORY

Objectives of the firm and decision making under uncertainty; demand theory analysis and estimation; production and cost analysis; pricing analysis and decision; selected topics eg, economics of advertising, product quality and capital budgeting.

**Prerequisite:** MNB151

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB372 MACROECONOMIC THEORY

Keynesian, monetarist and neoclassical theories of income determination will be studied and evaluated. This will involve analysis of the role of both demand and supply side factors. Comparative monetary theory and expectations theories will also be addressed.

**Prerequisite:** MNB251

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB382 ADMINISTRATION RESEARCH I

This subject introduces the student who will work in the public sector to methods used to collect, process and analyse information. The emphasis is on practicable procedures rather than mathematical derivation, although an intuitive understanding of basic statistical principles is presented. Among the topics covered are sources of Australian statistical information, how to conduct surveys, the use of statistics to analyse survey results, computer use in survey work, scaling methods, probability theory, time series, confidence intervals, demographic and financial processes. Emphasis will be on SPSSX Computer

work on the VAX as well as on certain packages on the PCs.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB385 ADMINISTRATIVE THEORY

Public administration draws upon a wide range of theory and related concepts. The aim of this subject is to ensure students gain a critical understanding of such theory, utilising the analytical frameworks developed in Introduction to Administrative & Political Analysis. The understanding developed will be applied in the examination of administrative systems and their problems in a range of subjects, notably Public Policy Process I & II.

**Prerequisites:** CMB111, MNB184

**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ MNB391 MARKETING MANAGEMENT

This subject is concerned with the tactical decisions required at the product or middle management level. Particular emphasis will be placed upon new product and services innovations with an introduction to the development of strategy in terms of defining marketing opportunities, developing and implementing marketing plans. There will be a specific focus on market segmentation, positioning, measuring market opportunity, marketing communications, the promotional mix, distribution, price determination together with retail/wholesale, service marketing and not-for-profit marketing as applied in the strategy developing process.

**Prerequisite:** MNB253 or MNN204

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB392 CONSUMER BEHAVIOUR

This course examines the various theories of consumer behaviour and is designed to provide students with an insight into consumer needs, attitudes and behaviour and their impact on all aspects of marketing strategy.

**Prerequisite:** MNB253 or MNN204

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB405 MANAGEMENT SCIENCE A

The major behavioural objectives are to introduce students to important models of operations research; students are made aware of how these models are used in accounting and/or management decision-making situations; students become familiar with solving decision problems through their own calculations and the use of a computer; students will have an appreciation of the strengths and weaknesses of the models.

**Credit Points:** 9    **Contact Hours:** 2 per week

#### ■ MNB411 EXPORT MANAGEMENT

The role of government, including need to export, and export incentives; methods of exporting, including agents and merchants, consultants and overseas organisations; bases for export sales, including terminology and exporter's responsibilities; export documentation; finance of export trade, including methods of payment, finance for export transactions and foreign exchange transactions; export finance insurance corporation; modes of international transport; marine insurance; quoting for export, including pricing policies, export costs, marketing and packaging and quotations. A major case study is included as part of the study program.

**Prerequisite:** MNB253

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB412 MANAGEMENT & ORGANISATIONS

Introduction to the concepts, principles and practical techniques involved in managing organisations.

Topics covered include strategic and operational planning; the organising function; staffing of organisations; motivation and effective leadership; the dynamics of groups and the management of organisational culture; the design and operation of effective control systems; the management of quality; managing change and conflict.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB413 APPLIED COGNITIVE PSYCHOLOGY

Introduction to cognitive psychology; perception processes in cognition; memory processes in cognition; thinking processes in cognition; includes problem solving and decision making; application of cognitive psychology. Artificial intelligence, ergonomics and job design also included.

**Prerequisite:** MNB154 or completion of 96 credit points of degree study

**Credit Points:** 9    **Contact Hours:** 2 per week

#### ■ MNB419 HEALTH INFORMATION MANAGEMENT II

This subject is designed to provide the student with an understanding of specialised medical and health record systems and techniques, particularly data capture techniques and models. The students will study clinical classification principles and systems used in the retrieval of health information for research, evaluation, planning and statistical collection in the health services.

**Prerequisites:** MNB319 and MNB320

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB420 ADVANCED TRAINING TECHNIQUES

Planning and programming management and supervisory development. Career planning. Developing a complete training program. Advanced training techniques – case study, role play, laboratory training, simulations, games, programmed instruction, computer assisted instruction, individualised learning, video and learning. Managing the training and development function – planning, organising staffing, directing, controlling. The competencies of a trainer. Experiential and project activities.

**Prerequisite:** MNB322

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB426 SALES MANAGEMENT

This subject introduces the student to the range of analytical activities performed in the design and management of the selling function of the organisation. These activities include sales forecasting, sales force size, territory management and selling logistics, sales force motivation, sales negotiation and so on. The subject combines theory and practice and uses a case study approach to consolidate the learning process.

**Prerequisite:** MNB253 or MNN204

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB430 APPLIED HEALTH CARE ANALYSIS

This subject is an introduction to epidemiology and biostatistics. Descriptive and analytical epidemiological methods used in the study of acute and chronic disease and in health services planning are studied. The statistical techniques appropriate to public health problems are included at an introductory level.

**Prerequisite:** MNB382

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB431 HEALTH CARE ECONOMICS II

The objective of this course is to follow up and continue the study of economics as applied to health care. Advanced level studies in health economics are critically examined.

**Prerequisite:** MNB331

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB450 PHYSIOLOGICAL & HEALTH PSYCHOLOGY

This subject examines the physiological and cognitive bases to human behaviour. In particular, it gives attention to such areas as the nervous and endocrine systems of the body, the brain and its functioning; learning, information processing, memory and problem solving; consciousness and altered states of consciousness; hormones and drugs and their effects on emotional expression; the development of intelligence; and overall the relation of physiological and cognitive factors to motivation and behaviour.

**Prerequisite:** MNB154 or first year of course

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB451 GOVERNMENT, BUSINESS & LAW

The purpose of this subject is to provide a basic understanding of government, business and the law. It will stress that politics is an all-pervasive aspect of human societies, though its semantic definition varies from culture to culture. This will be illustrated by demonstrating the important senses in which management is a political activity. It will then examine the specialised governmental and legal institutions and processes, the extent to which they structure the frameworks within which business takes place, and feedback from business into the political system. The subject will then use a series of case studies to illustrate and analyse selected business-government relationships.

**Credit Points:** 12    **Contact Hours:** 4 per week

**Note:** This subject is not available to students who have taken MNB181 or MNB183, Australian National Government A or B, or MNN203 Government Business Relations.

### ■ MNB461 FOUNDATION HR COMPETENCIES

This subject analyses and develops the personal and interpersonal competencies (in both cognitive and affective domains) which form the foundations from which a HR practitioner must operate. It aims to develop knowledge of and skills in self-awareness, personal and interpersonal development and interpersonal processes. It emphasises the design of process to achieve outcomes.

**Prerequisite:** MNB154, MNN100 or MNB516

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB462 ADVANCED ORGANISATION BEHAVIOUR

An in-depth study of organisational behaviour. Major organisational aspects (the individual, groups, technology, formal organisation structure) are considered and integrated into a comprehensive analysis of the factors affecting behaviour in the organisation, with the emphasis on practical application. Particular attention is given to methods of research into motivation, leadership and structure in the organisational context. The emphasis throughout is on rigorous analysis and evaluation.

**Prerequisite:** MNB154

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB463 ORGANISATION DEVELOPMENT

The subject has two major objectives. The first is to develop conceptual and theoretical models and skills in relation to the general process of introducing change into organisations, and the specific techniques/interventions which are most often used in organisation development. The second is to develop practical skills wherever possible in relation to the introduction of change; in particular, skills related to the specific interventions/techniques used in organisational development, and diagnostic and analytical skills useful for organisation development. Special attention is focused on the work group and its processes as a key structural unit in organisational change.

**Prerequisite:** MNB461 or MNN100

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB471 MICROECONOMIC POLICY

Introduction to welfare economics. Public utility pricing and investment. Market efficiency and adjustment. Tariff policy. Externalities and public goods. Cost benefit analysis. Case studies of Australian industries (eg, air transport).

**Prerequisite:** MNB371 or MNB331 or MNN106

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB472 MACROECONOMIC POLICY

Monetary and fiscal policies based on various theoretical underpinnings will be discussed. In particular, the role of discretionary-monetary policy will be addressed; as will government expenditure and taxation, the size of the budget deficit/surplus, and the management of an open economy (eg, Australia).

**Prerequisite:** MNB372

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB482 LOCAL GOVERNMENT

This subject examines the vital role of local government as the third sphere of government in Australia. Its nature and constitution, functions, finance and the role of professional employees are some of the topics examined in the context of questioning local governments' capacity to effectively and efficiently provide services, and to develop as a participative grass root democratic system. The emphasis is on local government in Queensland, but interstate and overseas examples are included.

**NB:** For students enrolled in the Public Administration degree only. This subject includes a one hour per week communication component (4 hour subject).

**Prerequisite:** MNB181/183

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ MNB483 ADMINISTRATION ANALYSIS

This subject introduces students in public sector administration to the interpretation and use of statistical information. The subject covers the most commonly used techniques of handling data, with an emphasis on the purpose of each technique rather than on its mechanics. As well as being proficient for general administration, students who pass this subject will be trained for junior and middle-level research positions. An important part of this subject is the research project each student will do in a field he/she is interested in (for example, economics, local government) using the techniques taught. Among the topics covered are: hypothesis testing, regression and correlation, multiple regression, forecasting, time series index numbers, and an application of statistical tech-

niques to survey analysis. Students will use SPSSX on the VAX as well as statgraphics on the PC.

**Prerequisite:** MNB382

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB484 PUBLIC PERSONNEL MANAGEMENT

To provide the student with an understanding of the principles and practices which surround personnel management in the public sector. The focus on public sector personnel management is important since there exists a body of law, rules and regulations at each level of government which affects the performance of each personnel activity-human resource planning, job analysis, recruitment, selection performance evaluation, promotion and training. This subject addresses three factors basic to the field of personnel management: the importance of the law; the perspective of the individual employee; and the function of public personnel activities in defining public policy.

**NB:** For students enrolled in the Public Administration degree only. This subject includes a one hour per week communication component (4 hour subject).

**Prerequisite/Co-requisite:** MNB385

**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ MNB485 PUBLIC ENTERPRISE

Public enterprises occupy a central economic role in the Australian economy, at both federal and state levels. They also occupy a unique position astride the public and private sectors, and are subject to both the forces of the market and of the political system. This subject will examine the origins and development of this role, and the unique position of public enterprises in order to illustrate the demands upon the public enterprise manager.

**Prerequisite:** MNB451 or MNB181 and 8 subjects in either BBus – Public Administration, or 8 subjects in BBus – Management.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB491 RETAILING MANAGEMENT I

This subject provides a comprehensive introduction to the techniques, concepts and analytical issues that are involved in retailing management. The dynamics of the retail system are examined from a strategic marketing viewpoint and include a basic appreciation of retail customer behaviour and retail information needs. The analysis of store location and the evaluation of retail trade areas and store siting determinants are given detailed attention along with store layout and design. Elements of merchandising, franchising and promotion are also examined. The learning process is further extended by way of visits to local retail stores and shopping centres, and by project work covering the investigation of new retail business opportunities.

**Prerequisite:** MNB253 or MNN204

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB492 SERVICES MARKETING

This subject is concerned with the special characteristics of services and possible strategies to deal with those characteristics. Topics to be covered include the nature and classification of services; the differences between services and products and their implications for the marketing/customer mix and for marketing strategy; and the management of product support services. The following will also be introduced: the concept of productivity for services; including the management of demand and supply; and the search

for service quality and consistency, including the issue of standardisation vs. customisation.

**Prerequisite:** MNB253 or MNN204

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB503 THE TOURISM INDUSTRY IN AUSTRALIA

In recent years the tourism and hospitality sector has been the major growth sector in the Australian economy. The purpose of this subject is to undertake an economic, political and managerial analysis of this sector, its origins, growth and significance, with a particular focus on management needs relevant to the industry. The subject will draw upon the analytical methods and techniques developed in the degree to enable a multidisciplinary analysis of an applied nature.

**Prerequisite:** 12 subjects in BBus - Management

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB504 INTERNATIONAL POLITICS & BUSINESS

This subject will provide a basic outline of the contemporary, international political system, with a focus on Australia's major trading partners. It will examine the major actors in the system, and regional subsystems, with an emphasis on states, international organisations and multinational corporations. The linkages between domestic and foreign policies relevant to business will be examined, both as regards processes and policy content.

**Prerequisite:** MNB451 or MNB181 or MNB183 or MNN203 or MNN811

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB505 HEALTH MANAGEMENT I

A problem-solving approach which relates the science of management to decision making and control in health services administration. Management science (operations research) techniques are learned and applied in case studies from the health industry.

**Prerequisite:** 16 subjects in BBus – Health Administration Degree

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB509 PUBLIC POLICY & BUSINESS

The policy process in government is generally more complex and encompasses a wider range of variables than is the case in the private business sector. Private enterprises are not exempt from these processes, which can and do have a crucial impact upon the enterprise's policies and operations. Thus, this subject aims to provide an understanding of public policy processes relevant to private enterprise managers, and to help develop a capacity for the analysis of policy content.

**Prerequisite:** MNB451, MNB686 or MNB208

**Credit Points:** 12    **Contact Hours:** 3 per week

**Note:** This subject is not available to postgraduate students who have taken the subjects MNP508 Australian Policy Studies or MNN811 Policy Analysis, or to BBus - Public Administration students.

#### ■ MNB515 INDEPENDENT STUDY UNIT INDUSTRIAL RELATIONS

This subject allows students to undertake a supervised research project in the industrial relations area. The topic must be chosen by the student with the approval of his or her supervisor. The project should entail the study of a significant topic in industrial relations and result in the production of a 7000 word assignment. Assessment will judge the student's ability to research and understand the literature surrounding the chosen field. In normal circumstances the student will also be

expected to demonstrate an ability to collect some primary data, i.e., not rely totally on library research in the construction of the project.

**Prerequisite:** MNB363 or MNB630

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB516 ORGANISATIONAL SOCIOLOGY

The aim of the subject is to ensure that the student gains an understanding of organisations in the public sector. It builds upon the Introduction to Sociology and Theory and Administration subjects to provide a detailed understanding of organisation theory.

**Prerequisite/Co-requisite:** Eight subjects in the Bachelor of Business Degree including either MNB385 or MNB154

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB517 SPECIAL TOPIC IN INDUSTRIAL RELATIONS

According to student demand, a Special Topic in Industrial Relations will be offered. Enterprise level HRM/IR, and Comparative Industrial Relations are subjects that are likely to be offered as special topics at an early stage.

**Prerequisite:** Determined by arrangement with Co-ordinator

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB518 HEALTH ADMINISTRATION PROJECT

This subject enables students to do follow-up work of a practical nature in an area of interest to them. Before being admitted to this subject, students will have completed all the required coursework in the discipline area of the proposed project. Projects may be undertaken in any of the discipline areas covered by the degree e.g. health economics, law, medical sociology, health finance, health information management, health management, statistics, epidemiology, either individually or in small groups. Projects must have prior approval and will be closely supervised. Being of a practical nature, projects will be undertaken in a health or medical care delivery setting e.g. hospital medical record department; group practice; local authority health department, State health department.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB519 HEALTH INFORMATION MANAGEMENT III

This subject is designed to enable the students to recognise and use effectively all types of classification systems utilised for the retrieval of health information. It builds on to student's experience from MNB419 by refining and enhancing practical coding skills. It explores the use of coded data in case mix, particularly diagnosis related groups. The examination of specialised types of health records within hospitals, special purpose health record systems outside hospitals and systems for the registration and notification of disease is linked with the specialised classification systems developed to aid the retrieval of information from these various health information systems.

**Prerequisite:** MNB419

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB523 INDEPENDENT STUDY HRD

This subject will enable students to demonstrate a competence in directing their own learning. This is essential for professionals who must subsequently keep themselves up-to-date in their area of expertise. To this end, students (either individually or in small groups) will, within an approved content area, undertake one or several learning activities with the

approval of a supervisor. Appropriate activities could include literature review, research (mini-thesis), project, practicum (work placement) or anything else deemed acceptable by the supervisor.

**Prerequisite:** MNB361, MNB461, 2 HRD electives or MNN100

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB524 RETAILING MANAGEMENT II

The basic objective of this subject is to provide students with both a strong conceptual and practical grounding in those retailing activities that comprise the merchandising function of the different types of retail stores including the distributors of durable consumer goods. This area of management attention and control is a basic and vital one for every retail institution from the large supermarket or department store to the smallest corner store. The course covers those topics associated with the merchandising of retail products: forecasting customer demand, planning, what, how and when to buy, pricing, store display and promotions, as well as the managerial control of buying and stocking merchandise.

**Prerequisite:** MNB491

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB525 MARKETING DECISION MAKING

This subject is an advanced treatment of the theory and application of quantitative models in marketing. The various analytical models cover the evaluation of marketing policy and strategy, consumer and organisational buying behaviour, market segmentation and demand assessment, product, price, promotion, distribution and selling decisions. These models lead to the study of an integrated decision support system for marketing management. Application to real-life examples is stressed throughout with case studies and experiential exercises providing the learning framework.

**Prerequisite:** MNB391 or MNN204 and MNN202

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB526 INTERNATIONAL MARKETING

This course endeavours to introduce the student to the nature and practice of international marketing. It assumes a familiarity with general marketing management and builds on this knowledge to develop insight into and understanding of the peculiar nature of international marketing management and the problems of marketing within a number of different national markets. The course is managerial in the sense that it focuses on the problems and decisions facing managers of international marketing in business enterprises.

**Prerequisites:** MNB253 or MNN204

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB527 TRANSPORT ECONOMICS

A study of the economics of the management of private and public transport operations. These operations will relate to passenger movement and general freight movement. Each operation will be examined in terms of consumer demands, cost, market structure, pricing and non-pricing strategy, regulation, handling and storage techniques.

**Prerequisites:** MNB371, MNN106

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNB528 PACIFIC RIM ECONOMIC RELATIONS

This subject defines Pacific Rim nations as including Australia, South-East Asia, China, Japan, Canada, the United States of America, Central and South America

and New Zealand. It examines the evolution of economic relations between Australia and the other nations in the Pacific Rim category. Matters of trade, investment and migration are emphasised. An analysis of the impact of political, social and cultural variables on these relations is given a high priority. The subject also charts future changes in these relationships. In this way it seeks to contribute to the development of a strategic management perspective.  
**Prerequisite:** MNB372  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB533 INTERNATIONAL HEALTH CARE SYSTEMS

The objective of this course is to make students aware of how different countries have organised their health delivery systems. The comparisons will be historical and economic. An analysis will be made of the growth of 'the welfare state' in a number of countries eg, United Kingdom, USA, Sweden, Canada, with particular reference to the organisation and delivery of health services. International organisations working in health will be studied. Students will be introduced to the distribution of diseases in both the West and the Third World; the distribution of health and material resources; international agencies; aid programs and their roles; functions, effectiveness and coordination problems.  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB534 HEALTH SERVICES EVALUATION

This subject is a study of process evaluation, program evaluation and evaluation research with applications to the health fields. It is designed for health professionals in both the administration and practice areas. Theory, practice, the utilisation of evaluation results and the administration of evaluation studies are emphasised in this course. Specific topics such as quality assurance, utilisation, review and accreditation are addressed.  
**Prerequisite:** MNB543  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB543 HEALTH SERVICES PLANNING

This subject deals with the administrator's role in the planning and development of health care facilities and health services. It includes an examination of the reasons for planning, the concepts and principles of planning and the types and categories of planning applied to the health industry.  
**Prerequisites:** MNB430, MNB330 or MNB533  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB551 OPERATIONS MANAGEMENT

Operations Management is an advanced treatment of the management and control of organisational systems. The subject involves the functional analysis of short and medium-term operations using management science techniques. The medium-term analysis provides an operational link with strategic management decision making required in the following core subject Managerial Strategy. The subject provides a logical flow of learning from understanding and analysing an operation, work task or organisational activity; to managing raw materials, work-in-process and finished goods; through to layout analysis, job scheduling and operational planning.  
**Prerequisite:** MNB351 and MNB252 or MNN202  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB561 INDEPENDENT STUDY HRM

This subject enables students to demonstrate an ability to direct their own learning, a key competence for

professionals who must subsequently keep themselves up-to-date in their area of expertise. To this end, students (either individually or in small groups) undertake one or several learning activities with the approval of a supervisor. Appropriate activities could include literature review, research (mini-thesis), project, practicum (work placement), or anything else deemed acceptable by the supervisor.

**Prerequisite:** MNB361, MNB461, 2 HRM electives or MNN100  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB571 ADVANCED ECONOMIC THEORY & POLICY

Considers the foundations of economic thought and recent contributions to the literature of micro and macro theory and policy and their relevance for public and private decision making in the Australian context.  
**Prerequisite:** MNB372, MNB371 or one of these plus the other as a co-requisite.  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB572 APPLIED ECONOMETRICS

Application of econometric techniques to economic models in micro and macroeconomics. The models will be used to explain or predict the behaviour of such economic variables as demand, production cost, interest rates, investment activity, and government activity.  
**Prerequisites:** MNB252, MNB371, MNB372 or one of these plus the other as a co-requisite.  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB582 FINANCIAL ADMINISTRATION

This subject aims at ensuring the student has an understanding of the nature of the systems of public financial administration in Australia, the major institutions and procedures involved, the incidence of public expenditure and its significance. Particular attention is paid to intergovernmental financial relations.  
**Prerequisite/Co-requisite:** MNB181 or MNB183  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB584 LOCAL GOVERNMENT ADMINISTRATIVE PRACTICE I

The powers of central government; the constitution of the Local Authority; its committees and its officials; by-laws; the conduct of elections; budgetary administration; the administration of Land Subdivision; Environmental Legislation and Health Acts; the provision of water and sewerage and building controls.  
**Credit Points:** 12    **Contact Hours:** 3 per week  
**NB:** Offered in Semester 1 in even-numbered years only.

#### ■ MNB586 COMPARATIVE POLITICS

To widen student's knowledge and perspectives of political systems. A variety of liberal democratic, socialist and other types of states will be examined. The emphasis is upon comparative study, rather than a country by country examination of separate political systems.  
**NB:** For students enrolled in the Public Administration degree only. This subject includes a one hour per week communication component (4 hour subject).  
**Prerequisites:** MNB183 or MNB181  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB588 PUBLIC POLICY PROCESS I

Public enterprises at both State and federal levels pursue business functions as part of the institutions of government. They are subject to the public policy

processes of government in a wide variety of ways, from financial targets to personnel and industrial relations policies. They are also important actors in the public policy process. Hence, it is essential for managers in public enterprises to understand the position they occupy in relation to such processes. The aim of this subject is to provide such an understanding, especially in relation to formulation and legitimation.

**Prerequisites:** MNB451, MNB351 or MNB181, MNB385  
**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ MNB591 ECONOMICS OF INFORMATION

Information as a commodity; the demand for information; the economics of the production of information; the costs of information; the cost; pricing and charging out of information within organisations; the market supply of information; information technology and the supply curve; the structure of the information industry; information and industry concentration; public good characteristics of information; government intervention and economic impacts in the information industry.

**Credit Points:** 9    **Contact Hours:** 2 per week

#### ■ MNB592 MARKETING RESEARCH

This subject has two main purposes, to look at the theoretical foundations behind both qualitative and quantitative marketing research, and to undertake a 'hands on' marketing research project whereby small groups of students will be asked to liaise with the client; determine the most suitable way of gathering information; undertake the research; and finally, present the results. Topics to be covered in both the theoretical and practical areas of the subject include problem formulation; research design and sources of information; design and forms of data collection; sample design; analysis and interpretation of data, and the marketing research report and presentation.

**Prerequisites:** MNB391 and MNB491 or MNB204 and MNB391 or CMB211

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB605 HEALTH MANAGEMENT II

Managing the hospital as a system; managerial information processing; the process of influence in the management of hospitals; managerial styles and the coordination and correlation of managerial expectations; hospital management in comparison with other managerial systems eg, commerce, government. This subject continues the case study approach of Health Management I. It departs from the management of hospitals to include considerations of community health, mental health, and group practice management.

**Prerequisite:** MNB505

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB611 SPECIAL TOPIC IN TOURISM

The aim of this subject is to permit an in-depth examination of an issue of importance to the industry. Hence, the actual content will vary, depending upon the issue under examination. Issues currently under consideration are the impact of special, or hallmark events upon the industry, drawing upon School of Management expertise in this area; the gaming industry, its value and impact; and government policy toward the industry, with a special focus upon State-owned, tourist corporations. Each issue will be examined from a multidisciplinary perspective, focused upon managerial considerations.

**Prerequisite:** MNB503

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB612 TRANSNATIONAL MANAGEMENT

As a small, relatively open economy, heavily dependent upon commodity exports, and with national policies firmly oriented toward an increase of exports, the need for an understanding of the complexities of transnational management have become greater. This subject is intended to provide a basic outline of management in the transnational context. It will draw upon earlier core subjects and their explanation of management roles to illustrate the manner in which those roles are influenced by the transnational context. The range of problems faced in such situations will be examined, as well as the institutional and procedural solutions adopted, their advantages and disadvantages. The focus will be upon the transnational environments faced in major and developing markets of concern for Australian businesses.

**Prerequisite:** MNB504 and 12 subjects in the BBus – Management program, or 8 subjects in the MBA program.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB613 GOVERNMENT POLICY & THE TOURISM INDUSTRY

The aim of this subject is to provide a detailed examination of government policy as it influences the tourism industry. It will include the examination of the policies of all levels of government and those international agreements of most significance to the industry, for example, those regarding air traffic rights. The specific governmental institutions and policy processes relevant to the industry will be examined, with a focus on the need to make effective use of the channels provided for access. The policies will be examined in their historical and contemporary context, concluding with an examination of current developments and their likely impact.

**Prerequisite:** MNB451 or MNB181 or MNB183 or MNB203 or MNB811

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB618 HEALTH COMPUTER SYSTEMS

Principles and applications of electronic data processing in health care settings. Computerised health information systems are analysed from a variety of viewpoints including the objectives of the system, specific methods employed to meet user needs, structure in an overall information system, the technology which makes it operative, the data base, and the various ways information is transferred and used in health facilities.

**Prerequisite:** ISB392

**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ MNB619 HEALTH INFORMATION MANAGEMENT IV

This subject explores the role and functions of the medical record administrator in the management of health care services. Topics include the legal and ethical implications of health information management; extended care facilities and their special needs; occupational health and health records for industry; health records for community/primary care units; the potential of modern technology in the effective running of health information services. The clinical classification component will concentrate on nosologic problem solving, collection strategies for disease and operation indexes and the practical application of classifications in health care settings.

**Prerequisite:** MNB519

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MNB624 PROMOTIONAL STRATEGY**

This course introduces the student to concepts of promotional strategy. An overall appreciation will be discussed together with a detailed coverage of the management of the advertising functions including objectives of the promotional program, organising and managing the human resources, characteristics of advertising media (TV, radio, magazine etc.), strategy for selection of media vehicle, investigating advertising effectiveness and formulation of a 'promotional strategy' for a local firm or institution. A proportion of the semester will be taken with a coverage of direct marketing and direct response advertising.

**Prerequisite:** MNB253 or MNN204

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MNB625 PROFESSIONAL MARKETING PRACTICE**

With the approval of the lecturer involved the students will undertake a preferred study program within the marketing framework, eg, some particular area of the marketing mix. This study program will require students to undertake a project or 'internship' with a suitable company, where they will actively work on a part-time basis. The program will be aligned as closely as possible to the preferred area of study. Students will be required to submit a number of reports reflecting the theoretical concepts learned and the application to their job experience.

**Prerequisite:** MNB391 and MNB491 or MNN204 and MNB391

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MNB626 INTERNATIONAL ECONOMICS**

The subject will concentrate on Australia's experience in international economics. Australia's reason for trade and direction of trade will be considered. Restriction on trade will be examined and debate will cover the Industries Assistance Commission and protection of Australian domestic producers. Appreciation, depreciation and external and internal balance in Australia will be discussed. Special attention will be paid to floating exchange rates and foreign exchange risk management under floating exchange rates; monetary policy and financial deregulation; Keynesian and monetarist theories of the balance of payments; the national debt; ASEAN; international monetary reform; the monetary unification of Germany.

**Prerequisite:** MNB372 or MNN106

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MNB627 PROGRAM EVALUATION**

The objective of the subject is to provide decision makers with a methodology for efficient project selection based on economic criteria. The use of cost benefit analysis, cost effectiveness analysis and program budgeting studies will be investigated. The development of such techniques will involve consideration of objectives, benefits, costs, prices, discount rates and investment rules. The application and limitations of such principles will be demonstrated by the use of case studies.

**Prerequisite:** MNB371 or MNB471 or MNN106

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MNB630 INDUSTRIAL RELATIONS II**

The aim of this subject is to equip students with a detailed knowledge of changes in the Australian community which will have an impact on industrial relationships over the next ten years. The subject aims to develop this understanding largely by means of individual student research into relevant topics. While

considerable assistance is given by the lecturer in the way of seminars, advice on research methods, and printed material, this subject should appeal particularly to students who appreciate conducting their own individual research.

**Prerequisite:** 96 credit points subjects successfully completed from Faculty of Business degree program including MNB254

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MNB633 DISTRIBUTION MANAGEMENT**

Deals with the application of the basic principles underlying the distribution of an organisation's products from their production or receipt to final delivery to a customer. Using a systems approach, the subject deals with such practice topics as warehouse location and management and choice of transportation modes. The subject is intended for students working in the marketing and transport/distribution fields but will also be valuable for those in other areas, eg, business research, retailing, accounting.

**Prerequisite:** MNB391 or MNB371 or MNN204 or MNN106

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MNB639 ECONOMICS OF STRATEGIC MANAGEMENT**

This subject examines the internal structure, operation and growth of organisations with special reference to commercial institutions. A wide range of analytical tools is used to address major issues which include the determinants of the internal structure of organisations; the relative effectiveness of the institutions of market and hierarchy in reaching decisions; the determinants of vertical integration; the determinants of the growth and functioning of internal labour markets; the reasons for the development of firms as economic institutions; and the role of the entrepreneur in decision making.

**Prerequisite:** MNB371 or MNN106

**Credit Points:** 12    **Contact Hours:** 3 per week

**Note:** This subject is not available to students who have taken and passed MNN814.

**■ MNB651 MANAGERIAL STRATEGY**

The basic objective of the semester's work is to help the student to develop a personally useful and explicit way of thinking about the business enterprise as a total system in a total environment; to help to identify the crucial elements and relationships in a situation; analyse systematically and rigorously the basic opportunities, constraints and issues and trace out the impact of an action in any one part upon the other parts and upon the totality. It is the capstone subject in the BBus - Management degree, and aims to integrate student's previous studies.

**Prerequisites:** MNB551 or MEB670

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MNB661 INTERVIEWING & COUNSELLING**

The unit aims to develop practical skills in aspects of employment interviewing through an introduction to the theory and principles of interviewing and through supervised experience. Attention will be given to the characteristics of the interview situation; the interviewer, the interviewee and their interrelationships. Interview areas covered will include the personal interview (information seeking) and the employee-personnel interviews (recruitment, appraisal, disciplinary and exit). Personality theory, guidance and counselling theory and techniques will be introduced. An emphasis will be placed on understanding

and practising the human skills required to facilitate the development of others either in individual interaction or group interaction. Role plays, modelling, case studies, peer and lecturer assessment and guidance may be used towards developing practical skills.

**Prerequisites:** MNN100 or MNB461 or completion of first year of course and either MNB154 or MNB516  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB666 COUNSELLING FOR HEALTH PROFESSIONALS

A study of the psychology of illness and the counselling process.

**Credit Points:** 4    **Contact Hours:** 2 per week

#### ■ MNB683 COMPARATIVE ADMINISTRATION

This subject widens the student's perspectives by examining administrative structures and their functioning in a variety of systems. Students should realise that we in Australia do not have a monopoly on administrative wisdom, and that other systems may be just as effective in their particular environments. Liberal-democratic and totalitarian regimes will be examined with countries chosen to represent unitary systems, federal systems and developing and third world systems. For each country included in the final selection, bureaucratic structure and functions will be examined together with personnel practices, major reforms and committees of inquiry.

**Prerequisites/Co-requisites:** MNB484, MNB586  
**Credit Points:** 12    **Contact Hours:** 3 per week

**NB:** Offered in Semester 2 in even-numbered years only.

#### ■ MNB684 LOCAL GOVERNMENT ADMINISTRATIVE PRACTICE II

The constitution and administrative arrangements of the Brisbane City Council; the miscellaneous powers and duties of the Local Authority; natural justice in Local Government; land acquisition; flood mitigation; Local Government Court decisions; sources of funds and the Grants Commission; relationships among Local Authorities and with other levels of Government; and the Local Government Association.

**Prerequisite:** MNB584  
**Credit Points:** 12    **Contact Hours:** 3 per week

**NB:** Offered in Semester 2 in even-numbered years only.

#### ■ MNB686 GOVERNMENT & BUSINESS

To develop an understanding of the relationships between business and government in Australia in historical and contemporary perspective. The subject will build upon the base provided in MNB451, providing a detailed examination of the historical and contemporary context of government business relationships in Australia at federal and State levels. It will provide the detailed understanding for the subject MNB509.

**Prerequisites:** MNB451 or MNB181  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB687 PUBLIC POLICY PROCESS II

Continuation of MNB588. A focus upon the implementation to evaluation phases. It also aims at developing the student's capacity to analyse policy content, drawing upon approaches and methods developed in other subjects, and within the subject itself.

**Prerequisite:** MNB588, MNB482  
**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ MNB691 STRATEGIC MARKETING

This course is designed to develop a specific understanding of marketing strategies with an in-depth consideration of selected areas of decision making. The course will also cover current and future dimensions of marketing. Students will be exposed to a variety of advanced marketing techniques and issues through lectures, seminars and case analyses.

**Prerequisite:** MNB391, MNB491 or MNB492 (MNN246 - MNN209 and MNB391)

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MNB998 SPECIAL TOPIC IN PUBLIC ADMINISTRATION

The aim of this subject is to help the student apply in detail the modes of analysis developed in the core subjects to specific policy areas. In this way their immediate relevance can be demonstrated and a thorough understanding of a policy area gained.

**Prerequisites/Co-requisites:** MNB588, MNB251  
**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MND011 PSYCHOLOGY I

The main objectives of this subject are: Students can explain concepts in the areas of social perception, transactional analysis and motivation, and give examples of these in their own and client behaviour; students can facilitate an interpersonal interaction using skills of transactional analysis and helping; students recognise difficulties in interaction and choose appropriate skills to overcome some difficulties.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ MND033 PSYCHOLOGY II

This subject seeks to enable students to outline assumptions of stage and learning theory approaches to understanding development; outline the following theories of development - Piaget, Erikson, social learning theory; state main research findings for each of the following stages of the life cycle (childhood, adolescence, young adulthood, middle age, ageing); distinguish between normal and abnormal adjustment, and explain issues regarding the definition of 'normal' behaviour; recognise when referral for specialised help is required; state types of programs available and basic assumptions of different treatment strategies.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ MND055 PSYCHOLOGY III

The main objective of this subject will be to educate students to identify problem behaviours in clients and indicate, select and use appropriate intervention and interpersonal skills to assist adjustments of people with psychological problems. The topics covered in the subject include neurosis; psychosis; child psychology; mental retardation and other psychological approaches.

**Prerequisite:** MND033  
**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ MND066 PSYCHOLOGY IV

The purpose of this subject is to teach students to explain major theories of counselling; initiate the counselling process; identify appropriate goals and strategies; use appropriate skills and techniques to facilitate client change; evaluate the outcome of counselling.

**Prerequisite:** MND055  
**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ MND129 PSYCHOLOGY FOR HEALTH PROFESSIONALS A

The purpose of this subject is to teach students to be able to demonstrate effective interpersonal skills in relation to patients and other health professionals; diagnose patient needs and respond appropriately; state causes of stress, effects on health, and indicate appropriate techniques to reduce stress; indicate techniques that may be used to modify patient attitudes and behaviour; demonstrate appropriate problem-solving skills in their work situation.

**Credit Points:** 4    **Contact Hours:** 3 per week

### ■ MND501 PSYCHOLOGY

In this subject, the students shall be able to demonstrate effective interpersonal skills in relation to patient and other health professionals, diagnose patient needs and respond appropriately; state causes of stress, effects on health, and indicate appropriate techniques to reduce stress; indicate techniques that may be used to modify patient attitudes and behaviour and demonstrate appropriate problem-solving skills in their work situation.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ MNN100 INTRODUCTION TO MANAGEMENT

This subject explores the process of management, both analytically and experientially. Using a series of case studies and other learning activities a series of issues typical of those faced by managers are addressed. The tools of various disciplines are used to examine the definition and solution to these problems. Upon completion of the subject, students will be aware of the various means of management, variations over time in what is managed and in the techniques of management. They will be aware of international differences in the management process. Students will confront the gaps between how they think they ought to act, and how they do act in interpersonal managerial contexts. They will also be competent in understanding issues such as pricing, market research, promotional expenditure, staffing levels, wage negotiations and capital expenditure decisions.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN106 MANAGERIAL ECONOMICS

This subject examines principles of economics pertinent to managerial decision making in an economic environment. Topic areas include an introduction to economics, the macroeconomic environment, demand analysis and forecasting, cost analysis, market strategy, and investment analysis. At the completion of the subject students will be capable of applying economic principles to problems of resource allocation at the firm, in industry and the economy. A principal means of achieving this end will be completion of an industry study by each student, and an analysis of the Commonwealth budget strategy.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN201 LABOUR-MANAGEMENT RELATIONS

This subject focuses on the development of managerial policy towards employee relations in the industrial and human resource management sphere. It looks at employee and union action and the role of governments and industrial tribunals. It assesses alternative methods and pressures to change traditional Australian systems. As a result of studying this subject a student will understand the Australian system of labour/management relations, be able to evaluate dif-

ferent systems of regulation in the employment area, understand negotiating processes and develop negotiating skills, and both appreciate and be able to utilise the resources required for mobilising change in this area.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN202 DECISION SUPPORT SYSTEMS

Timely and accurate information is a management resource, and computers can process much of this information to augment and extend a manager's capacity. This subject provides an understanding of the importance, variety and value of both quantitative and qualitative decision support systems, including a significant emphasis on computer-based information systems (such as data bases and expert systems) from the point of view of systems users rather than of specialist system analysis. With personal computers, managers can themselves build logical decision models, and so the subject also develops skills of building models, applying personal computer software (eg, IFPS/Personal, spreadsheets) to analyse those models, and incorporating the analyses in complex managerial decision-making processes. The subject will also address issues that relate to the human and organisational elements that support managerial decision making.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN203 GOVERNMENT-BUSINESS RELATIONS

This subject examines the nature of the relationship between government and business, especially in the Australian context. It focuses both upon the historical development of the relationships that exist between the private and public sectors and of the impact that the policy decisions of each has on the operations of the other.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN204 MARKETING METHODS & PRACTICES

This introductory subject focuses on the role of marketing, and how marketing fits into the strategic processes of firms and institutions. The subject material covers the key marketing decision areas marketing concept, marketing research, consumer behaviour, marketing segmentation and positioning, product policy, pricing, promotion and distribution.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN302 PEOPLE IN ORGANISATIONS

The subject examines the internal operation of organisations and the behaviour of those in them. The subject explores a range of theories and models of individual and group behaviour including the structural and action perspectives, role theory, conflict and change. This exposure will encourage students to critically evaluate such theories and models, and their implications for management behaviour. Students will also be encouraged to develop the analytical, attitudinal, behavioural and emotional resources necessary to enable them to cope effectively with the complexities and demands of the human resource system in organisations.

**Prerequisite:** MNN100

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN307 STATISTICAL METHODS

Statistics is the study of the procedures for collecting, analysing and interpreting the quantitative data required for effective decision making. The aim of this subject is to develop an understanding of the basic concepts and techniques of statistical analysis, with

particular reference to their application in management. The campus computer may be used. Among the topics covered are graphs and charts, descriptive statistics, probability, sampling methods, analysis of sample results and regression and correlation.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN403 BUSINESS POLICY**

Integrates and focuses students' earlier studies by developing a general manager's knowledge, analytical understanding and action-taking competencies. A general manager is involved in the decision processes of matching a whole organisation's capabilities to its environment, which includes responsibilities to many stakeholders. Thus tasks of general managers are more complex and interdependent than those of specialist or functional managers. The paradigm adopted in this subject is that of strategic management – analyses of stakeholders, environments and capabilities, strategy formulation, and strategy implementation. Teaching methodologies (such as case studies and real-world projects) used during the semester will emphasise the process of management as well as analysis, and will emphasise contexts as well as concepts. At the conclusion of this subject, students should understand how and why strategic decisions are made, and be prepared to make them.  
**Prerequisite:** MNN202  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN404 APPLIED RESEARCH PROJECT**

This subject allows the student to demonstrate an ability to plan and execute a significant piece of applied research, or to conduct an independent study of an applied area, with a minimum of supervision. Students will be individually assigned to a project supervisor and should contract with them on the nature of the project to be undertaken and the methodology to be used. The final project report, of a maximum of 15,000 words, must demonstrate an ability to identify and research a significant managerial problem area. A comprehensive literature review of the area, and an appreciation of other relevant studies in the area must be included.  
**Prerequisite:** 10 subjects in the MBA  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN601 CONTEMPORARY HEALTH CARE ISSUES**

A comparison of the Australian system of health care with another health care system; the social, political, geographical and economic factors which have shaped the organisation of health care services at local, state, national and/or international levels; funding and resource management; the level and nature of responsibility for health care and health care maintenance; planning for structural change.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN602 HEALTH PLANNING, MANAGEMENT & EVALUATION**

Application of the theory and principles of planning, management and evaluation to health services; a detailed analysis of health services planning techniques; information requirements and decision making for the strategic management of health services; the principles of financial and personnel management required for the effective development and utilisation of health care; process and program evaluation in health services; the appreciation of evaluation research and cost-effectiveness.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN603 ENVIRONMENTAL & OCCUPATIONAL HEALTH**

Principle of environmental and occupational health; pollutional control and worker protection.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN604 PRINCIPLES OF EPIDEMIOLOGY**

Basic epidemiologic concepts; understanding and control of chronic diseases; unique aspects of infectious diseases.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN605 STATISTICAL METHODS & COMPUTING**

Basic concepts of biostatistics; application and interpretation; practical introduction to statistical computing.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN606 SOCIAL & BEHAVIOURAL SCIENCES IN PUBLIC HEALTH**

Social and behavioural influences on health and how they may be utilised to improve health of populations.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN607 DISSERTATION**

**Credit Points:** 48

■ **MNN608 ECONOMICS & HEALTH**

The role of economics in planning and decision making in health care; application of economic analysis to the health care industry; issues related to the demand for health care; the supply of health care and the market for health care.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN609 HEALTH CARE FINANCE**

The financial management aspects of health care delivery in Australia; sources of finance at federal, state and local government levels; priority setting; budgetary processes; responsibilities for provision of various services.  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN610 HEALTH SERVICES MANAGEMENT**

Evolution and changing status of management in health services; interactions between general managers, doctors and others; power/authority concepts; leadership and leadership styles; principles of motivating people and managing conflict; effective decision making (by individuals and groups); theories and methods of effective communication, both verbal and written; performance assessment and outcome measures in health management.  
**Credit Points:** 12    **Contact Hours:** 3

■ **MNN611 ADVANCED HEALTH PLANNING**

The planning of action programs of prevention, care and cure; students taking this subject will previously have studied the determination of health needs using epidemiological methods. This subject has a bias towards ensuring participation in the planning process by all interests affected by the program.  
**Prerequisites:** MNN604, MNN602  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MNN612 ADVANCED HEALTH EVALUATION**

A study of evaluation research with applications to the health fields; the theory, practice; the utilisation of evaluation results and the administration of evaluation studies.  
**Prerequisite:** MNN602  
**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN805 CURRENT ISSUES IN AUSTRALIAN MANAGEMENT A

This subject runs concurrently with MNN806 to provide a review of the substantive disciplines within management and to highlight key issues in the current theory and practice of management. MNN805 covers an analysis of critical environmental changes. It focuses on changes in the economy and in the social and political environment including industrial relations and technological change outlining the key issues that are current in these areas.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN806 CURRENT ISSUES IN AUSTRALIAN MANAGEMENT B

This subject runs concurrently with MNN805 to provide a review of the substantive disciplines within management and to highlight key issues in the current theory and practice of management. MNN806 will focus on current issues within strategic management, with particular emphasis on financial management, strategy and planning and the management of human resources.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN807 RESEARCH DESIGN & DATA ANALYSIS

This subject aims to update and develop student's knowledge of research theory and research procedures in the social sciences with special reference to practical applications in management areas such as economics, marketing and human resource management. This subject also introduces students to problems of logical inference, observation techniques and to advanced data analysis techniques and the advantages and disadvantages of their use in different contexts.

**Prerequisites:** MNN805, MNN806

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN808 MANAGEMENT, TECHNOLOGY & SOCIAL CHANGE

This subject provides a critical and cross-cultural review of the development of management theory and an analysis of management within complex organisations. The course focuses on managers as participants in an organisational dynamic that is both influenced by and influences such factors as the current state of technology, labour markets, world markets and government and community pressures.

**Prerequisites:** MNN805, MNN806

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN811 POLICY ANALYSIS

Government-business relationships are complex and dynamic. The formulation and implementation of policy in both government and business organisations is particularly sensitive to these relationships. This subject focuses upon the policy process in both public and private sector organisations with an emphasis on the relationship between these sectors as an important determining variable. Models of the policy process will be used as the major explanatory device, and government policies towards business as the context within which their relationships are examined.

**Prerequisites:** MNN805, MNN806

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN812 ORGANISATIONAL PSYCHOLOGY

The course looks at the nature of organisations and the way in which individuals groups and leaders function within organisations. Theories of organisational structures, and the determinants of organisational

structure are explored, leading to an examination of climate and culture within organisations. The place of the individual within the organisations and the assumptions underlying the psychological theories which guide our treatment of employees are investigated. The traditional and recent developments in leadership theory are examined. The course ends with a consideration of the future of organisations and changes which will occur.

**Prerequisites:** MNN805, MNN806

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN813 ADVANCED MARKETING MANAGEMENT

An advanced study of marketing, marketing systems and market management decision processes within the contemporary structure of social cultural, political, economic, business and organisational environments. The subject will cover advanced marketing theory from both strategic and tactical perspectives with emphasis on the relationship between marketing and corporate policy as well as both the internal and external social and behavioural and motivational factors that facilitate marketing exchange opportunities. The subject will address those marketing issues associated with both profit and non-profit organisations and the relevance of marketing theory to these institutions, and will include the developing area of international marketing.

**Prerequisites:** MNN805, MNN806

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN814 ORGANISATIONAL ECONOMICS

This subject examines the internal structure operation and growth of organisations with special reference to commercial institutions. A wide range of analytical tools is used to address major issues which include the determinants of the internal structure of organisations. The relative effectiveness of the institutions of market and hierarchy in reaching decisions; the determinants of vertical integration; the determinants of the growth and functioning of internal labour markets, and the reasons for the development of firms as economic institutions.

**Prerequisite:** MNN806

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN815 CASE STUDY PROGRAM

The purpose of this subject is to both study and develop case studies in management. Australian Case Studies (for example from the Melbourne University Data Base) will be included in the program, which is intended to develop the student's ability to analyse interdisciplinary problems, explore research problems and learn techniques of team-management and problem solving.

**Prerequisites:** MNN807, MNN806, MNN808

**Credit Points:** 12    **Contact Hours:** 4 per week

### ■ MNN816 INITIAL PROJECT IN MANAGEMENT

An investigation by individuals or small groups of students into a managerially significant issue or problem. Students will be expected to choose an area of investigation that will be connected with their final project (MNN830 and MNN831). For example, this may take the form of a review of a section of their proposed area of project work or be part of an initial or pilot study.

**Prerequisite:** MNN815

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN820 APPLIED RESEARCH & DESIGN

This subject aims to give the student an opportunity to test out some practical applications of research theory and analysis. Students will be required to develop a research proposal of interest to them and related to each student's proposed research project (MNN830). The student will be required to conduct a preliminary or pilot study on a limited number of cases or areas of interest in his/her proposed research field and to complete a research report justifying and assessing the chosen research methodology and demonstrating the research techniques that will be used in the full study. Annotated comments on the report must also show awareness of different designs and statistical techniques etc. that might have been used demonstrating a good grasp of elements covered in MNN810 and the earlier analyses of case study material in this course.

**Prerequisite:** MNN807

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNN830 PROJECT & SEMINAR A

#### ■ MNN831 PROJECT & SEMINAR B

Students are required to write an original project on an area of interest in the management field. During the first year of a full-time program (second of part-time) the student should finalise his/her choice of area. The Management Graduate Studies Board will then nominate a supervisor for the research. Once the area of interest is chosen, the student will be expected to relate to that specialism in other courses for example in the Case Study Program, in initial Project in Management and in Applied Research Design. A seminar program will be designed to enable students to give presentations on the course of their research and learn from the research experience of their colleagues. The project itself must demonstrate the student's ability to combine analytic and theoretical ability with an understanding of practical features.

**Prerequisites:** MNN816, MNN820

**Credit Points:** 12 (MNN830); 24 (MNN831)

**Contact Hours:** 3 per week

### ■ MNP054 MANAGEMENT & MARKETING

On completion of this unit, the student will be able to understand the development of human resources in an organisation; identify, describe and apply the functions of management in an hospital/service industry setting; analyse and critically examine organisations, especially the structure of the organisation and its relevance to the achievement of objectives; understand and assess the role of marketing in an organisation; define and analyse the influence of the marketing function in public health and nutrition.

**Credit Points:** 4    **Contact Hours:** 3 per week

### ■ MNP112 QUALITY SYSTEM MANAGEMENT

Introduction to the role of quality in modern organisations; relation between quality management and strategic management as a total management philosophy; comparative practices in quality: Japan, Europe, North America, and the Pacific Asian Region; implications for Australia; organising for quality: structure, quality plan and quality systems; managing with statistical tools to achieve continuous company-wide incremental improvement.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ MNP113 MANAGING COMMUNICATIONS FOR QUALITY

The importance of information and two-way communication for the development and implementation

of the quality plan; introduction to market research to gain information on customer requirements and its impact on the management of quality; communication as part of a quality process, involving management, other employees, customers and suppliers in the network; consultation and involvement strategies; communication of policy, commitment, and objectives.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ MNP123 HUMAN FACTORS IN QUALITY

The relationship between people in the organisation and its technical structure and system, and behavioural concepts applied to the management of quality; intrapersonal, interpersonal and social factors, including motivation, attitudes, values, learning and organisational culture; ergonomics and workplace design and occupational health and safety.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ MNP218 ECONOMIC ANALYSIS

Australia's international trading performance relative to other industrialised nations. The potential economic impact on quality control systems on primary, secondary and tertiary sectors of Australian industry. Economics of the firm and the quality factor, quality as a determinant of demand, demand elasticity, goods attribute theory. Tools for incorporating quality into investment decision: opportunity and marginal costs; obsolescence and economic life; repair and major overhaul; criteria for comparing economic alternatives.

**Credit Points:** 6    **Contact Hours:** 3 per week

### ■ MNP309 TECHNOLOGICAL INNOVATION

Technological innovation focuses primarily on the nature and management of research and development and technical aspects of innovative products and processes. In this regard, attention is given to such issues as product design and development and the assurance of quality and reliability. Furthermore, the subject aims at acquainting students with the multifaceted nature of product feasibility. Where applicable students will be provided with techniques and strategies relating to the above areas.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNP310 VENTURE MANAGEMENT & DEVELOPMENT

The creation and development of new business ventures; the evaluation of the entrepreneurial founder, analysis of the business opportunity itself, and assessment of the resources required for the venture. Students, in teams, will work closely with inventors/entrepreneurs to assess the feasibility of actual new ventures, and to develop comprehensive, professional standard business plans for those ventures.

**Prerequisites:** 96 credit points in the MBA program  
**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MNP508 AUSTRALIAN POLICY STUDIES

This subject has two central themes. One, the critical analysis of public policy content, using a series of case studies. Two, the development and analysis of explanatory models of the Australian policy process. The role of key institutions and groups in the policy process will be examined in relation to the case studies selected and the explanatory models.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ MSA111 BIOLOGICAL CHEMISTRY I

A course introducing the basic biochemistry of major groups of biologically important compounds, includ-

ing carbohydrates, lipids, nucleic acids and protein synthesis and proteins. Biochemical homeostasis in biological systems is considered.

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA112 BIOLOGICAL CHEMISTRY II

A course which deals with basic metabolism. Topics include: biological catalysis; energetics of biological systems; catabolic and anabolic pathways for the metabolism of carbohydrates, lipids, amino acids and nucleic acids; metabolic control and integration.

**Prerequisites:** MSA111, MSA123

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA113 INTRODUCTORY BIOCHEMISTRY

Molecular aspects of cellular structure and organisation. Nomenclature and basic chemistry of simple biological molecules. Amino acids and proteins; fibrous and globular proteins; enzymes and factors affecting their activity. Structure, function and reactions of carbohydrates and lipids and their role as structural components and metabolites. Nucleic acids in cell growth and syntheses. Cell dynamics and analytical methods.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ MSA120 PERSPECTIVES IN MEDICINE

An introduction to the health care area. The course includes presentations by specialists in areas of health care and delivery. Topics addressed include safety, functioning of laboratories in hospitals, country pathology services, clinical measurement and research laboratories as well as related topics such as stress management and the roles of various laboratory personnel.

**Credit Points:** 4      **Contact Hours:** 1 per week

#### ■ MSA121 PATHOLOGY

Application of scientific methods to the study of the general principles of disease processes and the major diseases of the organ systems. Correct understanding and use of pathological terms and concepts are emphasised.

**Prerequisites:** PNA170, PNA171

**Co-requisite:** PNA171

**Credit Points:** 8      **Contact Hours:** 2 per week

#### ■ MSA123 LABORATORY INSTRUMENTATION I

A course of lectures and practical work on the principles, care and effective usage of basic laboratory equipment including glassware, plastics, balances, spectrophotometers, flame photometers, autotitrators, pH meters and specific ion meters. Programmable calculators and computers are used during the practical course to illustrate modern methods of data manipulation. In addition the practical course aims to provide experience in the handling of chemicals, and in the preparation of reagents and standards. In this work emphasis is placed on aspects of laboratory safety.

**Co-requisite:** MSA111

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA124 LABORATORY INSTRUMENTATION II

A course of lectures and practical work designed to integrate the principles and techniques of macromolecule separation by a variety of chromatographic procedures and various methods of electrophoresis, dialysis, filtration and centrifugation.

**Prerequisite:** MSA123

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA161 MICROBIOLOGY I

An introduction to the biology of bacteria, fungi, algae, protozoa and viruses, with consideration of structure, nutrition, reproduction, genetics, and classification systems. The practical course is aimed at developing the manipulative skills necessary for laboratory identification of microbial forms.

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ MSA162 MICROBIOLOGY II

The growth of microbial populations and methods of controlling growth; sterilisation and disinfection methods; enzymic activity of microorganisms; the identification of the microorganisms more important in public health; host-parasite relationships and an introduction to immunity.

**Prerequisite:** MSA161

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ MSA435 IMMUNOLOGICAL TECHNIQUES III

The subject aims to provide an introduction to immunology with particular emphasis on the principle and performance of basic immunological techniques including blood grouping. Topics include antigens, antibodies and the immune system.

**Prerequisites:** PNA170, PNA171

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA436 TRANSFUSION TECHNIQUES IV

A course applying the basic knowledge of immunology gained in MSA435 to the study of human blood group systems. Topics include principles of immunohaematology, ABO blood group, Rh blood group system, compatibility testing, antibody identification, investigation of transfusion reactions, antenatal testing, quality control and intravenous fluids and blood products.

**Prerequisite:** MSA435

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA441 CLINICAL MICROBIOLOGICAL TECHNIQUES III

The techniques used in isolation and identification of bacteria important in human and animal infections; the use of computerised data bases to assist in bacterial identification; tests for the sensitivity of bacteria to antibiotics; preparation, sterilisation, quality control and use of bacteriological media.

**Prerequisite:** MSA162

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA442 CLINICAL MICROBIOLOGICAL TECHNIQUES IV

The course aims to teach basic microbiological techniques in the following disciplines: virology, mycology and parasitology (enteric parasites). The practical periods are used to reinforce the theoretical aspects of the subject.

**Prerequisite:** MSA162

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA463 HISTOLOGICAL TECHNIQUES III

A basic course presenting methods of preparing tissue samples for examination by the various forms of light microscopy. Topics include fixation, tissue processing, microtomy and an introduction to staining and light microscope techniques.

**Prerequisites:** PNA170, PNA171, MSA123

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ MSA464 HISTOLOGICAL TECHNIQUES IV

An advanced course dealing with specialised methods for identifying tissue components. Topics include

electron microscopy, histochemistry, immunohistochemistry. Emphasis is placed on the practical application of these methods in histopathology.

**Prerequisites:** MSA112, MSA463

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **MSA465 CYTOLOGICAL TECHNIQUES III**

A course of lectures and associated practical sessions in cytological methods and normal gynaecological cytology. The course provides a basis for the study of clinical cytology offered in MSA466.

**Prerequisite:** MSA112, PNA170, PNA171

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **MSA466 CYTOLOGICAL TECHNIQUES IV**

A course of lectures and associated practical work presenting specialised preparative methods for non-gynaecological cytology and demonstrating the evaluation of specimens commonly encountered in routine diagnostic cytology.

**Prerequisite:** MSA465

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **MSA471 CLINICAL BIOCHEMICAL TECHNIQUES III**

A study of the basic chemical procedures used in biochemical laboratories with emphasis on technique and accuracy. Topics include tests of renal, pancreatic, hepatic and gastric functions, and the estimation of serum proteins and lipids.

**Prerequisites:** MSA112, PNA171

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **MSA472 CLINICAL BIOCHEMICAL TECHNIQUES IV**

A study of more complex techniques used in clinical biochemical laboratories, including enzyme assays, estimations of electrolytes, blood gases, drugs, vitamins and hormones. Auto analytical techniques and quality control are also treated.

**Prerequisite:** MSA471

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **MSA481 HAEMATOLOGICAL TECHNIQUES III**

A course of lectures and associated practical work in basic haematological techniques. Topics include the counting of blood cells, the preparation, staining and examination of blood films, the determination of the red cell indices, supravital staining techniques erythrocyte sedimentation rate and origin and maturation of blood cells.

**Prerequisite:** PNA170, PNA171

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **MSA482 HAEMATOLOGICAL TECHNIQUES IV**

This subject is an extension of MSA481 Haematological Techniques III. The student is introduced to the common blood disorders. A brief outline of their courses and laboratory investigation is given. However the main emphasis is the use of the basic haematological techniques and some specialised laboratory procedures used in the investigation of commonly encountered blood disease. The basic theory of haemostasis and the screening tests used in the investigation of the bleeding disorders are discussed.

**Prerequisite:** MSA481

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **MSB101 MICROBIOLOGY I**

The subject acts as an introduction to the study of microbiology, biochemistry & biotechnology. The diversity of microbes is presented together with the

various forms of microscopy used to study them. Important biological molecules, both inorganic and organic, are discussed with emphasis on the mode of action of enzymes and their role in energy production. A detailed study is made of the morphology of eukaryotic cells, prokaryotic cells and viruses.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **MSB120 INTRODUCTION TO PATHOLOGY**

Application of scientific methods to the study of the general principles of disease processes and the major diseases of the organ systems. Correct understanding and use of pathological terms and concepts are emphasised.

**Prerequisite:** PNB125

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **MSB145 LABORATORY TECHNOLOGY II**

A course dealing with the theoretical and practical aspects of instrumental analysis in the clinical laboratory. Topics covered include glassware, plastics, balances, spectrophotometers, flamephotometers, autotitrators, pH meters and specific ion meters. Programmable calculators and computers are used during the practical course to illustrate modern methods of data manipulation. Emphasis is placed throughout on the effective use of the instruments.

**Prerequisite:** PHB150

**Co-requisites:** CHB242, PHB250

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **MSB150 MICROBIOLOGY**

This subject examines the characteristics of medically important organisms, sterilisation and disinfection, host parasite relationships, resistance and immunity, infectious diseases, diagnosis, selected microbial infections, chemotherapy and development of resistance by microorganisms.

**Credit Points:** 6      **Contact Hours:** 2 per week

■ **MSB201 MICROBIOLOGY**

An introductory core unit of lectures and practical exercises in microbiology dealing with cytology, nutrition, genetics, control of microbial populations, and principles of taxonomy.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **MSB301 MICROBIOLOGY I**

This subject considers the classification and identification of microorganisms. Emphasis is on their microbiology and reproduction. Organisms dealt with the protozoa, helminths, fungi and bacteria and algae.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **MSB310 BIOCHEMICAL METHODOLOGY III**

A companion to MSB415 emphasising biochemical laboratory methods and practice and dealing with pH measurement and buffers, UV and visible spectrophotometry, chromatography, electrophoresis and isotope techniques.

**Prerequisites:** MSB101, MAB227

**Co-requisite:** MSB415

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **MSB320 SYSTEMATIC PATHOLOGY**

Detailed study of the diseases of the organ systems: cardiovascular, respiratory, alimentary, urogenital, nervous musculoskeletal, endocrine, haematological and skin.

**Prerequisite:** MSB120

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ MSB402 MICROBIOLOGY II**

This subject extends the principles covered in MSB301 and considers the classification and identification of microorganisms, their infectious capability, host responses and the role of microorganisms in nature and in industrial processes, the enumeration of microorganisms, the control of microbial populations. The classification of viruses and their reproductive cycle is briefly considered.

**Prerequisite:** MSB301

**Credit Points:** 6     **Contact Hours:** 3 per week

**■ MSB405 LABORATORY COMPUTING III**

The first section of this subject extends the knowledge of computing gained in Laboratory Computing I by examining the programming process in more detail. This leads on to the second section which concentrates on the practical application and operation of computers in a laboratory. The use of software packages forms an important part of this course.

**Prerequisite:** CSB259

**Credit Points:** 8     **Contact Hours:** 3 per week

**■ MSB408 VIROLOGY IV**

This subject is an introductory course in virology and will include the range of viruses and virus diseases, their morphology and composition; virus replication, taxonomy and classification and the major virus groups; purification of viruses; diagnosis and virus assay; transmission and 'life' cycles; control and eradication of viruses.

**Prerequisite:** MSB415 or MSB473 and MSB450

**Credit Points:** 8     **Contact Hours:** 4 per week

**■ MSB410 BIOCHEMICAL METHODOLOGY IV**

A companion subject to MSB416 which continues the studies of MSB310. This unit extends studies of chromatographic and electrophoretic methods, protein binding techniques and the methodology of protein and nucleic analysis.

**Prerequisite:** MSB310 **Co-requisite:** MSB416

**Credit Points:** 8     **Contact Hours:** 4 per week

**■ MSB412 IMMUNOLOGY IV**

A study of the mechanisms of the immune process including the nature of antigen, antibodies, antigen-antibody reactions, antibody formation, control of the humoral and cell-mediated immune responses, hypersensitivity and allergy and immunisation of man against infections.

**Prerequisites:** PNB465, PNB231, MSB450

**Credit Points:** 8     **Contact Hours:** 4 per week

**■ MSB415 BIOCHEMISTRY III**

A course of 28 lectures and 42 hours laboratory work introducing properties, biological molecules and at the molecular level with particular emphasis on cell structure and function, the chemistry of proteins, enzymology, energy production and utilisation, the chemistry and functions of carbohydrates.

**Prerequisites:** CHB242, MSB101

**Credit Points:** 10     **Contact Hours:** 5 per week

**■ MSB416 BIOCHEMISTRY IV**

A course of 28 lectures and 42 hours laboratory work considering aspects of carbohydrate metabolism in mammals, the chemistry and metabolism of lipids, the basic catabolism of amino acids, the chemistry and function of the nucleic acids, protein biosynthesis and the molecular bases of genetic mutation.

**Prerequisite:** MSB415

**Credit Points:** 10     **Contact Hours:** 5 per week

**■ MSB420 IMAGING PATHOLOGY**

A study of the appearances of pathology on medical images with particular emphasis on the radiographic image.

**Prerequisite:** MSB320

**Credit Points:** 4     **Contact Hours:** 2 per week

**■ MSB421 ELECTRON MICROSCOPY**

A course providing a theoretical background to the operation, scanning and transmission electron microscopes and applications in biological, materials and forensic science. Basic principles of specimen preparation will be covered, both materials and biological samples and the analytical capabilities of electron beam instruments will be introduced.

**Credit Points:** 6     **Contact Hours:** 2 per week

**■ MSB426 HAEMATOLOGY IV**

In the first of the three haematology subjects the student is introduced to the theory of the origin, development and composition of normal blood. Laboratory tests (principles, outline of the techniques and interpretation) used in the screening of blood samples are discussed in detail. Basic haematologic tests included in this unit include: preparation, staining and examination of blood films, determination of the red cell indices, supravital staining, erythrocyte sedimentation rate, screening tests used in the investigation of a bleeding disorder.

**Prerequisites:** MSB445, PNB132, PNB465

**Co-requisite:** MSB416

**Credit Points:** 8     **Contact Hours:** 4 per week

**■ MSB430 DISEASE PROCESSES IV**

A course introducing the principles of the study of disease and dealing with the causes and nature of circulation disorders, degenerative processes, metabolic and nutritional disorders, disturbances of development and growth, inflammation, infections and infestations, regeneration and repair, and neoplasia. The course includes the applications of general pathology to the study of diseases of the heart and circulatory system, digestive system, respiratory system, urogenital system, endocrine system, nervous system, haematologic system and skin.

**Prerequisite:** PNB163 or PNB131

**Co-requisites:** PNB465 or PNB435

**Credit Points:** 4     **Contact Hours:** 2 per week

**■ MSB445 LABORATORY TECHNOLOGY III**

The course deals with techniques encountered in the clinical laboratory. Topics include immunoassay, enzymic analysis, electrophoresis, isoelectric focusing, and chromatography (gel filtration, ion exchange, affinity, and high performance liquid chromatography). Emphasis is placed on the maintenance of accuracy, precision and quality control in the clinical laboratory.

**Prerequisite:** MSB145

**Credit Points:** 8     **Contact Hours:** 3 per week

**■ MSB450 MICROBIOLOGY III**

An introductory core unit of lectures and practical exercises in microbiology dealing with cytology, nutrition, genetics, control of microbial populations, and principles of taxonomy.

**Prerequisite:** MSB101 (except optometry students)

**Co-requisite:** MSB415 or MSB473 (except optometry students)

**Credit Points:** 6     **Contact Hours:** 3 per week

**■ MSB454 MICROBIOLOGY IV**

An extension of the core course in Microbiology (MSB450), includes aspects of microbial taxonomy,

food and water microbiology, microbial ecology, industrial and agricultural microbiology and the role of microorganisms as infectious agents.

**Prerequisite:** MSB450 **Co-requisite:** MSB416 or MSB474

**Credit Points:** 8 **Contact Hours:** 4 per week

#### ■ MSB471 BIOCHEMISTRY IV

A course of 28 lectures and 28 hours of laboratory work introducing the structures and functions of proteins, carbohydrates, lipids and nucleic acids, basic enzymology, mechanisms of cellular energy production and the role of ATP, an outline of the metabolism of carbohydrates, lipids and amino acids and the fundamentals of protein biosynthesis and molecular biology.

**Prerequisite:** CHB242

**Credit Points:** 8 **Contact Hours:** 4 per week

#### ■ MSB473 BIOCHEMISTRY III

This subject will cover the biochemistry or proteins including structure-function relationships, enzymology including basic kinetics and control mechanisms relevant to metabolism, the mechanism and role of the Krebs (Citric Acid) Cycle including stoichiometry and energetics and bioenergetics including the mechanisms of electron transport and synthesis at ATP.

**Prerequisite:** MSB101, CHB150, CHB250

**Credit Points:** 6 **Contact Hours:** 3 per week

#### ■ MSB474 BIOCHEMISTRY IV

The biochemistry of polysaccharides; carbohydrate metabolism; lipid biochemistry including structure-function relationships; lipid metabolism; amino acid catabolism and nitrogen excretion; the structural biochemistry of the nucleic acids; basic mechanisms in protein biosynthesis including an introduction to molecular genetics.

**Prerequisite:** MSB473

**Credit Points:** 6 **Contact Hours:** 3 per week

#### ■ MSB492 HISTOPATHOLOGY IV

An introductory course presenting methods of preparing tissue samples for examination by the various methods of light and electron microscopy. Topics include fixation, embedding, microtomy and an introduction to staining and microscopy techniques.

**Co-requisites:** PNB132, CHB242

**Credit Points:** 8 **Contact Hours:** 4 per week

#### ■ MSB510 FOOD MICROBIOLOGY

A course of lectures and associated practical work dealing with aspects of the microbiology of foods and water. Topics include foodborne infections and intoxications; food hygiene; food ecology and its relationship to spoilage and preservation; fermentations; methods of microbiological examination of foods.

**Prerequisite:** MSB454

**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ MSB511 MICROBIAL PHYSIOLOGY & METABOLISM V

An advanced course of lectures and practical sessions relating to the composition, organisation, structure and activity of the microbial cell (bacteria, yeasts and fungi). Topics include light microscopy and staining methods; cell structure; enrichment, isolation and growth of cultures; cells, populations and the kinetics of growth; biosynthesis of cellular materials; regulation of metabolism; microbial genetics; sporogenesis and germination.

**Prerequisite:** MSB454

**Credit Points:** 10 **Contact Hours:** 4 per week

#### ■ MSB512 VIROLOGY V

A course of lectures and laboratory exercises dealing with the nature of viruses; viral replication; viral transmission; viral diseases of humans, animals and plants and their diagnosis; virus purification and assay.

**Prerequisite:** MSB408

**Credit Points:** 8 **Contact Hours:** 3 per week

#### ■ MSB520 BIOCHEMISTRY V

An extension of studies begun in MSB415 and MSB416 considering further aspects of carbohydrate metabolism emphasising non-mammalian systems, lipid metabolism including steroid biosynthesis, amino acid metabolism in mammalian and non-mammalian systems and regulation and integration of metabolism and bioenergetics.

**Prerequisite:** MSB416

**Credit Points:** 12 **Contact Hours:** 5 per week

#### ■ MSB521 BIOCHEMICAL SEPARATIONS

An advanced course of lectures and a comprehensive project designed to integrate a number of specialist biochemical procedures including centrifugation, chromatography, electrophoresis and spectrophotometry. Students will be required to design and execute an experimental protocol for the separation of selected macromolecules.

**Prerequisite:** MSB310 **Co-requisite:** MSB520

**Credit Points:** 10 **Contact Hours:** 4 per week

#### ■ MSB530 MOLECULAR BIOLOGY

An introductory subject of lectures and practical exercises in molecular biology including types and structures of DNA and RNA, the genetic code and protein synthesis; DNA replication, repair and mutability; transcription and translation; gene structure, function and expression in prokaryotes and eukaryotes; transferable DNA including plasmids, bacteriophage and transposable elements.

**Prerequisites:** MSB416, MSB454

**Credit Points:** 10 **Contact Hours:** 5 per week

#### ■ MSB610 MICROBIAL TECHNOLOGY

An advanced course of lectures and practical sessions dealing with the industrial use of microorganisms. Topics include screening and strain development; large scale fermentation; membrane filtration; product recovery; biochemical engineering; production of immunising agents and diagnostic reagents; primary and secondary metabolites of industrial importance; single cell protein; microbial transformations; biodeterioration and bioleaching.

**Prerequisite:** MSB511

**Credit Points:** 10 **Contact Hours:** 5 per week

#### ■ MSB611 APPLIED MICROBIOLOGY

An advanced course of lectures and practical sessions with emphasis upon the applied aspects of microbiology. Topics include electron microscopy; systematics and nomenclature; plant and soil microbiology; preservation of cultures and cell lines.

**Prerequisite:** MSB511

**Credit Points:** 10 **Contact Hours:** 4 per week

#### ■ MSB620 BIOCHEMISTRY VI

Advanced studies in protein biochemistry, including structure, analysis and evolution of proteins, and their special properties; applications in the areas of enzymology and membrane biochemistry.

**Prerequisite:** MSB410, MSB416

**Credit Points:** 12 **Contact Hours:** 5 per week

■ **MSB621 ANALYTICAL BIOCHEMISTRY VI**  
A companion unit to MSB620 which extends the subject matter of MSB410 into biochemical analysis. This subject treats enzyme-based analyses, advanced analysis using isotopes, immunoassays and specific methods for the major biomolecules.  
**Prerequisite:** MSB410 **Co-requisite:** MSB620  
**Credit Points:** 10    **Contact Hours:** 4 per week

■ **MSB630 GENETIC ENGINEERING**  
This subject of lectures and practical exercises introduces the techniques in genetic engineering including the enzymes, the vectors and hosts, gene isolation and detection of recombinant genes; strategies of gene cloning, genomic and cDNA libraries and gene identification; and applications of genetic engineering.  
**Prerequisite:** MSB530  
**Credit Points:** 10    **Contact Hours:** 5 per week

■ **MSB631 NUTRITIONAL BIOCHEMISTRY**  
This subject builds on a student's background of basic biochemistry. The effect of nutrient intake on metabolic balance and the use of laboratory data for monitoring metabolic balance are highlighted. Specific topics include: the digestion, absorption and assimilation of the macronutrients; the metabolic basis of primary nutritional diseases; biochemical assessment of nutritional status; the clinical significance of pathology laboratory data; integration of metabolism in a variety of pharmacological and pathological conditions which require dietary intervention; drug-nutrient interactions.  
**Prerequisites:** PNB305, PNB405  
**Credit Points:** 10    **Contact Hours:** 4 per week

■ **MSB712 IMMUNOLOGY V**  
This unit builds on the basic understanding provided in MSB412 to provide an understanding of the genetic control of antibody diversity, the function of antibody and complement at a molecular level, cell interactions in the immune response and immunological process in resistance to and recovery from infection. Practical classes place emphasis on the competent performance of immunological procedures rather than just a demonstration of immunological principles.  
**Prerequisites:** MSB412, MSB416, MSB454  
**Credit Points:** 8    **Contact Hours:** 4 per week

■ **MSB713 IMMUNOHAEMATOLOGY VI**  
This course is designed to supply the competence in theoretical and practical blood transfusion which would be required of a scientist working in a hospital blood bank. The understanding of immunology gained in MSB412 and MSB712 is applied to the area of blood banking. Topics include blood group systems, compatibility testing, antibody identification, antenatal serology, clinical use of blood and blood products and quality control.  
**Prerequisite:** MSB712  
**Credit Points:** 8    **Contact Hours:** 4 per week

■ **MSB718 CLINICAL BIOCHEMISTRY V**  
This course introduces the study of chemical aspects of human life in health and illness and discusses the application of chemical laboratory methods to diagnosis, control of treatment and prevention of disease. Topics include kidney, pancreas, liver and gastric functions, and the metabolism of lipids, carbohydrates and proteins.  
**Prerequisite:** MSB416, MSB445, PNB465  
**Co-requisite:** MAB252  
**Credit Points:** 8    **Contact Hours:** 4 per week

■ **MSB719 CLINICAL BIOCHEMISTRY VI**  
This course further develops clinical biochemistry with emphasis on enzymes, electrolytes, blood gases, drugs, vitamins, functions of the thyroid and adrenal gland, auto-analyses, quality control and steroid metabolism.  
**Prerequisite:** MSB718  
**Credit Points:** 8    **Contact Hours:** 4 per week

■ **MSB726 HAEMATOLOGY V**  
The first of two units in which the student is introduced to the diseases of the blood. Each blood disease is considered under the following headings: cause, laboratory investigation, prognosis, principles of treatment and laboratory monitoring of treatment. The blood disorders discussed in this unit include bleeding disorders, iron deficiency anaemia, anaemia of chronic disease, macrocytic anaemia and pancytopenia.  
**Prerequisite:** MSB426  
**Credit Points:** 8    **Contact Hours:** 4 per week

■ **MSB727 HAEMATOLOGY VI**  
This unit continues the study of blood diseases. The format follows the one outlined for MSB726. Topics in this unit include: haemolytic anaemia, leukaemia and related diseases, paediatric haematology, blood disorders in the elderly and veterinary haematology.  
**Prerequisite:** MSB726  
**Credit Points:** 8    **Contact Hours:** 4 per week

■ **MSB755 MICROBIOLOGY V**  
A study of parasitology (85 semester hours) directed towards the laboratory diagnosis of parasitic disease in man. It consists of a systematic study of identification, life history, incidence, modes of infection, epidemiology and control of the parasites of man. Emphasis is placed on parasites evident in Australia and on those most likely to penetrate the quarantine barrier. A study of clinical mycology (20 semester hours) including characterisation of fungi responsible for systemic and superficial infections in man.  
**Prerequisite:** MSB454  
**Credit Points:** 16    **Contact Hours:** 7 per week

■ **MSB756 CLINICAL BACTERIOLOGY VI**  
A study of clinical bacteriology, dealing with the characteristics, isolation and identification of bacteria implicated in human disease, the collection and examination of clinical specimens, the initial use of computerised data bases in bacterial identification and antibiotic sensitivity tests on laboratory isolates, the interpretation and clear reporting of results.  
**Prerequisite:** MSB454  
**Credit Points:** 16    **Contact Hours:** 7 per week

■ **MSB761 FUNDAMENTALS OF MEDICINE I**  
This subject provides students with the theoretical basis for an understanding of the process of medical care. These students must understand the nature of disease processes and the clinician's response to them in order to: design appropriate and efficient health information services for all types of health care facilities; communicate effectively with other health professionals involved in the care of patients; and assist in research and quality assurance programs in the health services. A review of the important and frequently encountered diseases and includes disorders of the major body systems.  
**Prerequisite:** PNB262  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSB762 FUNDAMENTALS OF MEDICINE II**  
This subject continues the study of the process of medical care begun in Fundamentals of Medicine I.

In addition it includes the study of the roles and functions of allied health professions, and of technological services in the diagnosis and treatment of disease.

**Prerequisite:** MSB761

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MSB792 HISTOPATHOLOGY V

A detailed study of techniques used in routine histopathology including methods for immunohistochemistry and transmission electron microscopy. Emphasis is placed on the application and relevance of methods to particular diagnostic areas.

**Prerequisites:** MSB492, MSB416, PNB465, MSB445, PNB132

**Credit Points:** 8    **Contact Hours:** 4 per week

#### ■ MSB793 HISTOPATHOLOGY VI

The course reviews recent advances in diagnostic histopathology and introduces advanced and specialised methods including scanning electron microscopy and X-ray microanalysis. A major component is an overview of techniques for diagnostic cytology concentrating on specimen preparation and the microscopic detection of cancerous and other abnormal cells in human tissues and body fluids.

**Prerequisite:** MSB792

**Credit Points:** 8    **Contact Hours:** 4 per week

#### ■ MSD360 MICROBIOLOGY I

An introduction to the microbial world with emphasis on organisms causing disease in humans and on host-parasite relationships. The nature of bacteria, viruses, fungi and protozoa, their appearance and means of replication. Sterilisation and disinfection, antibiotics and chemotherapeutic agents. An introduction to bacterial genetics.

**Credit Points:** 3    **Contact Hours:** 2 per week

#### ■ MSD410 PATHOLOGY

An introduction to the process of disease and to the processes taking place in the production of conditions requiring clinical treatment.

**Prerequisite:** PND132 **Co-requisite:** PND430

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ MSD460 MICROBIOLOGY II

Sources of human infection and modes of transmission in bacterial, viral and fungal infections. Concepts of host resistance. Immunity to infectious disease and the broader concepts of immunology. Consideration of the more important microorganisms responsible for human disease with emphasis on the causative agents, diagnostic measures, prophylaxis and therapy.

**Prerequisite:** MSD360

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ MSD680 EPIDEMIOLOGY

An introduction into principles and application of epidemiology. The definition and application of terms and parameters. Agents of disease: physical, chemical, biological, social, and their interactions. Data used in epidemiology studies and their sources and accuracy. Methods and approaches. Examples will be freely chosen from communicable and non-communicable diseases and student will gain practice in model studies.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ MSD751 INTRODUCTORY EPIDEMIOLOGY

History and purposes of epidemiology, definitions and application of terms used in epidemiology,

etiological agents of disease, measurement, methods and approaches.

**Credit Points:** 2    **Contact Hours:** 1 per week

#### ■ MSN102 CELLULAR BASIS OF DISEASE

The following material will be presented in either lectures or tutorials. Cell injury and stress mechanisms. Cellular communication. The responses of organelles, cells and tissues to injury and stress including the following: immune, inflammation, thrombosis, ageing and neoplastic responses. Transplantation and regeneration.

**Prerequisite:** 24 credit points in Master of Health Science

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MSN110 MOLECULAR BASIS OF DISEASE

This course of study aims to provide an understanding, at the molecular level, of the aetiology, diagnosis and treatment of various diseases, by a study of molecular structures, biochemical reactions, and the integration and control of metabolism. Topics for study will include: gene structure and function, proteins – structure and molecular dysfunction, and enzymes – properties and alterations in diseases; metabolic integration and hormone action, hormones and organ disease, disorders of carbohydrate and lipid metabolism and chemotherapy.

**Prerequisite:** 24 credit points in Master of Health Science

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MSN150 EPIDEMIOLOGY & RESEARCH STRATEGIES

An introduction to the principles and applications of epidemiology with emphasis given to its scope and value in establishing disease aetiology. Course topics will include epidemiological methods (descriptive, analytical and experimental), epidemiological concepts, causal relationships, measurement of morbidity and mortality statistical overview of the health of the Australian population, and the investigation of an epidemic.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MSN158 ULTRASONIC PATHOLOGY

Pathology as applicable to diagnostic ultrasound; basic embryology and genetics.

**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ MSN306 PATHOPHYSIOLOGY

A study of selected pathophysiological states which represent major alteration in physiological functioning, occurring in each developmental phase.

**Prerequisite:** 72 credit points in Master of Health Science

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MSN401 ADVANCES IN MEDICAL LABORATORY SCIENCE

A series of lectures to provide current and topical information across the general field of medical laboratory science. In addition, topics which have significant implications on the advancement of the profession will be presented, eg, computers, laboratory automation, biotechnology, self-diagnosis. The lecture program will be flexible to allow for the incorporation of visiting speakers or for the introduction of a current interest topic. In addition to formal lectures the unit will offer tutorial and student seminar sessions.

**Prerequisite:** 72 credit points in Master of Health Science

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSN510 CLINICAL BIOCHEMISTRY I**

This subject is designed to emphasise the use of clinical biochemistry in the diagnosis of diseases. Disorders of fluid and electrolyte balance systems, disorders of the gastrointestinal, pancreatic and hepatobiliary systems, and disorders of the cardiovascular system and hypertension will be studied, concentrating on diagnosis and the interpretation of biochemical results. In addition, aspects of instrumentation and laboratory methods will be reviewed.

**Prerequisite:** 96 credit points in Master of Health Science

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSN511 HAEMATOLOGY I**

This subject studies in depth a number of haematologic diseases; their aetiology, laboratory investigation, pathogenesis, principles of treatment and laboratory monitoring. The study program includes seminars, oral presentations and assignments. Topics will be chosen from the following areas: haemopoietic kinetics, haematologic oncology, haemolytic disease, haemostasis and the haematologic manipulations of systemic disease. Assessment will be by formal examination, assignments and seminar participation.

**Prerequisite:** 96 credit points in Master of Health Science

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSN512 HISTOPATHOLOGY I**

An in-depth review of recent advances and modern methods in diagnostic histopathology. Major topics will include immunohistochemistry, enzyme histochemistry and transmission electron microscopy methods.

**Prerequisite:** 96 credit points in Master of Health Science

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSN515 MICROBIOLOGY I**

These courses will explore, in-depth, areas of bacteriology, virology, mycology and parasitology. Topics will be chosen to increase the knowledge and understanding of microorganisms associated with human infection. Recent trends and developments in diagnostic microbiology will be studied. A critical approach to the assessment of laboratory practices and interpretation of data will be developed.

**Prerequisite:** 96 credit points in Master of Health Science

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSN530 DISSERTATION**

The dissertation includes a supervised project in an approved topic area selected by the student. The project area may be novel, developmental or directed at an investigation of the introduction of a new system into the laboratory. Other areas which are considered appropriate include epidemiological analyses, laboratory safety, laboratory design or the efficacy of laboratory service. Each student will submit a written project report in a style to present the data.

**Prerequisite:** 96 credit points in Master of Health Science.

**Credit Points:** 12 per semester

**Contact Hours:** 3 per week

■ **MSN610 CLINICAL BIOCHEMISTRY II**

This subject is designed to emphasise the use of clinical biochemistry in the diagnosis of diseases. Endocrinology, disorders of the muscular and skeletal systems, disorders of special groups, nutrition and drugs, neurochemistry and neural disorders, cancer-associated biochemical abnormalities, and the seriously ill patients will be studied, concentrating on diagnosis and the interpretation of biochemical results.

sociated biochemical abnormalities, and the seriously ill patients will be studied, concentrating on diagnosis and the interpretation of biochemical results.

**Prerequisite:** MSN510

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSN611 HAEMATOLOGY II**

This unit has the same aims and objectives as for MSN511. Topics considered in this unit include: age-related changes to the haemopoietic system, (perinatal haematology, paediatric haematology and haematology in the elderly), nutrition anaemias, the role of the forensic laboratory, transplantation, automation and quality control. Since outside lecturers participate in these specialist electives some interchange of topics between the two units may be necessary.

**Prerequisite:** MSN511

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSN612 HISTOPATHOLOGY II**

Investigation of methods in diagnostic histopathology. The design and assessment of diagnostic programs to aid the identification of tumours and diseases of selected organ systems. A study of specialised techniques including aspiration cytology, scanning electron microscopy and analytical electron microscope methods.

**Prerequisite:** MSN512

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSN615 MICROBIOLOGY II**

These courses will explore, in-depth, areas of bacteriology, virology, mycology and parasitology. Topics will be chosen to increase the knowledge and understanding of microorganisms associated with human infection. Recent trends and developments in diagnostic microbiology will be studied. A critical approach to the assessment of laboratory practices and interpretation of data will be developed.

**Prerequisite:** MSN515

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MSP104 ANALYTICAL ELECTRON MICROSCOPY**

An advanced course in electron microscopy with emphasis on the applications of labelling and analytical techniques. Methods covered in lectures and practical sessions include immunocytochemistry, in situ hybridisation, energy and wavelength dispersive X-ray analysis, electron energy loss spectroscopy and image analysis. Specialised preparation methods necessary for use of these techniques in SEM, TEM and STEM instruments are discussed, together with their advantages and limitations. Applications are drawn from the biological, materials and forensic science areas.

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **MSP105 MOLECULAR DIAGNOSIS OF DISEASE**

This subject consists of a series of lectures and laboratory exercises in advanced molecular techniques of disease diagnosis. Included will be collection and preparation of samples; the use of DNA probes in dot blots, Southern blots and Northern blots, RFLP analysis and DNA fingerprinting; advanced immunological techniques such as Elisa and Western blotting.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **MSP120 ADVANCED GENETIC ENGINEERING**

The isolation of mRNA and DS viral RNA; DNA analysis using Restriction Fragment Length Polymor-

phisms (RFLPs) and nucleotide sequence determination in plasmids and bacteriophage M13; separation of chromosomes using Pulsed Field Gel Electrophoresis (PFGE); oligonucleotide synthesis and the application of gene probes in diagnosis; electroporation and chemical transformation of cells; and DNA amplification using the Polymerase Chain Reaction (PCR).

**Credit Points:** 10    **Contact Hours:** 5 per week

#### ■ MSP121 RESEARCH STRATEGIES I

This subject consists of a series of seminars presented by staff of the Faculties of Health and Science and other research scientists on research strategies and directions in their area of expertise. A series of tutorials and lectures on such topics as library searches, oral communications, written communications and ethics. Several written assignments in the areas of microbiology, biochemistry and biotechnology. A seminar presented by the student covering the background literature relevant to the student's research project.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ MSP122 RESEARCH STRATEGIES II

This subject consists of a series of seminars presented by staff of the Faculties of Health and Science and other research scientists on research strategies and directions in their area of expertise. A series of lectures and tutorials on such topics as biometry and computer analysis, research strategies, applying for grants, photography for scientists. A seminar presented by the student covering the results obtained in the student's research project.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ MSP123 READINGS IN BIOMEDICAL SCIENCE I

This subject consists of the preparation of a literature review of direct and associated relevance to the Honours Project (MSP125). The literature review, under the guidance of the supervisor(s), will include an 'in-depth' computer search, the presentation of a written paper demonstrating a considerable knowledge, understanding and appreciation of the literature as well as a critical appraisal of future research requirements.

**Credit Points:** 25    **Contact Hours:** 1 per week

#### ■ MSP124 READINGS IN BIOMEDICAL SCIENCE II

This subject consists of the preparation of a paper reporting the methods and results of investigations in the Honours Project (MSP125). The paper will also include an introduction, analysis and discussion of the project in a style and length deemed to be appropriate by the Head of Department. In the course of this subject students should relate their project work to published work already undertaken in the relevant field.

**Credit Points:** 25    **Contact Hours:** 1 per week

#### ■ MSP125 PROJECT

All students undertaking honours in biotechnology, biochemistry or microbiology will be required to select and undertake, in consultation with a supervisor, a suitable project.

**Credit Points:** 5 per semester

**Contact Hours:** 9 per week

#### ■ MSP127 TOPICS IN BIOTECHNOLOGY I

A series of special tutorials, lectures or seminars on biotechnology oriented topics such as: commercial perspectives of a biotechnology company; funding for commercial research; research strategies in biotech-

nology; methods of reviewing the biotechnology literature; DNA and protein sequence data banks. Students will also be required to present a seminar on some aspect of biotechnology research.

**Credit Points:** 4    **Contact Hours:** 1 per week

#### ■ MSP128 TOPICS IN BIOTECHNOLOGY II

A series of special tutorials, lectures or seminars on biotechnology oriented subjects such as: guidelines for the use of genetically modified organisms; funding for biotechnology projects; patent protection for ideas and products; intellectual property agreements; commercial perspectives of a biotechnology company. Students will also be required to present a seminar on some aspect of biotechnology research.

**Credit Points:** 4    **Contact Hours:** 1 per week

#### ■ MSP 146 PROJECT

All students undertaking the Graduate Diploma in Biotechnology will be required to select, in consultation with their employer and an academic supervisor, a suitable research project. The aims of the project are that students, under supervision, should: participate in the selection of a suitable topic for investigation; conduct a literature search in the subject area; plan an experimental program which includes scheduling laboratory space, equipment and consumables; undertake work at the bench; record, assess and interpret the results; write a concise thesis in a standard form of presentation.

**Credit Points:** 16 per semester

**Contact Hours:** 3 per week

#### ■ MSP152 FOOD MICROBIOLOGY

An introduction to food borne pathogens, microbial spoilage of foods; preservation; fermentation; hygiene; microbiological standards.

**Credit Points:** 6    **Contact Hours:** 3 per week

#### ■ NSB110 FOUNDATIONS OF NURSING PRACTICE I

The processes underlying nursing practice; use of nursing framework to examine relationships amongst health, environment, individual and nurse; therapeutic nurse-client relationship.

**Credit Points:** 12    **Contact Hours:** 4 per week

#### ■ NSB111 FOUNDATIONS OF NURSING PRACTICE II

Components of nursing role and associated functions; theoretical approaches to counselling, learning and teaching, management, research and change.

**Prerequisite:** NSB110 **Co-requisite:** NSB112

**Credit Points:** 18    **Contact Hours:** 7 per week

#### ■ NSB112 CLINICAL PRACTICE I

Application of theoretical concepts to the provision of nursing care in a clinical setting, based on content in year one of the course.

**Co-requisite:** NSB111 **Credit Points:** 6

**Contact Hours:** 40/1 week block

#### ■ NSB120 NURSING IN SOCIAL SYSTEMS I

Concepts of environment and health, and their impact on health care; nursing as part of the health care system; development of nursing theory.

**Credit Points:** 9    **Contact Hours:** 3 per week

#### ■ NSB130 PROFESSIONAL ASPECTS OF NURSING I

Use of a professional framework to analyse nursing practice; international, national and State nursing organisations and authorities; legal and ethical aspects of practice.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **NSB201 PRINCIPLES OF PATIENT CARE**  
This introductory unit emphasises the ethical, legal and clinical accountability of the radiographer for safe patient care. The subject aims to develop in radiography students an awareness of their responsibilities in protecting patients and promoting their well-being.  
**Credit Points:** 4    **Contact Hours:** 2 per week

■ **NSB210 THEORIES OF NURSING I**  
Analysis of selected models of nursing; interrelationship between research and theory development; application of models/theories to health care settings.  
**Co-requisites:** NSB212, NSB240  
**Credit Points:** 9    **Contact Hours:** 3 per week

■ **NSB211 THEORIES OF NURSING II**  
Relationship of research and development of nursing theory; use of a nursing model for generating research problems; application of statistical principles to data analysis; preparation of research reports.  
**Prerequisites:** NSB210, NSB111  
**Co-requisite:** MAB156  
**Credit Points:** 9    **Contact Hours:** 3 per week

■ **NSB212 CLINICAL PRACTICE II**  
Use of a nursing model as a basis for giving nursing care; selection of setting (hospital or community) and clients according to developmental stage; emphasis on clinical, teaching and counselling components of nursing role.  
**Prerequisite:** NSB112  
**Co-requisites:** NSB210, NSB240  
**Credit Points:** 6  
**Contact Hours:** 40 hrs/1 wk block

■ **NSB220 NURSING IN SOCIAL SYSTEMS II**  
Characteristics of Australian society – family, education systems, religion, economic and political order, race and ethnicity; implications for nursing practice.  
**Prerequisite:** NSB120  
**Credit Points:** 9    **Contact Hours:** 3 per week

■ **NSB230 PROFESSIONAL ASPECTS OF NURSING II**  
Factors promoting professional leadership in nursing – leadership theory, evaluation of practice, societal issues affecting practice; legislation related to health care delivery.  
**Prerequisite:** NSB130  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **NSB240 NURSING PRACTICE I**  
Extension of knowledge of theory and skills related to the clinical, teaching and counselling components of the nursing role; use of case studies for the assessment of individual needs according to stage of development.  
**Prerequisites:** PNB115, PNB116  
**Co-requisites:** NSB212, NSB210  
**Credit Points:** 18    **Contact Hours:** 8 per week

■ **NSB241 NURSING PRACTICE II**  
Care coordinator, change agent and client advocate components of the nursing role – application of management principles to job assignment; documentation; cooperative interaction with other health professionals; application of principles of change; process of client advocacy.  
**Prerequisite:** NSB240  
**Credit Points:** 15    **Contact Hours:** 6 per week

■ **NSB250 PSYCHOSOCIAL ADAPTION**  
Aetiological factors related to adaptive and maladaptive behaviour; assessment techniques to identify

maladaptation in health-related situations; nursing participation in therapeutic intervention.  
**Credit Points:** 6    **Contact Hours:** 2 per week

■ **NSB252 PATHOPHYSIOLOGY**  
A study of selected pathophysiological states which represent major alteration in physiological functioning, occurring in each developmental phase.  
**Credit Points:** 6    **Contact Hours:** 2 per week

■ **NSD120 PERSPECTIVES FOR NURSING PRACTICE I**  
Views nursing from a conceptual viewpoint, examines the roles of the nurse in the provision of health care. Distinguishes between the independent and interdependent functions of the nurse.  
**Credit Points:** 3    **Contact Hours:** 2 per week

■ **NSD121 CONCEPTS FOR NURSING PRACTICE I**  
Addresses the relationship between the individual and health. Examines human needs/adaptation theory and related concepts. Introduces the concept of health promotion – maintenance.  
**Co-requisite:** NSD122  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **NSD122 CLINICAL PRACTICE IA**  
Focuses on the acquirement of knowledge and experience in interpersonal, problem-solving and psychomotor skills. Experience takes place in the college laboratory and community placements.  
**Credit Points:** 9    **Contact Hours:** 8 per week

■ **NSD123 CLINICAL PRACTICE IB**  
Provides experience in the application of concepts and principles addressed during semester. Focuses on the acquisition of a specific level of competence. Settings may include: kindergartens, schools, senior citizens centres and maternity units.  
**Co-requisite:** NSD122  
**Credit Points:** 9  
**Contact Hours:** 120 hrs/3 week block following semester

■ **NSD220 PERSPECTIVES FOR NURSING PRACTICE II**  
Critiques health care in Australia. Analyses nursing in hospitals. Determines specific attributes of the nursing roles of clinicians and teacher.  
**Prerequisites:** NSD120  
**Credit Points:** 6    **Contact Hours:** 2 per week

■ **NSD221 CONCEPTS FOR NURSING PRACTICE II**  
Addresses the concept of illness and the effect on individuals. Examines strategies to promote adaptation to illness/hospitalisation of individuals from each developmental stage. Focuses on health promotion – maintenance, restoration, reorganisation.  
**Prerequisite:** NSD121 **Co-requisite:** NSD122  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **NSD222 CLINICAL PRACTICE IIA**  
Focuses on the acquisition of knowledge and experience in interpersonal, problem-solving and psychomotor skills. Experience takes place in the college laboratory and hospitals.  
**Credit Points:** 9    **Contact Hours:** 8 per week

■ **NSD223 CLINICAL PRACTICE IIB**  
Provides experience in the application of concepts and principles addressed during semester. Focuses on the

acquisition of a specific level of competence. The setting will be hospitals.  
**Co-requisite:** NSD222  
**Credit Points:** 9  
**Contact Hours:** 120 hrs/3 wk block following semester

■ **NSD320 PERSPECTIVES FOR NURSING PRACTICE III**

Reviews the concept of the health care team. Addresses the roles of care coordinator and researcher.  
**Prerequisite:** NSD220  
**Credit Points:** 6      **Contact Hours:** 2 per week

■ **NSD321 CONCEPTS FOR NURSING PRACTICE III**

Addresses the effects of pathophysiology or psychopathology on human needs (196 respiratory, cardiovascular, fluid/electrolyte imbalance, surgical intervention. Examines independent and interdependent strategies to promote health – maintenance, restoration, reorganisation.  
**Prerequisite:** NSD221 **Co-requisite:** NSD322  
**Credit Points:** 6      **Contact Hours:** 3 per week

■ **NSD322 CLINICAL PRACTICE IIIA**

Focuses on the acquisition of knowledge and experience in interpersonal, problem-solving and psychomotor skills. Experience takes place in the college laboratory and hospitals.  
**Credit Points:** 9      **Contact Hours:** 10 per week

■ **NSD323 CLINICAL PRACTICE IIIB**

Provides experience in the application of concepts and principles addressed during semester. Focuses on the acquisition of a specific level of competence. The setting will be hospitals.  
**Co-requisite:** NSD322  
**Credit Points:** 9  
**Contact Hours:** 120 hrs/3 week block following semester

■ **NSD420 PERSPECTIVES FOR NURSING PRACTICE IV**

Concentrates on ethical aspects of nursing – theory and practice. Addresses the role of the nurse as client advocate.  
**Prerequisite:** NSD220  
**Credit Points:** 6      **Contact Hours:** 2 per week

■ **NSD421 CONCEPTS FOR NURSING PRACTICE IV**

Addresses the effects of pathophysiology or psychopathology on human needs – urinary, gastrointestinal, musculo-skeletal. Examines emergency/critical aspects of care. Examines independent and interdependent strategies to promote health – maintenance, restoration, reorganisation.  
**Prerequisite:** NSD221 **Co-requisite:** NSD422  
**Credit Points:** 6      **Contact Hours:** 3 per week

■ **NSD422 CLINICAL PRACTICE IVA**

Focuses on the acquisition of knowledge and experience in interpersonal, problem-solving and psychomotor skills. Experience takes place in the college laboratory and hospitals.  
**Credit Points:** 9      **Contact Hours:** 10 per week

■ **NSD423 CLINICAL PRACTICE IVB**

Provides experience in the application of concepts and principles addressed during semester. Focuses on the

acquisition of a specific level of competence. The setting will be hospitals.  
**Co-requisite:** NSD422  
**Credit Points:** 9  
**Contact Hours:** 120 hrs/3 week block following semester

■ **NSD520 PERSPECTIVES FOR NURSING PRACTICE V**

Addresses the concepts of the community and family as systems. Focuses on crises intervention as a therapeutic process. Examines the role of the nurse as counsellor.  
**Prerequisite:** NSD220  
**Credit Points:** 6      **Contact Hours:** 3 per week

■ **NSD521 CONCEPTS FOR NURSING PRACTICE V**

Addresses the effects of pathophysiology or psychopathology on human needs – reproductive, neurological, psychiatric. Examines the childbearing experience. Examines independent and interdependent strategies to promote health – maintenance, restoration, reorganisation.  
**Prerequisite:** NSD221 **Co-requisite:** NSD522  
**Credit Points:** 6      **Contact Hours:** 4 per week

■ **NSD522 CLINICAL PRACTICE VA**

Focuses on the acquisition of knowledge and experience in interpersonal, problem-solving and psychomotor skills. Experience takes place in the college laboratory, community and hospital.  
**Credit Points:** 9      **Contact Hours:** 15 per week

■ **NSD523 CLINICAL PRACTICE VB**

Provides experience in the application of concepts and principles addressed during semester. Focuses on the acquisition of a specific level of competence. The setting will be the community, community agencies and hospitals.  
**Co-requisite:** NSD522  
**Credit Points:** 9  
**Contact Hours:** 120 hrs/3 wk block following semester

■ **NSD620 PERSPECTIVES FOR NURSING PRACTICE VI**

Addresses nursing from a historical and contemporary perspective. Looks at such issues as the nurse as a professional, leadership and the expanding role of the professional nurse.  
**Prerequisite:** NSD220  
**Credit Points:** 6      **Contact Hours:** 3 per week

■ **NSD621 CONCEPTS FOR NURSING PRACTICE VI**

Addresses the effects of pathophysiology and psychopathology on human needs – integumentary, endocrine, oncologic, immunologic problems. Examines independent and interdependent strategies to promote health – maintenance, restoration, reorganisation.  
**Prerequisite:** NSD221 **Co-requisite:** NSD622  
**Credit Points:** 6      **Contact Hours:** 4 per week

■ **NSD622 CLINICAL PRACTICE VIA**

Focuses on the acquisition of knowledge and experience in interpersonal, problem-solving and psychomotor skills. Experience takes place in the college laboratory, community and hospitals.  
**Credit Points:** 9      **Contact Hours:** 15 per week

■ **NSD623 CLINICAL PRACTICE VIB**

Provides experience in the application of concepts and principles addressed during semester. Focuses on the

acquisition of a specific level of competence. The setting will be the community, community agencies and hospitals.

**Co-requisite:** NSD622

**Credit Points:** 9    **Contact Hours:** 120 per week

■ **NSN102 CONCEPTS FOR ADVANCED CLINICAL NURSING**

In recent years there has been significant development in the role of the professional nurse as an advanced-level planner and provider of care. At this level, it is expected that nurses show a high degree of competence with an independent problem-solving approach to client care and are able to interact widely on intra-, inter- and extra- professional levels. Therefore, this subject is designed to enhance knowledge and skills involved in the selection, provision and communication of contemporary nursing care.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN103 RESEARCH METHODS IN NURSING**

This subject will provide opportunities for students to develop skills in research design and data collection processes related to clinical phenomena. The data analysis component will emphasise statistical techniques applicable to nursing research design.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN104 PROFESSIONAL ISSUES IN NURSING**

This subject is designed to enable students to expand the concept of the social significance of nursing as well as analyse the profession's accountability and responsibility to health care at local, national and international levels. Major topics of study will include theoretical and ideological perspectives of professional regulation, nursing's approach to professionalisation and the involvement of national and international nursing organisations in health policy formulation. Students will be given the opportunity to consider the influence of other disciplines and the historical environment on the development of ideas in nursing theory.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN105 MEDICAL/SURGICAL NURSING I**

Advanced specialisation in medical-surgical nursing requires the ability to deal critically and effectively with particular clinical phenomena so that the health of the individual, family or community is promoted. This subject, which focuses on the individual as client, will provide opportunities for students to enhance previous clinical knowledge and skills so that excellence in nursing care may be realised.

**Prerequisites:** NSN101, NSN102

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN106 MEDICAL/SURGICAL NURSING II**

Advanced specialisation in medical-surgical nursing requires the ability to deal critically and effectively with particular clinical phenomena so that the health of the individual, family or community is promoted. This subject adds a family focus to that of the individual. It will provide opportunities for students to enhance previous clinical knowledge and skills so that excellence in nursing care may be realised.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN107 MEDICAL/SURGICAL NURSING III**

Advanced specialisation in medical-surgical nursing requires the ability to deal critically and effectively with particular clinical phenomena so that the health of the individual, family or community is promoted.

This subject adds a community focus to that of the individual and family. It will provide opportunities for students to enhance previous clinical knowledge and skills so that excellence in nursing care may be realised.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN108 PRIMARY HEALTH CARE NURSING I**

Advanced specialisation in primary health care nursing requires the ability to critically analyse issues and trends affecting the health and lifestyle of individuals, families and communities. This subject focuses on the individual as client and provides the foundation for the primary health care nursing stream by exploring a broad range of factors which together define the parameters of primary health care practice.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN109 PRIMARY HEALTH CARE NURSING II**

Advanced specialisation in primary health care nursing requires the ability to critically analyse issues and trends affecting the health and lifestyle of individuals, families and communities. This subject focuses on the family as client and will provide opportunities to enhance previous clinical knowledge and skills through the application and evaluation of appropriate health education strategies.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN110 PRIMARY HEALTH CARE NURSING III**

Advanced specialisation in primary health care nursing requires the ability to critically analyse issues and trends affecting the health and lifestyle of individuals, families and communities. This subject focuses on the community as client and will provide opportunities to enhance previous clinical knowledge and skills through the application and evaluation of appropriate health education strategies.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN111 PSYCHIATRIC/MENTAL HEALTH NURSING I**

Advanced clinical practice in psychiatric-mental health nursing requires the ability to deal critically and effectively with interpersonal processes and strategic therapeutic use of self to restore, maintain, promote and prevent mental and psychiatric disability. Particular attention is given to interpersonal dynamics and behaviour as basic processes by which nursing assessment and intervention occur. This subject, which focuses on the individual as client, will provide opportunities to enhance previous clinical knowledge and skills through the application and testing of interpersonal theory and therapeutics.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN112 PSYCHIATRIC/MENTAL HEALTH NURSING II**

In this subject, particular attention is given to family dynamics and behaviour as basic processes by which nursing assessment and intervention occur. By focusing on the family as client, it will provide opportunities to enhance previous clinical knowledge and skills through the application and testing of family theory and therapeutics.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN113 PSYCHIATRIC/MENTAL HEALTH NURSING III**

Particular attention is given to current trends and approaches to the organisation and delivery of mental

health services within Australia with selected international comparisons.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NSN201 GRIEF & BEREAVEMENT

Advanced level clinical practice in any field of nursing requires the ability to deal effectively and sensitively with grieving and bereaved individuals and families. The purpose of such practice is two fold: to enable the dying to experience a dignified and peaceful death; and to assist with the grieving/bereaved individual's families' adaptation to the loss. This subject will provide opportunities for student to enhance previous clinical knowledge and skills so that excellence in nursing care may be realised when caring for grieving and bereaved individuals and families in hospital and community settings.

**Credit Points:** 6    **Contact Hours:** 1.5 per week

#### ■ NSN202 NURSING & HEALTH EDUCATION PRACTICE

This elective unit of study introduces practising nurses to the theoretical perspectives of health education. Particular attention is given to the development, implementation and evaluation of health education programs which focus on specific needs of groups and/or communities.

**Credit Points:** 6    **Contact Hours:** 1.5 per week

#### ■ NSN203 HUMAN SEXUALITY & HEALTH

Human sexuality remains a controversial and highly debated topic in Australian society. Although there is a growing awareness amongst nurses of the significance of human sexuality to patient care, many nurses suffer from the same paucity of information, myths and misconceptions about sexuality that afflict the broader community. Students undertaking this elective will have the opportunity to explore a subject of considerable complexity within a nursing context.

**Credit Points:** 6    **Contact Hours:** 1.5 per week

#### ■ NSN204 PAIN: A NURSING FOCUS

Pain is a universal experience which may cause individuals, together with their families, great distress. It is also a subjective, personal experience about which much is still being learnt and understood. This subject will provide opportunities for students to extend previous clinical knowledge and skills so that a contemporary and comprehensive approach to pain assessment and management may be initiated by the nurse.

**Credit Points:** 6    **Contact Hours:** 1.5 per week

#### ■ NSN205 INDEPENDENT STUDY

The intention of this unit of study is to increase flexibility and provide the opportunity for in-depth study in an approved area of study interest to meet the diverse needs and interest of practising Registered Nurses.

**Credit Points:** 6    **Contact Hours:** 1.5 per week

#### ■ NSN301 ADVANCED NURSING EDUCATION I

This subject is designed to increase students' knowledge of the theoretical bases of teaching and learning in order to promote and facilitate learning. Students from various disciplines on campus can be accommodated within this subject. Students of nursing will focus on the professional practice of that discipline.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NSN302 ADVANCED NURSING EDUCATION II

This subject will provide opportunities for students to view measurement and evaluation as essential components of sound educational decision making. Students from various disciplines on campus are able to be accommodated within this subject. Students of nursing will focus on the professional practice of that discipline.

**Prerequisite:** NSN301

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NSN303 ADVANCED NURSING EDUCATION III

This subject will enable students to explore aspects of curriculum development which are relevant to their specific areas of interest. Students from various disciplines on campus are able to be accommodated within this subject. Students of nursing will focus on the professional practice of that discipline. Content will focus on perspectives, principal issues and theoretical approaches to curriculum assessment, planning implementation, evaluation and innovation.

**Prerequisite:** NSN301

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NSN304 ADVANCED NURSING MANAGEMENT I

This unit will provide opportunities for students to examine the organisation context of nursing and health care from a number of theoretical perspectives and to enable them to contribute effectively to debate on the nature of nursing and health care organisation.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NSN305 ADVANCED NURSING MANAGEMENT II

This subject provides an opportunity for students to examine management processes of nursing divisions within health care organisations enabling them to have creative input into the nursing environment.

**Prerequisites:** NSN301

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NSN307 ADVANCED NURSING CLINICAL I

This subject allows the student to develop an advanced clinical nurse practice role. It focuses on the role of the advanced clinical nurse practitioner; and includes role creation/development including role theory, role application, role analysis and strategies for implementing role. Students will develop a conceptual framework for advanced clinical practice which will include but not be limited to: expert clinical practitioner advocate, change agent, professional role model, clinical teacher/mentor and motivator.

**Prerequisite:** Clinical Specialisation III

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NSN308 ADVANCED NURSING CLINICAL II

This subject allows the students to implement functions of the advanced clinical practice role. The content of this subject focuses on implementing the advanced clinical practice role in a selected area. It will provide experiences to strengthen clinical skill, knowledge and judgment.

**Prerequisite:** NSN301

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NSN309 ADVANCED NURSING CLINICAL III

This subject is designed to develop knowledge and skill in the consultative function of the advanced clinical practitioner role. It also develops skill in the implementation of an innovative change utilising

skills from leadership, innovation, and change theory. This subject examines consultation theory and practice in detail. The areas of study include a focus on relationship between the nurse consultant and the client, problems that can arise, planning intervention and evaluation of the consultative process.

**Prerequisite:** NSN301

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **NSN401 STRATEGIES FOR NURSING RESEARCH**

This subject introduces postgraduate students to the use and application of qualitative research techniques in nursing practice. The content will be selected from techniques such as participant observation and unstructured interviewing as well as qualitative approaches in nursing research such as phenomenology, grounded theory, ethnography and historical research.

**Credit Points:** 6 per semester

**Contact Hours:** 1.5 per week

■ **NSN403 DISSERTATION**

The dissertation should be a substantive and original research study. It should provide evidence that the student has identified a significant problem, reviewed the relevant literature, developed appropriate methodology to collect and analyse data, implemented the study and presented the findings in a form consistent with school requirements.

**Prerequisites:** NSN401, MSN150

**Credit Points:** 24    **Contact Hours:** 6 per week

■ **NSPI71 PRINCIPLES OF EDUCATION**

Learning theories; the teaching process; readiness for learning; organisation of instruction – group and individual methods; teaching techniques; audio and visual aids; and place of evaluation in educational process. Practice of principles of education will be incorporated in the practice of diet therapy as students practise instructing patients on therapeutic diets.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **OPB132 OPHTHALMIC OPTICS II**

An introduction to ophthalmic optics; optical properties of spherical and astigmatic lenses and of ophthalmic prisms; bifocals, multifocals and special lens types; ophthalmic lens materials and lens quality; the ophthalmic prescription, its interpretation and verification.

**Prerequisite:** PHB150    **Co-requisite:** PHB240

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **OPB312 VISUAL SCIENCE III**

The performance of the eye as an optical system is considered in the context of ocular aberrations, refractive errors and image formation and quality. An introduction to visual performance characteristics includes absolute and relative thresholds, dark and light adaptation and relative luminous efficiency curves.

**Prerequisite:** PHB240    **Co-requisite:** PHB340

**Credit Points:** 14    **Contact Hours:** 5 per week

■ **OPB401 OCULAR & REGIONAL ANATOMY**

The gross anatomy of the head and neck region with particular reference to the central nervous system. The macroscopic and microscopic anatomy of the orbit, extraocular muscles, eyelids, lacrimal apparatus, cornea, conjunctiva, sclera, uveal tract, lens, retina, optic nerve, aqueous, vitreous and the neural pathways and

vascular circulation subserving vision. Ocular embryology.

**Prerequisite:** PNB363

**Co-requisites:** PNB435; OPB412

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **OPB412 VISUAL SCIENCE IV**

Visual performance is examined with respect to its spatial and temporal characteristics. Perceptual aspects of vision as well as binocular and colour vision performance characteristics are also included.

**Prerequisites:** OPB312; PHB340

**Co-requisite:** OPB401

**Credit Points:** 14    **Contact Hours:** 5 per week

■ **OPB504 OPHTHALMIC OPTICS V**

A continuation of OPB132 Ophthalmic Optics II, with emphasis on problems with spectacle lenses. The practical application of theory to ophthalmic dispensing in the laboratory.

**Prerequisites:** OPB132, PHB340

**Credit Points:** 6    **Contact Hours:** 4 per week

■ **OPB505 CLINICAL OPTOMETRY V**

The clinical application of techniques learnt in OPB509 Optometry V (studied concurrently) in the management of patients presenting for eye examinations.

**Prerequisite:** OPB412

**Co-requisites:** OPB509, OPB508, OPB527

**Credit Points:** 8    **Contact Hours:** 4 per week

■ **OPB508 OCULAR PHYSIOLOGY**

This course covers all aspects of ocular physiology including the vegetative physiology of various ocular structures, visual neurophysiology and an introduction to electrophysiological techniques.

**Prerequisites:** OPB412, OPB401

**Co-requisites:** OPB503, OPB505, OPB527

**Credit Points:** 8    **Contact Hours:** 4 per week

■ **OPB509 OPTOMETRY V**

The aim of this subject is to teach the theory and practice of clinical procedures which are used in routine eye examinations.

**Prerequisites:** OPB412

**Co-requisite:** OPB508, OPB505

**Credit Points:** 18    **Contact Hours:** 9 per week

■ **OPB527 DISEASES OF THE EYE V**

The detection, diagnosis, referral and management of ocular disease. General pathological considerations. The writing of reports, referral letters and referral procedures. The nature, aetiology and management of congenital, developmental, dystrophic and degenerative anomalies of the external and internal ocular structures and ocular adnexae. The ocular manifestation of systemic disease including cardiovascular, metabolic, endocrine, central nervous system and malnutritional disorders.

**Prerequisites:** PNB435, OPB401, MSB430

**Co-requisites:** OPB505, OPB508, OPB509

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **OPB605 CLINICAL OPTOMETRY VI**

The continuation of OPB505 Clinical Optometry V. The clinical application of techniques learnt in OPB509 Optometry V and OPB609 Optometry VI (studied concurrently) in the management of patients presenting for eye examinations.

**Prerequisite:** OPB505

**Co-requisites:** OPB608, OPB609, OPB627

**Credit Points:** 8    **Contact Hours:** 4 per week

### ■ OPB608 OCULAR PHARMACOLOGY

General pharmacological principles are presented as background to a study of pharmacological profiles of ophthalmic preparations; both diagnostic and topical therapeutic agents are considered. Particular emphasis is placed on those ophthalmic drugs used to facilitate an eye examination.

**Prerequisites:** OPB508, OPB509

**Co-requisites:** OPB605, OPB609, OPB627

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ OPB609 OPTOMETRY VI

This subject is a continuation of the theory and practice of routine and advanced clinical procedures which are used when conducting a complete eye examination. The areas covered include ocular photography, the management of binocular vision anomalies, methods of examining the visual fields and the measurement of intra-ocular pressure.

**Prerequisites:** OPB508, OPB509

**Co-requisites:** OPB608, OPB605

**Credit Points:** 16      **Contact Hours:** 8 per week

### ■ OPB617 CONTACT LENS STUDIES VI

This subject provides an introduction to the basic concepts of contact lens fitting. Areas covered include contact lens instrumentation, contact lens materials and designs, fitting and consultation techniques. The practical component of the subject focuses upon the fitting of contact lenses.

**Prerequisites:** OPB509, OPB505, OPB527

**Co-requisites:** OPB609, OPB605, OPB627

**Credit Points:** 6      **Contact Hours:** 2 per week

### ■ OPB627 DISEASES OF THE EYE VI

A continuation of OPB527 Diseases of the Eye V. The anatomical, physiological and pathological aspects of glaucoma. Its symptomatology, methods of detection and diagnosis, management and prognosis. Inflammatory diseases, trauma and tumours of the external and internal ocular structures and ocular adnexae.

**Prerequisite:** OPB527

**Co-requisites:** OPB605, OPB608, OPB609

**Credit Points:** 8      **Contact Hours:** 4 per week

### ■ OPB705 CLINICAL OPTOMETRY VII

This is the clinical application of the procedures studied in OPB609 Optometry VI and OPB709 Optometry VII, and includes the management of patients in the clinical situation.

**Prerequisite:** OPB605

**Co-requisites:** OPB709, OPB717

**Credit Points:** 24      **Contact Hours:** 13

### ■ OPB709 OPTOMETRY VII

This subject is a continuation of OPB609 Optometry VI and provides knowledge and understanding of the theory and clinical procedures involved in paediatric optometry, low vision, colour vision and aniseikonia.

**Prerequisite:** OPB609 **Co-requisite:** OPB705

**Credit Points:** 10      **Contact Hours:** 5 per week

### ■ OPB717 CONTACT LENS STUDIES VII

A series of lectures and practical sessions on advanced aspects of contact lens practice. The subject includes topics such as the physiological consequences of contact lens wear, management of contact lens patients, and fitting of lenses for keratoconus, extended wear and presbyopia. Practical sessions provide training in advanced diagnostic and fitting techniques.

**Prerequisite:** OPB617

**Co-requisite:** OPB705, OPB709

**Credit Points:** 6      **Contact Hours:** 2 per week

### ■ OPB750 PROJECT

Students are required to undertake project work in Year 4, Semesters 1 and 2. Students work in groups of up to three on projects of their own choosing or on a topic chosen from a suggested list. Project topics must be original. Students conduct a literature search (including a computer-based search in conjunction with a reference librarian). They decide on the experimental hypotheses, plan and execute the experiment, analyse the results and write a report in manuscript form which it is hoped will be suitable for publication in the open literature. Students are encouraged to seek assistance from staff members of the Department of Optometry and other Departments within the University. Oral presentations are given by each group to their peers, third year students and staff, as part of a formal Year 4, Semester 2 colloquium.

**Co-requisites:** OPB709, MAB258

**Credit Points:** 5 per semester      **Contact Hours:** 3 per week

### ■ OPB803 OCCUPATIONAL/PUBLIC HEALTH OPTOMETRY

A course of study to introduce the basic concepts of eye safety and visual ergonomics. Content will include eye safety programs, occupational vision screening, legal aspects of eye safety, eye hazards – traumatic, radiation and chemical, eye protection, visual ergonomics and illumination engineering.

**Prerequisite:** OPB709 **Co-requisite:** OPB805

**Credit Points:** 6      **Contact Hours:** 2 per week

### ■ OPB805 CLINICAL OPTOMETRY VIII

A continuation of OPB705 Clinical Optometry VII. This subject places emphasis on the students' decision-making skills in the evaluation, care and treatment of patients who may have a wide range of visual disorders.

**Prerequisites:** OPB705, OPB717

**Co-requisite:** OPB803

**Credit Points:** 32      **Contact Hours:** 17 per week

### ■ PHA154 INTRODUCTORY PHYSICS

An introduction to the basic concepts involved in the study of linear mechanics, ideal gases, liquids and solids, elasticity, surface tension, temperature and its measurements, heat content, heat transfer, reflection and refraction of light at plane surfaces, use of lenses in simple optical instruments, current electricity, e.m.f. resistance, circuit analysis, heating effect, electrical measurements using moving coil galvanometers, potentiometers and Wheatstone bridge, magnetic field with simple applications. A series of laboratory experiments emphasises the above concepts.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ PHA213 MEDICAL INSTRUMENTATION II

Basic concepts and procedures in diagnostic instrumentation; transducer principles; characteristics of physiological signals; methods of measurement and instrumentation principles. Hospital visits may be included.

**Prerequisite:** PHA154

**Credit Points:** 8      **Contact Hours:** 4 per week

### ■ PHA561 CARDIAC INSTRUMENTATION

Knowledge and understanding of cardiac instrumentation; the application of this knowledge to situations in hospital clinics.

**Prerequisite:** PHA213

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHA562 CARDIAC MEASUREMENT TECHNIQUES**

Knowledge of the chosen clinical measurement environment within a hospital by controlled clinical measurement experiences in approved clinical measurement departments. Hospital visits may be included.

**Prerequisite:** PHA213

**Credit Points:** 9      **Contact Hours:** 3 per week

■ **PHA661 RESPIRATORY INSTRUMENTATION**

Knowledge and understanding of respiratory instrumentation; the application of this knowledge to situations in hospital clinics.

**Prerequisite:** PHA213

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHA662 RESPIRATORY MEASUREMENT TECHNIQUES**

Knowledge of the chosen clinical measurement environment within a hospital by controlled clinical measurement experiences in approved clinical measurement departments. Hospital visits may be included.

**Prerequisite:** PHA213

**Credit Points:** 9      **Contact Hours:** 3 per week

■ **PHA761 NEUROLOGICAL INSTRUMENTATION**

Knowledge and understanding of instrumentation used in electroencephalography (EEG); electromyography (EMG); neurosensory measurement environments; the application of this knowledge in situations in hospital clinics.

**Prerequisite:** PHA213

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHA762 NEUROLOGICAL MEASUREMENT TECHNIQUES**

Knowledge of the chosen clinical measurement environment within a hospital by controlled clinical measurement experiences in approved clinical measurement departments. Hospital visits may be included.

**Prerequisite:** PHA213

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHA861 UROLOGICAL INSTRUMENTATION**

Knowledge and understanding of instrumentation used in urological, renal and ultrasonic imaging measurement environments; the application of this knowledge in situations in hospital clinics.

**Prerequisite:** PHA213

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHA862 UROLOGICAL MEASUREMENT TECHNIQUES**

Knowledge of the chosen clinical measurement environment within a hospital by controlled clinical measurement experiences in approved clinical measurement departments. Hospital visits may be included.

**Prerequisite:** PHA213

**Credit Points:** 9      **Contact Hours:** 3 per week

■ **PHB104 INTRODUCTORY PHYSICS**

This subject is intended to give the student a grounding in basic physics topics selected from the following areas: mechanics, heat, electricity, and magnetism and light.

**Credit Points:** 6      **Contact Hours:** 3 per week

**Note:** This subject is not compatible with Senior Physics.

■ **PHB110 PHYSICS IA**

A course of lectures, tutorials and laboratory work covering dynamics, fluid mechanics, mechanical properties of matter, gravitation and geometrical optics.

**Co-requisite:** PHB104 unless Senior Physics has been undertaken.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB111 PHYSICS IB**

A course of lectures and laboratory work on a.c. and d.c. circuit theory, electronics, vibrations and waves, sound.

**Co-requisite:** PHB104 unless Senior Physics has been undertaken.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB132 ENGINEERING PHYSICS IA**

A basic subject in the physics of waves and optics; including moving and stationary waves in various media, interference of waves, beats acoustics and shock waves and measurement of sound; geometrical and physical optics including reflection, refraction, dispersion, interference and diffraction, polarisation, optical instruments, design and resolution, and photometry.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHB144 APPLIED SCIENCE FOR DESIGNERS I**

Physics for environmental design: energy and energy transfer, heat, light and sound; introduction to mechanics; principles of hydraulics and fluid flow; electricity, magnetism and basic electronics. Chemistry for environmental design: basic chemical properties of commonly occurring materials, natural and artificial; common chemical processes in buildings and artefacts. Earth science and climatology for environmental design: land forms and their origins; introduction to the physical and horticultural properties and behaviour of soils and rocks.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHB150 PHYSICS 1H**

Basic physical measurements; mechanics; fluids; heat; vacuum physics; waves, acoustics, ultrasonics and optics, and the instrumentation used to measure biological parameters.

**Credit Points:** 12      **Contact Hours:** 6 per week

■ **PHB170 PHYSICS FOR SURVEYORS**

Mechanics; geometrical optics; physical optics; quantum optics; physics of materials; physics of the lower atmosphere; sound; electromagnetic fields; electronics.

**Credit Points:** 12      **Contact Hours:** 6 per week

■ **PHB178 PRINCIPLES OF MEDICAL RADIATIONS**

An introduction to the principles of medical imaging and to the methods of detection, diagnosis and treatment of cancer.

**Credit Points:** 10      **Contact Hours:** 5 per week

■ **PHB210 PHYSICS IIA**

A course of tutorials, lectures and laboratory work on thermal physics and electromagnetic fields.

**Prerequisite:** PHB104 or Senior Physics

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB211 PHYSICS IIB**

A course of lectures and laboratory work on physical optics, and modern and radiation physics.

**Prerequisite:** PHB104 or Senior Physics

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ PHB232 ENGINEERING PHYSICS IIA**

A basic subject in the physics of heat and properties of matter; including the kinetic theory of gases, temperature scales and thermometers, heat and heat measurement, thermodynamics and the molecular properties of matter; gravitational fields; basic radiation physics.

**Credit Points:** 6    **Contact Hours:** 3 per week

**■ PHB240 OPTICS II**

The principles of geometrical optics as they apply to rectilinear propagation, reflection and refraction for paraxial rays for monochromatic light for single surfaces, thin lenses, cylindrical, sphero-cylindrical and toric lenses, lens systems in air, the eye and a selection of optical instruments; study of the optics of monochromatic and chromatic aberrations and of photometry and colour.

**Prerequisite:** PHB150 **Co-requisite:** OPB132

**Credit Points:** 14    **Contact Hours:** 7 per week

**■ PHB250 PHYSICS III**

An extension of PHB150 including a.c., d.c. circuit theory, with emphasis on electronics and instrumentation, fields, modem and nuclear physics.

**Credit Points:** 10    **Contact Hours:** 4 per week

**■ PHB252 KINESIOLOGY & BIOMECHANICS**

Principles; methods and interpretation of measurement of human movement, particularly associated with the lower limb; principles of lower limb function (standing, walking and running).

**Credit Points:** 6    **Contact Hours:** 2 per week

**■ PHB260 PHYSICS IIG**

A course of lectures and tutorials in thermal physics, electrostatics, magnetostatics, electromagnetic fields and waves, quantum physics, nuclear and radiation physics.

**Credit Points:** 8    **Contact Hours:** 4 per week

**■ PHB272 RADIATION PHYSICS I**

A course of lectures and practical sessions on electrostatics, electromagnetism, the production of X-rays and their interaction with matter.

**Credit Points:** 12    **Contact Hours:** 5 per week

**■ PHB275 PROCESSING TECHNOLOGY**

A study of the processes involved in the production of a visible image in radiography, including: latent image formation, processing, techniques and equipment relevant to radiography.

**Credit Points:** 4    **Contact Hours:** 2 per week

**■ PHB276 GENERAL RADIOGRAPHY I**

A program of lectures and practical sessions relating to radiography of the skeletal system.

**Prerequisite:** PNB125, PHB178

**Co-requisite:** PNB225

**Credit Points:** 14    **Contact Hours:** 7 per week

**■ PHB279 CLINICAL RADIOGRAPHY I**

Practical programs carried out in approved clinical departments. Specific experiences relate to topics introduced in PHB276.

**Prerequisite:** as for PHB310

**Credit Points:** 4    **Contact Hours:** 2 per week

**■ PHB286 TREATMENT PLANNING I**

An introduction to the techniques of radiotherapy treatment planning.

**Credit Points:** 12    **Contact Hours:** 6 per week

**■ PHB287 MEGAVOLTAGE THERAPY I**

An introduction to the basic techniques of radiotherapy including beam direction and defining devices, modification of beam and dosimetry.

**Prerequisite:** PHB178, PHB125

**Credit Points:** 6    **Contact Hours:** 3 per week

**■ PHB289 CLINICAL RADIOTHERAPY I**

Practical programs carried out in approved clinical departments. Specific experiences relate to topics introduced in PHB287.

**Credit Points:** 4    **Contact Hours:** 2 per week

**■ PHB308 ELECTRONICS I**

A program of lectures and laboratory work covering basic measurement techniques and instrumentation, solid state components such as diodes, transistors, FETs and optoelectronics, feedback theory and applications.

**Prerequisite:** 2 semesters tertiary study (PHB111 preferred)

**Credit Points:** 8    **Contact Hours:** 3 per week

**■ PHB310 WAVE THEORY & A.C. CIRCUITS**

A course of lectures and tutorials on undamped and damped oscillations, forced oscillations, coupled oscillations, wave transmission and reflection, examples of wave systems, a.c. network analysis, resonance, transformers, bridges.

**Prerequisite:** At least three of PHB110, PHB111, PHB210, PHB211 and at least two of MAB211, MAB224, MAB225

**Co-requisite:** MAB411 is recommended

**Credit Points:** 8    **Contact Hours:** 3 per week

**■ PHB311 OPTICS & ACOUSTICS**

A course of lectures and tutorials on interference and diffraction, Fourier methods, coherence and correlation, lasers and holography, sound waves, loudspeakers and microphones, acoustic properties of materials, architectural acoustics and measurement of noise.

**Prerequisite:** As for PHB310

**Credit Points:** 8    **Contact Hours:** 3 per week

**■ PHB312 PHYSICAL PROPERTIES OF MATERIALS**

Forces between atoms and the condensed state. Properties of fluids – static and dynamic. Metallic, organic and ceramic phases and their properties. Perfect and imperfect structures. Mechanisms of deformation on a macroscopic and microscopic scale including diffusion, elastic and plastic characteristics, creep and fatigue. Reactions and modifications of phase properties, reaction rates.

**Prerequisite:** PHB110, PHB210

**Credit Points:** 8    **Contact Hours:** 3 per week

**■ PHB316 EXPERIMENTAL PHYSICS III**

This course is designed to further the education of students in the field of experimental physics. They are exposed to activities including laboratory experiments in electricity and magnetism, acoustics, optics and materials physics.

**Prerequisite:** At least three of PHB110, PHB111, PHB210, PHB211

**Co-requisite:** At least one of PHB310, PHB311

**Credit Points:** 8    **Contact Hours:** 3 per week

**■ PHB340 OPTICS III**

The application of geometrical optics to selected aspects of optometry including lens form and thickness, contact lenses, spectacle lens design and spherical surfaces; the wave nature of light with em-

phasis on interference, interferometry, diffraction and polarisation; and including the specialised topics of optical processing, lasers and the evaluation of optical systems.

**Prerequisites:** PHB240, PHB250

**Credit Points:** 14    **Contact Hours:** 7 per week

■ **PHB373 NUCLEAR MEDICINE IMAGING I**

A course of lectures on the principles, equipment and applications of nuclear medicine imaging.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **PHB374 RADIOGRAPHIC EQUIPMENT I**

Detailed discussion of design considerations of X-ray generators and equipment used for control of beam direction.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **PHB376 GENERAL RADIOGRAPHY II**

An extension of topics introduced in PHB276 to include more advanced techniques of skeletal radiography, ward and operating theatre radiography, and examinations utilising contrast media.

**Prerequisite:** PHB276, PHB279, PNB225

**Credit Points:** 12    **Contact Hours:** 5 per week

■ **PHB379 CLINICAL RADIOGRAPHY II**

Clinical experiences in radiographic examinations introduced in PHB276 and PHB376. Experience is obtained in approved clinical departments.

**Prerequisite:** PHB276, PHB279, PNB225

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **PHB382 RADIOTHERAPY PHYSICS I**

A study of the design, physical aspects and operating characteristics of megavoltage and telecurie units.

**Prerequisite:** PHB272

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **PHB386 TREATMENT PLANNING II**

An extension of the study of treatment planning introduced in PHB286 to the planning of complex techniques of photon therapy. The planning of electron therapy.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **PHB387 MEGAVOLTAGE THERAPY II**

A series of lectures and practical exercises on the principles and applications of megavoltage therapy including techniques for specific sites.

**Prerequisite:** PHB287, PNB225

**Credit Points:** 14    **Contact Hours:** 6 per week

■ **PHB389 CLINICAL RADIOTHERAPY II**

Practical exercises in megavoltage therapy related to topics introduced in PHB287 and PHB387. The programs are carried out in approved clinical departments.

**Prerequisites:** PHB289, PNB225

**Co-requisite:** PHB387

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **PHB401 THERMAL & VACUUM PHYSICS**

A study of statistical mechanics, thermodynamics and vacuum physics.

**Prerequisite:** As for PHB310

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHB402 RELATIVITY & RADIATION PHYSICS**

A study of relativity and particle physics.

**Prerequisite:** As for PHB310

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHB404 SAFETY TECHNOLOGY II**

Examines the physical hazards present in the workplace and equips students with the skills to assess these hazards and recommend suitable control measures. The subject includes an examination of such factors as noise, vibration, fire and explosion, and ionising and non-ionising radiation.

**Prerequisites:** PHB250, PHB300, MEB035

**Credit Points:** 8    **Contact Hours:** 4 per week

■ **PHB405 INSTRUMENTATION**

A course of lectures, laboratory work and field trips on instrumentation systems, transducers, signal processing, telemetry, control systems, display and recording systems.

**Prerequisite:** PHB308

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHB408 ELECTRONICS II**

A program of lectures and laboratory work covering radio-frequency circuits, noise, analogue integrated circuits and applications, digital circuitry, counters, shift registers, A-D and D-A conversion.

**Prerequisite:** PHB308

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHB411 ASTRONOMY**

An introduction to the theory and practice of observational astronomy: astronomical coordinate systems, time systems, celestial mechanics and gravitation, stellar measurements. Other topics may include the planets and the solar system in general, stellar spectra, formation and evolution, the structure of the universe, and cosmology. The subject will include practical exercises, and observing sessions as weather permits.

**Prerequisite:** Any three of PHB110, PHB111, PHB210, PHB211

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHB416 EXPERIMENTAL PHYSICS IV**

This subject consists of an extension of the laboratory program of PHB316 together with experimental radiation physics and a project performed either individually or in a small group. The project occupies approximately six weeks.

**Prerequisite:** PHB316

**Co-requisite:** At least one of PHB401, PHB402

**Credit Points:** 12    **Contact Hours:** 6 per week

■ **PHB471 RADIATION PHYSICS II**

A study of the philosophy and protocol of radiation protection. The question of protection is treated in a manner which brings into perspective the details of protection dealt with in other units of the course.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **PHB473 MEDICAL ULTRASOUND**

A course of lectures and practical exercises on the physical principles and application of ultrasound.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **PHB474 RADIOGRAPHIC EQUIPMENT II**

A study of the equipment used in specialised radiography; including mobiles, tomographic units, skull tables and mammography units.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **PHB475 MEDICAL RADIATION COMPUTING I**

An introduction to the capabilities of computer hardware and software, and image processing.

**Credit Points:** 8    **Contact Hours:** 3 per week

**■ PHB476 SPECIAL PROCEDURES**

A course of lectures and practical exercises on specialised techniques of radiography, including the skull, obstetrics, gynaecology, CNS and paediatric radiography.

**Prerequisites:** PHB376, PHB379

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ PHB479 CLINICAL RADIOGRAPHY III**

Clinical experience in approved departments in radiographic examinations discussed in PHB376.

**Prerequisites:** PHB376, PHB379

**Credit Points:** 8      **Contact Hours:** 4 per week

**■ PHB481 DOSIMETRY**

A study of the measurement and dosimetry of external beam X-ray and gamma ray radiotherapy.

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ PHB482 RADIOTHERAPY PHYSICS II**

A study of radioactivity including methods of radiation detection, radioactive equilibrium and production of radioisotopes, the principles of brachytherapy.

**Prerequisite:** PHB382

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ PHB484 PRINCIPLES OF TREATMENT I**

A course of lectures on the principles underlying the choice of treatment of cancer in specific sites including consideration of associated treatment.

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ PHB487 MEGA VOLTAGE THERAPY III**

An extension of the topic introduced in PHB387 to include the full range of treatment by megavoltage therapy for cancer in specific sites. Consideration includes techniques, planning, patient positioning, outlines and measurements.

**Prerequisites:** PHB387, PHB389

**Credit Points:** 10      **Contact Hours:** 4 per week

**■ PHB489 CLINICAL RADIOTHERAPY III**

Clinical experiences in approved departments in techniques of megavoltage therapy.

**Prerequisites:** PHB389, PHB387

**Co-requisite:** PHB487

**Credit Points:** 8      **Contact Hours:** 4 per week

**■ PHB501 APPLIED QUANTUM MECHANICS**

A course of lectures on quantum mechanics and theory of spectra.

**Prerequisites:** PHB310[R], MAB411 and MAB412

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ PHB502 ELECTROMAGNETIC FIELD THEORY**

A course of lectures on electromagnetic field theory. Includes static field theory, wave equation, plane and spherical wave solutions, properties of plane waves, reflection, refraction, wave guides, cavity resonators and radiation theory.

**Prerequisites:** PHB310[R], MAB411 and MAB412

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ PHB508 ELECTRONICS III**

A program of lectures and laboratory work covering microprocessor fundamentals and interfacing to computers, displays and instrumentation. Design of microprocessor controlled data collection and analysis systems.

**Prerequisite:** PHB408

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ PHB510 PHYSICAL METHODS OF ANALYSIS I**

A course of lectures and associated practical work on a range of physical techniques of analysis, including for example X-ray diffraction and fluorescence, electron microscopy, neutron activation analysis, electron microprobe analysis. Emphasis is on the physical principle, instrumentation and nature of information available from each technique. Industrial visits may be included.

**Prerequisite:** PHB312

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ PHB516 EXPERIMENTAL PHYSICS V**

Laboratory and field work in applied physics with emphasis on open ended experiments with modern equipment. Field trips may be necessary.

**Prerequisite:** PHB416

**Co-requisite:** At least one of PHB501, PHB502

**Credit Points:** 12      **Contact Hours:** 6 per week

**■ PHB572 IMAGE RECORDING & EVALUATION**

A course of lectures and practical exercises on non-film image formation evaluation. Information theory.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ PHB573 DIGITAL IMAGING MODALITIES**

A study of the principles, methods and applications of CT, digital radiography and MRI in medical imaging.

**Credit Points:** 6      **Contact Hours:** 2 per week

**■ PHB574 QUALITY ASSURANCE IN MEDICAL IMAGING**

A study of the principles and techniques used in the quality assurance of medical imaging apparatus and ancillary equipment.

**Credit Points:** 6      **Contact Hours:** 3 per week

**■ PHB575 MEDICAL RADIATIONS COMPUTING II**

A course of lectures and practical exercises related to the applications of computers in image processing and radiotherapy.

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ PHB576 ADVANCED RADIOGRAPHIC TECHNIQUE I**

A study of the principles and techniques used in advanced radiographic techniques including angiography, the salivary glands, arthrography, sinography, the lacrimal system, arteriography and venography.

**Prerequisites:** PHB476, PHB479

**Co-requisite:** PHB578

**Credit Points:** 12      **Contact Hours:** 6 per week

**■ PHB578 IMAGE INTERPRETATION I**

A course of lectures and practical exercises on image interpretation including technical and diagnostic quality.

**Credit Points:** 4      **Contact Hours:** 2 per week

**■ PHB579 CLINICAL RADIOGRAPHY IV**

Clinical experience in special radiographic procedures as introduced in PHB476.

**Prerequisites:** PHB476, PHB479

**Credit Points:** 8      **Contact Hours:** 4 per week

**■ PHB583 COMPLEMENTARY & EVOLVING TECHNIQUES**

A course of lectures on the principles, strengths and stage of development of techniques which are complementary to radiotherapy treatment of cancer. Including: hyperbaric O<sub>2</sub> therapy, neutron therapy,

pi-meson therapy, chemotherapy, cryotherapy and hyperthermia.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHB584 PRINCIPLES OF TREATMENT II**

A continuation of the detailed discussion started in PHB484 to include the principles of treatment of cancer in all sites, and benign diseases.

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **PHB585 COMPUTER ASSISTED TREATMENT PLANNING I**

A study of planning hardware and software to include two-dimensional planning. Development of concepts to an advanced level of understanding of computer-assisted optimisation of isodose distributions.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB587 ORTHOVOLTAGE & SUPERFICIAL THERAPY**

A course of lectures and practical exercises on the specialised techniques of orthovoltage and superficial radiotherapy.

**Prerequisites:** PHB489, PHB487

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **PHB589 CLINICAL RADIOTHERAPY IV**

Clinical experience in the techniques of radiotherapy employing orthovoltage and superficial therapy.

**Prerequisites:** PHB489, PHB487

**Co-requisite:** PHB587

**Credit Points:** 12      **Contact Hours:** 6 per week

■ **PHB601 SOLID STATE PHYSICS**

A course of lectures on the physics of materials, including mechanical, thermal and electrical properties.

**Prerequisites:** PHB401, PHB501, PHB312

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB602 NUCLEAR PHYSICS & ENERGY**

A course of lectures on applied nuclear physics, neutron physics, reactor technology and energy.

**Prerequisite:** PHB402

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB608 APPLIED ACOUSTICS**

A course of lectures and associated practical work. Standards, principles of methods and instrumentation used in vibration, noise and sound measurements with emphasis upon architectural acoustics and traffic, industrial and community noise. Brief treatment of underwater acoustics and recording and reproduction of sound. Legal and technical aspects of professional practice. Field trips.

**Prerequisite:** PHB311

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB609 APPLIED RADIATION PHYSICS**

A course of lectures and associated laboratory work covering special techniques of radiation counting and applications, health physics, radiation protection, and radiobiological effects.

**Prerequisite:** PHB402

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB613 BIOPHYSICS**

A course dealing with the biophysics of selected biological systems (eg. electrical transmission systems, amplifiers, mechanical systems, molecular behaviours in fields) and instrumentation for inter-cellular and inter-organ measurements (micro-electronics, transducers, etc.).

**Prerequisites:** At least 24 credit points in first level physics subjects and successful completion of at least 80 credit points of second level subjects.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB616 PROJECT**

A supervised project on some aspect of applied physics which could involve the extension and application of existing techniques or the development of new techniques.

**Prerequisite:** PHB516

**Co-requisite:** At least one third level physics unit

**Credit Points:** 16      **Contact Hours:** 6 per week

■ **PHB620 TOPICS IN PHYSICS**

Lectures, laboratory work and industrial visits in several topics relating to current advances in physics. The nature of the subject is dependent on departmental and staff activities at the time.

**Prerequisite:** At least 32 credit points in second level physics subjects.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB671 RADIATION BIOLOGY**

A study of the biological effects on ionising and non-ionising radiation.

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **PHB672 PROJECT**

A supervised project involving either application of existing theoretical practical knowledge or a literature survey of a selected relevant topic.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB676 ADVANCED RADIOGRAPHIC TECHNIQUE II**

An extension of topics in advanced radiographic technique as introduced in PHB576 to include mammography, digital imaging techniques, technique for examination of the lymphatic system, and emerging techniques.

**Prerequisites:** PHB576, PHB579

**Co-requisite:** PHB678

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PHB679 CLINICAL RADIOGRAPHY V**

Clinical experience in advanced radiographic techniques introduced in PHB576.

**Prerequisites:** PHB576, PHB579

**Credit Points:** 14      **Contact Hours:** 6 per week

■ **PHB680 NUCLEAR MEDICINE IMAGING II**

A course of lectures, practical exercises and clinical experiences in nuclear medicine imaging. This subject expands on topics introduced in PHB373 and provides an in-depth study of nuclear medicine imaging techniques.

**Prerequisite:** PHB373

**Credit Points:** 10      **Contact Hours:** 5 per week

■ **PHB681 COMPUTED TOMOGRAPHY IMAGING**

A course of lectures, practical exercises and clinical experiences in CT imaging. This subject expands on topics introduced in PHB573 and provides an in-depth study of CT imaging techniques.

**Prerequisite:** PHB573

**Credit Points:** 10      **Contact Hours:** 5 per week

■ **PHB683 ONCOLOGICAL IMAGING**

A study of the principles and techniques of medical imaging used in the detection of cancer including CT, MRI, U/S and NM.

**Credit Points:** 6      **Contact Hours:** 3 per week

■ **PHB685 COMPUTER ASSISTED TREATMENT PLANNING II**

A course of lectures and practical exercises in the use of computers in the planning of non-standard and complex radiotherapy treatment. Including arc and rotation techniques, irregular field techniques, 3-D plans.

**Credit Points:** 8      **Contact Hours:** 4 per week

■ **PHB687 SPECIALISED RADIOTHERAPY TECHNIQUE**

A study of specialised radiotherapy techniques including techniques applicable to the child patient, and patients with communicable disease, theatre procedures, total body photon and electron therapy.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **PHB689 CLINICAL RADIOTHERAPY V**

Clinical experience in specialised radiotherapy treatment techniques.

**Prerequisite:** PHB589    **Co-requisite:** PHB687

**Credit Points:** 8    **Contact Hours:** 4 per week

■ **PHD351 PHYSICS FOR NURSES**

The physical processes associated with normal and abnormal physiological functions, diagnostic and therapeutic procedures and practices; including: measurement as a science; forces and motion; energy production and transfer; thermal, mechanical and electrical behaviour of matter; introductory atomic and nuclear physics.

**Credit Points:** 3    **Contact Hours:** 2

■ **PHN101 ANALOGUE ELECTRONICS**

Principles of electronics applicable in the medical field; discrete circuits and integrated circuits in common use – design and limitations.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN102 INTRODUCTION TO MEDICAL STATISTICS COMPUTING**

Basic concepts of computing systems, programming, software engineering, introduction to medical applications. Medical applications of numerical methods and medical statistics.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN103 RADIATION PHYSICS I**

Study of the basic principles of radioactivity and radioactive decay and the interactions of ionising radiation with matter.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN104 RADIATION PHYSICS II**

Deals with phenomena related to interaction of ionising radiation with biological tissue. Emphasis on aspects of actual or potential importance in a clinical environment. Isotope production, nuclear radiation detectors.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHN152 CROSS-SECTIONAL ANATOMY**

A study of the cross-sectional anatomy of the head, neck, thorax and abdomen (including the pregnant uterus) with an emphasis on an appreciation of the structures demonstrated on ultrasound images.

**Prerequisite:** PNN161 (or equivalent)

**Co-requisite:** PNN165 (or equivalent)

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN153 ULTRASOUND EQUIPMENT I**

The physical principles of diagnostic ultrasound including: wave physics; propagation; the Doppler effect; the biological effects of ultrasound; medical ultrasound equipment, including aspects related to transducers control; display; image performance and artifacts.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN154 PRINCIPLES OF ULTRASOUND IMAGING**

A course of lectures and practical exercises on the general principles of ultrasound imaging techniques including scanning motions, coupling agents,

transducer selection and the problems associated with respiration.

**Co-requisite:** PHN153

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN155 ULTRASONIC EXAMINATION IN OBSTETRICS & GYNAECOLOGY**

A study of the normal and abnormal anatomy and function related to gynaecology and obstetrics, the ultrasonic techniques used and the appearance of related images.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN156 ULTRASONIC EXAMINATION OF THE ABDOMEN**

A study of the techniques used in the ultrasonic examination of the abdomen including the appearance on the ultrasound image of normal abdominal anatomy and its alteration by pathological processes.

**Co-requisite:** PHN154

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN157 CLINICAL ULTRASOUND I**

A supervised practical program carried out in an approved clinical ultrasound department. Students must obtain hands-on experience in specified ultrasound procedures used in examination of the abdomen, pelvis and in obstetrics and gynaecology.

**Co-requisites:** PHN154, PHN153

**Credit Points:** 12

■ **PHN202 BIOMECHANICS**

Study of mechanical principles and properties related to human tissues and physiological functions with emphasis on work ergonomics and occupational health measurement problems.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHN204 HEALTH & OCCUPATIONAL PHYSICS**

Deals with philosophy, protocol and practices necessary to minimise hazards associated with electrical, mechanical and biological techniques used in hospitals. Study of principles and techniques of dosimetry of ionising radiation with emphasis on aspects pertinent to actual or potential use in medicine.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHN206 MEDICAL IMAGING**

Study of the principles involved in the production of the radiographic and nuclear medicine image and the appropriate quality control protocols.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHN257 CLINICAL ULTRASOUND II**

A period of additional clinical experience designed to refine basic skills acquired in PHN157.

**Prerequisite:** PHN157

**Credit Points:** 12

■ **PHN301 MICROPROCESSORS**

Basic digital integrated circuits and their applications in logic design and microprocessor interfacing. Microprocessor programming and applications. Integrated with Instrumentation and Medical Imaging Science to develop an understanding of micro-computer function and applications.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHN302 INSTRUMENTATION**

This subject concentrates on gaining experience in the use of a wide range of instrumentation. Topics included are generalised instrument, data transfer, data interpretation, servomechanisms, data recorders, systems, practical aspects of instrument use. Laboratory

learning experience in the gathering, conditioning, storage and analysis of data, using skills learned in digital electronics, computing and instrumentation. Digital signal processing of physiological signals, digital image processing, medical applications of numerical methods and medical statistics.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PHN304 MEDICAL IMAGING SCIENCE**

Visual science, analogue and digital images, image enhancement, restoration and analysis, computed tomography, computer architectures, display instrumentation, recording and storage.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN351 ULTRASOUND EQUIPMENT II**

A course of lectures and practical exercises on the principles and techniques of quality assurance protocols used in ultrasonic imaging.

**Prerequisite:** PHN153

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN352 ULTRASONIC EXAMINATION IN CARDIOLOGY**

The techniques of ultrasound imaging used in investigating the cardiovascular system; including techniques for demonstration of cardiac structures, cerebrovascular and peripheral vascular systems and peripheral venous systems.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN353 ULTRASOUND IN MEDICAL DIAGNOSIS**

A study of the role of ultrasound in medical imaging diagnosis.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN354 ULTRASONIC EXAMINATIONS OF THE HEAD, NECK & PERIPHERAL ORGANS**

A course of lectures and practical work on the techniques ultrasound uses to examine the head, neck and peripheral organs and the ultrasonic appearance of normal and abnormal anatomy and pathology.

**Prerequisite:** PHN257

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN357 CLINICAL ULTRASOUND III**

A supervised practical program carried out in an approved clinical ultrasound department. Students must obtain experience of specified ultrasound examinations used in cardiology and in the examination of the head, neck and peripheral organs.

**Prerequisite:** PHN257

**Credit Points:** 12    **Contact Hours:** 2 per week

■ **PHN402 RADIOTHERAPY**

Considers the principles and techniques of clinical application of ionising radiation for diagnostic and therapeutic purposes. Emphasis is on radiotherapy physics and diabrachy therapy.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN405 PHYSIOLOGICAL MEASUREMENT**

Introduction to the principles and techniques of the direct and indirect measurement of physiological variables.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **PHN407 CASE STUDIES**

Completion of assignments in applied practical procedures including reports written to journal publication standards.

**Credit Points:** 6

■ **PHN520 PROJECT**

■ **PHN540 PROJECT**

The project may take the form of research development, a design, a feasibility study, or the collation of scattered information on a given topic. The project can be undertaken externally under Queensland University of Technology supervision. Time spent on projects will be one year for full-time and two years for part-time students.

**Credit Points:** 48 and 24 per semester respectively

**Contact Hours:** 18 and 9 per week respectively

■ **PHP250 OCCUPATIONAL HYGIENE**

A course of lectures, practical work and industrial visits to instruct students so that they will be able to recognise, evaluate and control the physical, biological and chemical environmental factors which may adversely affect the health, safety, comfort and efficiency of workers.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PNA170 ANATOMY & PHYSIOLOGY I**

This subject will introduce students to an integrated study of anatomy and physiology. Emphasis will be placed on gaining an appreciation of the relationship between structure and function at the levels of cells and tissues, organ and organ systems. Initially the morphology and physiology of cells and tissues will be examined and then the structure and function of the skeletal, muscular, nervous and integumentary systems will be studied.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PNA171 ANATOMY & PHYSIOLOGY II**

The broad objectives outlined PNA170 will be continued. Emphasis in this subject will be upon the relationships between structure and function at the level of organs and systems. The cardiovascular, lymphatic, respiratory, digestive, urinary, genital, and endocrine systems will be studied.

**Prerequisites:** PNA170    **Co-requisite:** MSA124

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PNA550 CARDIAC PHYSIOLOGY & ANATOMY**

A subject designed to develop a sound biological basis for application in the subjects Cardiac Instrumentation and Cardiac Measurement Techniques. It includes study of both normal and disordered structure and/or function of the cardiovascular system, as well as the significance of physiological and/or anatomical parameters commonly measured by instrumentation.

**Prerequisites:** PNA170, PNA171, MSA121

**Co-requisite:** PHA561, PHA562

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **PNA650 RESPIRATORY PHYSIOLOGY & ANATOMY**

A subject designed to develop a sound biological basis for application in the subjects Respiratory Instrumentation and Respiratory Measurement Techniques. It includes study of both normal and disordered structure and/or function of the respiratory system, as well as the significance of physiological and/or anatomical parameters commonly measured by instrumentation.

**Prerequisites:** PNA170, PNA171, PNA121

**Co-requisite:** PHA661, PHA662

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **PNA750 NEUROLOGICAL PHYSIOLOGY & ANATOMY**

A subject designed to develop a sound biological basis for application in the subjects Neurological In-

strumentation and Neurological Measurement Techniques. It includes study of both normal and disordered structure and/or function of the nervous system as well as the significance of physiological and/or anatomical parameters commonly measured by instrumentation.

**Prerequisites:** MSA121, PNA170, PNA171

**Co-requisite:** PHA761, PHA762

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ PNA850 UROLOGICAL PHYSIOLOGY & ANATOMY

A subject designed to develop a sound biological basis for application in the subjects Urological Instrumentation and Urological Measurement Techniques. It includes study of both normal and disordered structure and/or function of the urinary system, as well as the significance of physiological and/or anatomical parameters commonly measured by instrumentation.

**Prerequisites:** PNA170, PNA171, MSA121

**Co-requisite:** PHA861, PHA862

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ PNB115 HUMAN PHYSIOLOGY I

The aim of this subject is to enable students to enhance their knowledge of concepts related to a physiological basis for nursing practice. It is designed to enable students to effectively apply problem-solving principles to health care delivery to clients in any age group. This subject will introduce students to the functions of major systems under normal conditions in healthy humans and forms a firm basis for an understanding of abnormal function to be presented in PNB116.

**Credit Points:** 12      **Contact Hours:** 3 per week

### ■ PNB116 HUMAN PHYSIOLOGY II

This subject considers the physiological basis of the clinical manifestation, pathogenesis and treatment of selected disorders of the cardiovascular, respiratory, haematological, renal, gastrointestinal, nervous and endocrine systems.

**Prerequisites:** PNB115

**Credit Points:** 6      **Contact Hours:** 2 per week

### ■ PNB125 ANATOMY & PHYSIOLOGY I

A study of human anatomy of the body as a whole including a detailed study of the skeletal system.

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ PNB131 ANATOMY I

An integrated course of lectures and practicals dealing with microscopic structure of the cell, epithelium, connective tissue, bone and cartilage, muscle tissue, nerve tissue, and cardiovascular system. Also deals with the gross anatomical of the skeletal, articular, and cardiovascular systems.

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ PNB132 ANATOMY II

An extension of PNB131. A course dealing with the microscopic and macroscopic anatomy of the nervous, digestive, lymphatic, integumentary, respiratory, renal, endocrine and reproductive systems.

**Prerequisites:** PNB131

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ PNB163 HUMAN ANATOMY I

An integrated course of lectures and practicals dealing with microscopic structure of the cell, epithelium, connective tissue, bone and cartilage, muscle tissue, nerve tissue, and cardiovascular system. Also deals with the gross anatomical of the skeletal, articular, and cardiovascular systems.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ PNB165 PHYSIOLOGY II

A course of lectures and practicals. Basic mechanisms – cells, fluids, electrolytes; energy metabolism; essential nutrients; transport mechanisms; blood; communication and control; excitable tissues. Control systems – nervous and endocrine systems. This subject must be taken by students wishing to study nutrition electives.

**Co-requisite:** CHB201 or CHB242

**Credit Points:** 8      **Contact Hours:** 4 per week

**Note:** This subject is not compatible with PNB231; credit may not be retained for both.

### ■ PNB203 ENVIRONMENTAL HEALTH III

In this subject students will develop an understanding of the complexity of environmental systems, the effects of pollutants on such systems and the interdisciplinary approaches needed to address these problems. They will also study introductory food science and current food standards prescribed by legislation.

**Prerequisites:** CHB242, BEB103, BEB104

**Credit Points:** 14      **Contact Hours:** 7 per week

### ■ PNB204 ENVIRONMENTAL HEALTH IV

There are three major strands in this subject, covering the construction and design of food premises and their hygienic operation; the potential risks to water resources and design and operation of processes to treat drinking and recreational waters; and the management of community wastes, focusing on the origins, transport and disposal of liquid, solid and hazardous wastes.

**Prerequisites:** PNB203

**Credit Points:** 18      **Contact Hours:** 9 per week

### ■ PNB205 ENVIRONMENTAL HEALTH V

This subject will address the causative agents of communicable and noncommunicable diseases and conditions and introduce students to the principles of and methods in epidemiology. The food hygiene foundation provided in PNB204 will be further developed to encompass food poisoning and spoilage. Students will gain a knowledge of relative pest control principles and practices, especially in relation to vectors of disease.

**Prerequisites:** PNB204, MSB402, PNB232

**Credit Points:** 30      **Contact Hours:** 16 per week

### ■ PNB206 ENVIRONMENTAL HEALTH VI

This subject will develop a sound theoretical and practical knowledge of a wide range of environmental health problems which confront the community. The underlying principles of health promotion and their effective practical application will be addressed. Food topics will be completed by considering aspects of food production and packaging and concepts of nutrition and malnutrition. Students will also gain an insight into obligations, responsibilities and ethics of professional practice.

**Prerequisites:** PNB205

**Credit Points:** 30      **Contact Hours:** 16 per week

### ■ PNB207 INTRODUCTION TO ENVIRONMENTAL HEALTH

A brief history of environmental health in Queensland; the current role of environmental health officers within the public health agencies at all levels of government and the principal public health legislation in this State; the complexity of environmental systems; the effects of pollutants on such systems.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **PNB210 OCCUPATIONAL HEALTH & SAFETY I**

This subject will introduce students to the basic concepts of occupational health and safety, such that they can identify health and safety problems in the workplace; be aware of strategies for dealing with such problems, and become familiar with the legislation, government agencies and health personnel associated with the working environment. Topics covered will include the physical, chemical and biological working environments, temporal work patterns and the design and use of protective devices.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **PNB211 OCCUPATIONAL HEALTH & SAFETY II**

This subject develops further the principles covered in PNB210 and highlights their practical application to the workplace. Students will also develop knowledge and skills associated with the actual measurement of the physical and chemical working environment, physiological effects on humans in the workplace and evaluation of the data collected.

**Prerequisites:** PNB210

**Credit Points:** 8    **Contact Hours:** 4 per week

■ **PNB220 SYSTEMATIC ANATOMY**

An extension of PNB163. A course dealing with the microscopic and macroscopic anatomy of the nervous, digestive, lymphatic, integumentary, respiratory, renal, endocrine and reproductive systems.

**Prerequisite:** PNB163

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PNB225 ANATOMY & PHYSIOLOGY II**

A course of lectures and practical exercises involving a basic, yet comprehensive, study of the anatomy and physiology of the various body systems.

**Prerequisite:** PNB125

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **PNB231 ANATOMY & PHYSIOLOGY I**

This subject introduces students to an integrated study of anatomy and physiology at the degree level. Emphasis is placed on gaining an appreciation of the relationship between structure and function at the levels of cells, tissues, organs and organ systems. Initially the morphology and physiology of cells and tissues is examined. Metabolism, nutrition and temperature regulation are reviewed and then the skeletal, muscular, nervous and integumentary systems studied.

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with PNB165; credit may not be retained for both.

■ **PNB232 ANATOMY & PHYSIOLOGY II**

The broad objectives outlined in PNB231 are continued. Emphasis in this subject is focused on structure-function relationships at the level of organs and systems. The cardiovascular, lymphatic, respiratory, digestive, urogenital, and endocrine systems are studied. A review of the actions of drugs on cells, tissues, organs and systems is given at the end of the subject.

**Prerequisite:** PNB231

**Credit Points:** 8    **Contact Hours:** 4 per week

**Note:** This subject is not compatible with PNB465; credit may not be retained for both.

■ **PNB261 ANATOMY & PHYSIOLOGY I**

This subject will introduce students to an integrated study of anatomy and physiology at the degree level. Emphasis will be placed on gaining an appreciation of the relationship between structure and function at

the levels of cells, tissues, organs and organ systems, initially the morphology and physiology of cells and tissues will be examined. The skeletal, muscular, nervous and integumentary systems will be studied.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **PNB262 ANATOMY & PHYSIOLOGY II**

This subject follows on PNB261, integrating the study of structure and function of the human body. The systematic physiology of organs and organ systems continues with the study of the cardiovascular, lymphatic, immune, endocrine, respiratory, digestive, urinary and reproductive systems. Metabolism, nutrition and temperature regulation will be reviewed. A brief study on pregnancy and human development will be included.

**Prerequisites:** PNB261

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **PNB300 POLLUTION SCIENCE I**

The causes, effects, control measures, standards and legislation relating to air pollution and noise.

**Prerequisites:** CHB242, PHB250

**Credit Points:** 8    **Contact Hours:** 4 per week

■ **PNB301 ADVANCED ANATOMY**

On completion of this subject, students should be able to describe the structures, function and anatomical relationship of the components of the lower limb and demonstrate anatomical knowledge which will be fundamental to the understanding of the functional and applied aspects of podiatric anatomy. This subject contains the major topics of osteology, myology, arthrology, angiology and neurology.

**Prerequisites:** PNB220 **Co-requisite:** PNB302

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PNB302 PODIATRIC MEDICINE I**

This subject introduces the student to the health, social and economic implications of podiatric care in the general population with particular reference to specialised groups eg, children, diabetics, the aged and sports patients. It also provides foundation studies essential to the pre-clinical student in the diagnosis and treatment of conditions commonly manifesting in the foot.

**Prerequisites:** PNB220

**Co-requisite:** PNB420, PNB303

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **PNB303 CLINICAL PODIATRY I**

On completion of this subject students should be able to demonstrate competent operating skills; expertise in clinical observation of the patient and the elicitation of an accurate medical record; recognise common clinical entities and implement appropriate treatment and develop a professional attitude towards patients, clinical teaching and care of equipment used during clinical practice.

**Prerequisites:** MSB031 **Co-requisite:** PNB302

**Credit Points:** 8    **Contact Hours:** 5 per week

■ **PNB304 PHYSICAL MEDICINE**

This subject is designed to introduce the student to a wide range of diagnostic and physical treatment modalities used in modern podiatric practice. On completion of this subject, students should be able to understand the uses, applications, contra indications and limitations of each modality studied in direct connection with the ongoing clinical studies and theoretical component of podiatric medicine lectures.

**Prerequisites:** PNB435

**Co-requisite:** PNB504, PNB410

**Credit Points:** 6    **Contact Hours:** 2 per week

### ■ PNB305 HUMAN NUTRITION I

This subject builds on student's foundations in physiology and biochemistry to gain an appreciation of the meaning of nutrition, of methods used in its study and of food as a source of nutrients; the nature and function of the different nutrients; primary nutritional diseases.

**Co-requisite:** MSB415 and PNB165 or PNB231  
**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ PNB306 PHARMACOLOGY

This course is designed to ensure that students understand basic system drug therapies their patients may be using, the groups of drugs for specific diseases and their application and relevance to Podiatry and Clinical Podiatry situation. Emphasis is placed on drug groups and their use for specific disease, rather than proprietary brands. Students will be able to recognise the drug groups and know the system they are acting on in the body. In addition, differentiation between the different groups within one group of systemic drugs and why they are used for a condition will be emphasised.

**Prerequisites:** CHB242 **Co-requisite:** MSB471  
**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ PNB318 FOOD STUDIES I

The chemical and physical properties of food; food processing theory; food preservation techniques; codes of practice and food standards legislation.

**Prerequisite:** PNB207 **Co-requisite:** MSB301  
**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ PNB325 REGIONAL & SECTIONAL ANATOMY

An expansion of the topics introduced in PNB 125 and PNB225 to a detailed study of regional and sectional anatomy of the human body.

**Prerequisite:** PNB225  
**Credit Points:** 8      **Contact Hours:** 4 per week

### ■ PNB363 HUMAN ANATOMY III

An extension of PNB163 Human Anatomy I. This integrated course of lectures and practicals will cover basic embryology, structure and development of the eye, and gross and microscopic anatomy of the major organ systems of the human body.

**Prerequisites:** PNB163  
**Credit Points:** 10      **Contact Hours:** 5 per week

### ■ PNB405 HUMAN NUTRITION II

An extension of PNB305. The role of nutrients in the maintenance of life; growth and the normal function of the human body; the social influences on food selection; nutritional impact of technology; nutrition guidelines for groups within the community.

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ PNB406 ADVANCED ORTHOSES

This subject is designed to demonstrate a broad knowledge of orthotic and prosthetic devices as applicable to podiatric practice. The student will be required to display a high standard of practical skills in producing a range of orthoses eg, butt edge seams, latex bandage technique, rubber butter devices, expandable foams, latex dipped devices, and specialised thermoplastic, display a high standard of practical skills in producing a range of orthoses for specialised patients eg, partial or complete forefoot amputees, diabetics, arthritic conditions, post operative patients.

**Prerequisites:** PNB506, PNB503  
**Co-requisite:** PNB603  
**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ PNB410 MEDICINE

Following completion of this subject students should be able to recognise and understand the clinical features, pathogenesis and significance of common conditions affecting the lower limb, eg, oedema; obesity; motor, sensory and trophic disturbances and their resultant effects in paralysis, ataxia, deformity and ulceration; intermittent claudication, vascular spasm and cramp are taught so as to emphasise their significance. Medical conditions with manifestations in the feet are given particular attention.

**Prerequisites:** MSB430, PNB435  
**Co-requisite:** PNB503  
**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ PNB411 ORTHOPAEDICS

The emphasis of this subject will be on orthopaedic surgery. It will seek to develop a detailed knowledge of general and specific orthopaedic conditions which have an effect on the lower limb and the surgical treatment of systemic conditions as seen by the podiatrist ie, diabetes. In addition the subject will provide an understanding of the special problems associated with children and specific lower limb conditions with emphasis on the surgical techniques used in their treatment.

**Prerequisites:** PNB503, PHB313  
**Co-requisite:** PNB505  
**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ PNB412 CLINICAL PODIATRY II

At this stage students will be able to follow cases through to observe the 'short-term' effect of therapy and will be expected to commence case studies to develop comparative and recording skills. Students should now be adopting the standard medical terminology and abbreviations used in clinical situations.

**Prerequisites:** PNB303, PNB302  
**Co-requisite:** PNB506  
**Credit Points:** 8      **Contact Hours:** 6 per week

### ■ PNB418 FOOD STUDIES II

Food hygiene, construction and operation of food establishments, legislation and standards relating to good hygiene and training programs.

**Prerequisites:** PNB207, PNB318  
**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ PNB420 ORTHOTIC SCIENCE I

This subject will introduce the student to many of the commonly used types of orthoses and procedures employed in modern podiatric practice. The subject will enable students to discuss the main types of orthoses employed in podiatric practice and to give a reasoned explanation on choice of orthotic types and properties of materials. Students should also be able to explain the main techniques employed in producing orthoses ie, non-casting and casting techniques and their uses in orthotic practice.

**Prerequisites:** PNB460 **Co-requisite:** PNB302  
**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ PNB421 PODIATRIC MEDICINE II

The foundation for study in the role of therapeutics in patient management including short-term and long-term managements of conditions. It will expand the range of understanding of the wide variety of conditions presenting to the podiatrist. On completion, students should be able to develop an understanding of the biomechanical principles affecting the joints of

the foot and the structural and functional consequences presenting in podiatric practice.

**Prerequisites:** PNB302 **Co-requisite:** PNB412  
**Credit Points:** 12 **Contact Hours:** 4 per week

#### ■ PNB422 PODIATRIC ANAESTHESIOLOGY

This subject is designed to provide a sound understanding of the science of anaesthetics as applicable to the practice of podiatry. Students will be required to understand the pharmacology of local anaesthetics in current use and their clinical usage, and be competent in injection techniques, including local infiltration and local nerve block in the lower limb.

**Prerequisites:** PNB305, PNB421  
**Co-requisite:** PNB410  
**Credit Points:** 6 **Contact Hours:** 2 per week

#### ■ PNB425 IMAGING ANATOMY

A study of the appearances, on medical images, of normal and abnormal anatomy.

**Credit Points:** 8 **Contact Hours:** 4 per week

#### ■ PNB435 HUMAN PHYSIOLOGY

A course of lectures and practicals. The lectures are the same as PNB165 and PNB465. The course is presented as a one semester program.

**Prerequisite:** PNB363 **Co-requisite:** MSB430  
**Credit Points:** 12 **Contact Hours:** 7 per week

#### ■ PNB465 PHYSIOLOGY III

A course of lectures and practicals. Maintenance systems – gastrointestinal; cardiovascular; respiratory; and renal systems. Integrated mechanisms – sexual development; pregnancy; parturition; lactation; control of growth, energy intake, organic metabolism, body temperature, ECF osmolarity and volume, major cations, blood pressure and flow, respiration; response to tissue damage and foreign matter; adaptation to stress and exercise. This subject must be taken by students wishing to study Nutrition electives.

**Prerequisite:** PNB165  
**Credit Points:** 8 **Contact Hours:** 4 per week  
**Note:** This subject is not compatible with PNB232; credit may not be retained for more than one of these subjects. Consult Course Coordinator.

#### ■ PNB481 POLLUTION SCIENCE II

The causes, effects, control measures, standards and legislation relating to water pollution and solid and hazardous wastes.

**Prerequisites:** CHB242, PHB250  
**Credit Points:** 8 **Contact Hours:** 4 per week

#### ■ PNB482 OCCUPATIONAL HEALTH

The basic concepts of toxicology and the body's responses to toxic substances; the basic disease processes in humans and the various agents in the workplace capable of adversely affecting the health of workers.

**Prerequisites:** PNB211, PNB231  
**Co-requisites:** PNB232, MSB402  
**Credit Points:** 10 **Contact Hours:** 4 per week

#### ■ PNB483 HUMAN FACTORS I

The normal structure and function of relevant systems within the human body and the ways in which the work environment can impinge on normal function; develops an appreciation of the multiple interfaces between humans, machines and the environment; the principles of manual handling and the effects of such

physical factors as lighting, temperature and humidity on human performance.

**Prerequisites:** PNB231, MEB035  
**Co-requisites:** PNB232, PHN404  
**Credit Points:** 6 **Contact Hours:** 3 per week

#### ■ PNB485 OCCUPATIONAL HYGIENE I

Application of the practical skills students have already obtained from Chemistry I, II and III in analytical chemistry to the field of occupational hygiene. The uses and limitations of a range of sampling and analytical equipment in the measurement and assessment of workplace contaminants.

**Prerequisites:** CHB382, PHB250  
**Credit Points:** 10 **Contact Hours:** 4 per week

#### ■ PNB502 DERMATOLOGY

This subject is designed to provide an appreciation of the many varieties of skin lesions and their particular relevance when found in the lower limb. The lecture program will consist of classification of skin disease, vascular reaction group, vasculitides, ulcers, peripheral vascular disease, tumours, eczema, dermatitis, allergy, immunity, infections, psoriasis, squamous eruptions, nails and hair, skin manifestations of internal disease, pharmacology and general therapeutics. The clinical sessions will utilise this information in allowing students the opportunity to see and diagnose many of these conditions.

**Prerequisites:** PNB410, PNB421  
**Co-requisite:** PNB503  
**Credit Points:** 6 **Contact Hours:** 3 per week

#### ■ PNB503 PODIATRIC MEDICINE III

This subject develops the professional understanding of the general and specific effects of medical and surgical conditions on the human foot. It also expands the concept of total case management in terms of the interdisciplinary approach. Including physical, mechanical and surgical techniques. On completion of this subject students should be able to consolidate the podiatrist role in the health care team across the spectrum of practice.

**Prerequisites:** PNB421  
**Co-requisite:** PNB504, PNB604  
**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ PNB504 CLINICAL PODIATRY III

On completion of this subject the student should be able to consolidate skills acquired in operative mechanical, chemical and physical therapy and to demonstrate expertise in the treatment of the diabetic arthritic foot, and related circulatory and neurological disorders. Diagnostic skills will also be developed with the wider range of patients being treated and the specialised study of disciplines such as dermatology and radiology further integrating academic and clinic studies.

**Prerequisites:** PNB412, PNB421  
**Co-requisite:** PNB304  
**Credit Points:** 6 **Contact Hours:** 9 per week

#### ■ PNB505 PODIATRIC SURGERY

The implementation of podiatric surgical techniques based on a strong theoretical component of knowledge. At the conclusion of this course students will be able to understand the principles and techniques of minimal incision surgery.

**Prerequisites:** PNB422, PNB410  
**Co-requisite:** PNB603  
**Credit Points:** 12 **Contact Hours:** 4 per week

### ■ PNB506 ORTHOTIC SCIENCE II

A consolidation of Orthotic Science I; on completion students should be able to discuss the main types of functional and semi-rigid devices employed in orthotic therapy. The subject will also provide an understanding of the main techniques employed in dispensing orthotics made from a positive cast ie, cast evaluation, bisection, pouring, modification, intrinsic and extrinsic posting. Students will also be informed how to write a prescription for the dispensing of an orthotic to comply with patients individual requirements ie, children, adolescent, adult and special requirements of selected cases eg, in-toe, out-toe, sprinters, marathoners, arthritic, post operative and obese patient.

**Prerequisite:** PNB420 **Co-requisite:** PNB421  
**Credit Points:** 8 **Contact Hours:** 3 per week

### ■ PNB511 HAZARD ASSESSMENT AND MANAGEMENT I

The history of accident causation theory; techniques for accident investigation; recording, analysing and reporting accident information; principles of hazardous chemicals management.

**Prerequisites:** PNB210, PNB211, MAB252  
**Credit Points:** 8 **Contact Hours:** 3 per week

### ■ PNB512 HUMAN FACTORS II

The application of psychology to the industrial environment; an examination of the key individual, social and organisational factors contributing to health and safety at work; the causes of stress, information processing and learning, performance abilities and work schedules.

**Prerequisites:** MNB067, PNB483, CMB106  
**Credit Points:** 4 **Contact Hours:** 2 per week

### ■ PNB513 EPIDEMIOLOGY

The broad uses of research and evaluative techniques in the context of health and safety; areas of study include sampling, data collection and data analysis.

**Prerequisites:** CSB259, MAB252, PNB231, PNB232  
**Credit Points:** 6 **Contact Hours:** 3 per week

### ■ PNB514 PRINCIPLES OF TOXICOLOGY

The basic principles of dose effect and dose response relationships; toxicity testing and the toxic effects of a range of environmental contaminants; environmental and industrial standards.

**Prerequisites:** PNB307, PNB481, PNB232  
**Credit Points:** 6 **Contact Hours:** 3 per week

### ■ PNB516 PROFESSIONAL PRACTICE I

Investigation of management principles and practices as they may be applied to resolve occupational health and safety problems; an examination of industrial relations processes and the legal framework within which occupational health and safety is addressed; field studies are used to provide students with a practical insight into the application of the principles to which they have been introduced.

**Prerequisites:** MEB035, PHB404  
**Credit Points:** 12 **Contact Hours:** 6 per week

### ■ PNB517 PROJECT I

Researching occupational health and safety problems; the analysis and definition of a problem and design of a suitable research program to address it; a literature review; written report outlining the project. The project will involve independent work under the guidance of experienced supervisors.

**Prerequisites:** PHB404, MAB252  
**Co-requisites:** PNB513, PNB585, PNB512  
**Credit Points:** 4 **Contact Hours:** 2 per week

### ■ PNB518 FOOD STUDIES III

The various types of food poisoning; food poisoning investigation techniques; laboratory procedures and interpretation of results.

**Prerequisites:** PNB207, PNB318, PNB418, MSB402  
**Credit Points:** 6 **Contact Hours:** 3 per week

### ■ PNB520 ENVIRONMENTAL HEALTH MANAGEMENT I

The management of an environmental health unit; the various legal procedures associated with the duties of environmental health officers.

**Prerequisites:** PNB207, PNB481  
**Credit Points:** 12 **Contact Hours:** 5 per week

### ■ PNB585 OCCUPATIONAL HYGIENE II

Continuation of Occupational Hygiene I; concentrates on the application of the principles to which the student has already been introduced. The subject will extend students' ability to recognise, evaluate and suggest the most efficient control strategies for physical and chemical hazards in the working environment. It will include an analysis of the principles and design of ventilation systems. The subject will examine the elements of successful monitoring programs in the workplace.

**Prerequisites:** PNB482, MSB402, MAB252, PNB485  
**Credit Points:** 10 **Contact Hours:** 4 per week

### ■ PNB602 SPORTS MEDICINE

This course provides an awareness of the importance of a multidisciplinary approach to the diagnosis, evaluation and treatment of sports injuries. Students will study the symptomatology of lower limb functional pathologies as related to specific sports and devise treatment programs. An understanding of the principles of human fitness and potential in relation to athletic injuries and expectations forms the foundation for further studies.

**Prerequisites:** PNB503, PNB410  
**Co-requisite:** PNB411  
**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ PNB603 CLINICAL PODIATRY IV

This subject is designed to prepare the student for the transition to private practice. During this semester students will be introduced to the sports medicine patient in terms of the range of injuries which occur affecting the lower back, hip, knee, ankle and foot. Case presentations will be an integral part of clinical learning and sessions conclude with exchange between students and staff over case management.

**Prerequisite:** PNB504 **Co-requisite:** PNB411  
**Credit Points:** 6 **Contact Hours:** 9 per week

### ■ PNB610 PROJECT & PROFESSIONAL MANAGEMENT

The two component parts of this subject explain firstly how a professional practice may be set up and how a small practice can operate as a business enterprise. Methods of budgeting, finance and control are explained. Secondly it aims to develop an interest in podiatry research using scientific methods of investigation and presentation. Students will be encouraged to publish these projects as original material in related professional journals.

**Credit Points:** 6 **Contact Hours:** 4 per week

### ■ PNB611 HAZARD ASSESSMENT & MANAGEMENT II

Continuation of Hazard Assessment and Management I; examination of the systems available to quantita-

tively assess process safety; an analysis of the essential components of a claims management and rehabilitation program; the financial systems used in various organisations and the techniques of risk management.

**Prerequisite:** MEB035, PNB484

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ PNB612 HEALTH PROMOTION & EDUCATION

The scope and nature of health promotion; use of resources for such activities; planning, conduct and evaluation of health promotion programs.

**Prerequisites:** MNB067, CMB106

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ PNB613 PROFESSIONAL PRACTICE II

Enables students to apply theoretical knowledge; uses field studies and exercises to further extend students' competence in the practical application of the various principles of occupational health and safety in the workplace. It also examines the current issues in the field of occupational health and safety and aims to equip students to play a role in debates around these issues.

**Prerequisite:** PNB516

**Credit Points:** 12      **Contact Hours:** 6 per week

#### ■ PNB614 INDUSTRY SPECIALISATIONS

The hazards associated with particular industries including construction, manufacturing, chemical and mining through field trips and specialist lectures; the various laws and standards that apply to these industries and an investigation of the control strategies applicable to the management of hazards in the industries.

**Prerequisites:** PNB511, PNB482, MEB035, PHB404

**Credit Points:** 12      **Contact Hours:** 6 per week

#### ■ PNB617 PROJECT II

Continuation of the project commenced in the subject Project I. It includes the analysis of the material relevant to the problem selected by the student and the presentation of verbal and written reports outlining the findings of the investigation.

**Prerequisite:** PNB517

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ PNB620 ENVIRONMENTAL HEALTH MANAGEMENT II

Integration of the students' theoretical understanding of physical and biological sciences and application of such understanding to the management of a range of environmental health problems encountered in the professional practice of an environmental health officer.

**Prerequisites:** PNB520, PNB481

**Co-requisite:** PNB481

**Credit Points:** 12      **Contact Hours:** 6 per week

#### ■ PNB621 PROFESSIONAL PRACTICE

Visits to all types of establishments in Environmental Health Management, Pollution Sciences and Food Studies subjects for the purpose of practical demonstration, evaluation and professional experience.

**Prerequisites:** PNB481, PNB520

**Co-requisite:** PNB620

**Credit Points:** 12      **Contact Hours:** 6 per week

#### ■ PNB622 PROJECT

Through independent work under the guidance of supervisors, students learn to appreciate the connec-

tion between their theoretical studies and practical aspects of environmental health. Practice is gained in research techniques, logical reasoning and presentation of research findings.

**Prerequisite:** PNB520

**Credit Points:** 8      **Contact Hours:** 4 per week

#### ■ PNB665 CLINICAL PHYSIOLOGY

This subject aims to develop in the student an appreciation of the physiological basis of the pathogenesis, clinical features and treatment of the major disorders of the cardiovascular, respiratory, haematological, renal, gastrointestinal and endocrine systems. In addition, students will be introduced to topics of particular interest to those wishing to pursue a career in nutrition and dietetics, such as chemical carcinogenesis, nutrition in cancer patients, and the metabolic response to stress.

**Prerequisite:** PNB465

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ PNB667 ADVANCED NUTRITIONAL PHYSIOLOGY

This subject examines the links between normal and abnormal food intake and normal and abnormal physiological functions in the human body. Special attention is focused on the role of nutrition in the physiology of the cardiovascular, renal, gastrointestinal and nervous systems.

**Prerequisites:** PNB405, PNB465

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ PND131 ANATOMY

Addresses the general principles of anatomy. Deals with the macroscopic and microscopic structures of the human body. Introductory surface and regional anatomy are dealt with in relation to systemic anatomy.

**Credit Points:** 9      **Contact Hours:** 4 per week

#### ■ PND241 BIOMEDICAL SCIENCE

Covers aspects of essential biochemical processes, basic physiological principles, fundamentals of disease processes and basic pharmacological principles.

**Prerequisites:** CHD148

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ PND340 CLINICAL PHYSIOLOGY I

Considers the physiological basis of the clinical manifestations, pathogenesis and principles of treatment of the major disorders of the respiratory, cardiovascular, haematological, urinary, digestive and musculo-skeletal systems.

**Prerequisites:** PND241

**Credit Points:** 9      **Contact Hours:** 4 per week

#### ■ PND421 FOOD & NUTRITION

Addresses the role of nutrients in the body in health and disease. Examines nutritional issues of current significance in the Australian diet. Highlights individuals and groups at risk of nutrition-related disease and suitable goals for dietary modification of these people. Examines why people develop their food habits and their sources of nutrition information.

**Prerequisites:** PND241

**Credit Points:** 6      **Contact Hours:** 3 per week

#### ■ PND430 PHYSIOLOGY

A course of lectures and practicals. The lectures are the same as PNB165 and PNB465. The course is presented as a one semester program.

**Prerequisite:** MSD114 **Co-requisite:** MSD410

**Credit Points:** 10      **Contact Hours:** 6 per week

**■ PND431 PODIATRY III**

Clinical teaching in practical podiatry extends throughout the course. Practical training is given in the management of a wide range of cases of increasing difficulty, these being representative of the wide field of practice in which skills must be at a high level in diagnosis, operating skill, therapeutic procedures and podiatric orthotics.

**Prerequisite:** PND132

**Co-requisites:** PND420, PHD441

**Credit Points:** 20 **Contact Hours:** 10 per week

**■ PND432 PODIATRY IV**

Clinical teaching in practical podiatry extends throughout the course. Practical training is given in the management of a wide range of cases of increasing difficulty, these being representative of the wide field of practice in which skills must be at a high level in diagnosis, operating skill, therapeutic procedures and podiatric orthotics.

**Prerequisites:** PND431

**Co-requisites:** PND442, PND460

**Credit Points:** 18 **Contact Hours:** 10 per week

**■ PND461 SPECIAL PROCEDURES CLINIC**

A clinic in which procedures under local anaesthesia can be undertaken for those conditions requiring radical treatment. These procedures will include the use of cryotherapy, chemotherapy and electrocautery.

**Prerequisites:** PND460, PND471, PND710

**Co-requisites:** PND432

**Credit Points:** 6 **Contact Hours:** 2 per week

**■ PND470 HUMAN GENETICS & DEVELOPMENT**

Genetic principles and their applications in the field and in medicine; normal and abnormal human development.

**Prerequisites:** BED150, PND120

**Credit Points:** 2 **Contact Hours:** 1 per week

**■ PND540 CLINICAL PHYSIOLOGY II**

Considers the physiological basis of the clinical manifestations, pathogenesis and principles of treatment of the major disorders of the nervous system.

**Prerequisites:** PND241

**Credit Points:** 6 **Contact Hours:** 3 per week

**■ PND640 CLINICAL PHYSIOLOGY III**

Considers the physiological basis of the clinical manifestations, pathogenesis and principles of treatment of the major disorders of the endocrine, reproductive and integumentary systems.

**Prerequisites:** PND241

**Credit Points:** 6 **Contact Hours:** 3 per week

**■ PND701 DERMATOLOGY**

Students are taught to appreciate the varieties of skin lesions as they affect the lower limb. The program includes lectures and attendance at a hospital dermatology unit.

**Prerequisites:** PND469, PND471

**Co-requisites:** PND731

**Credit Points:** 4 **Contact Hours:** 2 per week

**■ PND731 PODIATRY V**

Clinical teaching in practical podiatry extends throughout the course. Practical training is given in the management of a wide range of cases of increasing difficulty, these being representative of the wide field of practice in which skills must be at a high level in diagnosis, operating skill, therapeutic procedures and podiatric orthotics.

**Prerequisite:** PND432 **Co-requisite:** PND750

**Credit Points:** 26 **Contact Hours:** 13 per week

**■ PND732 PODIATRY VI**

Clinical teaching in practical podiatry extends throughout the course. Practical training is given in the management of a wide range of cases of increasing difficulty, these being representative of the wide field of practice in which skills must be at a high level in diagnosis, operating skill, therapeutic procedures and podiatric orthotics.

**Prerequisite:** PND731 **Co-requisite:** PND761

**Credit Points:** 26 **Contact Hours:** 13 per week

**■ PND742 ORTHOTICS VI**

This unit follows on from Orthotics IV and teaches the student to adapt previously learned principles of orthotic fabrication to incorporate prosthetic devices where appropriate.

**Prerequisite:** PND442 **Co-requisite:** PND732

**Credit Points:** 6 **Contact Hours:** 3 per week

**■ PND752 CLINICAL BIOMECHANICS**

In this subject students are taught the biomechanical principles of foot function as used in the clinical situation.

**Prerequisite:** PHD460 **Co-requisite:** PND731

**Credit Points:** 6 **Contact Hours:** 3 per week

**■ PND761 SPORTS MEDICINE**

This course follows on from the Orthotics units and the subject Kinesiology and Biomechanics, and is designed to consider the special needs of athletes. Studies are undertaken in those conditions which affect foot function and subsequent athletic performance.

**Prerequisite:** PND750 **Co-requisite:** PND732

**Credit Points:** 6 **Contact Hours:** 3 per week

**■ PND770 PROJECT**

Students are required to undertake special projects and to submit a thesis related to either a theoretical or clinical topic of their own choice.

**Credit Points:** 6 **Contact Hours:** 2 per week

**■ PNN101 ENVIRONMENTAL HEALTH**

Currently, there is heightened awareness about the nature of industrialised human activity and its impact upon natural resources and human health. Nurses have traditionally been concerned with the provision of an environment which is conducive to the promotion, maintenance and/or restoration of health. Thus, an understanding of contemporary environmental health issues is vital to the provision of effective health care which meets the needs of today's society. Content will be selected from an introduction of ecosystems or environmental factors and human health.

**Credit Points:** 6 **Contact Hours:** 1.5 per week

**■ PNN102 NUTRITION & LIFESTYLE**

A wide variety of illness has its basis in inappropriate nutrition. In this subject, particular emphasis is placed on current trends in nutrition epidemiology in order to assist practising nurses in their health education efforts with clients.

**Credit Points:** 6 **Contact Hours:** 1.5 per week

**■ PNN161 ANATOMY & PHYSIOLOGY I**

A study of basic functional anatomy covering cells, tissues, and the organ systems of the human body. The lectures and practical work are integrated and emphasise the relationships between structure and function.

**Credit Points:** 6 **Contact Hours:** 2 per week

### ■ PNN165 ANATOMY & PHYSIOLOGY II

A study of the mechanisms and controls of body functions. Stress is placed on fundamental principles and the practical work serves to illustrate these principles, as well as providing experience in physiological recording and investigative techniques. **Credit Points: 8** **Contact Hours: 3 per week**

### ■ PNP104 APPLIED NUTRITION I

The application of nutrition principles to groups and populations is examined. Tools used in assessment including recommended dietary intakes and food composition tables are discussed. External determinants on nutrition such as food legislation and financial constraints are also discussed. The role of agencies involved in nutrition education are included. **Credit Points: 4** **Contact Hours: 2 per week**

### ■ PNP108 APPLIED NUTRITION II

The application of nutrition knowledge and assessment techniques to groups of individuals and population. Nutrition problems in Australia as a whole will be addressed as will the nutritional needs of specific groups. Nutrition planning and policy and variations between states will be discussed. **Prerequisites: PNP104, PNP143**

**Credit Points: 6** **Contact Hours: 3 per week**

### ■ PNP111 FOOD STUDIES I

The subject provides an overview of the structures and composition of food and its role in providing for nutritional requirements of the community. The impact of processing on nutrients in food is considered. The subject is closely allied with the subjects Foundations of Nutrition and Food Studies II. **Credit Points: 4** **Contact Hours: 2 per week**

### ■ PNP112 FOOD STUDIES II

Provides an opportunity to experiment with food commodities and to practise service planning, and food presentation. Examines the ingredient content of commercial foodstuffs. Examines the role of individual ingredients of foodstuffs in the determination of food structure and organoleptic properties. **Prerequisite: PNP111**

**Co-requisites: PNP120, PNP108**  
**Credit Points: 6** **Contact Hours: 3 per week**

### ■ PNP115 OCCUPATIONAL HEALTH & SAFETY ADMINISTRATION I

This fundamental subject will introduce students to basic concepts in occupational health and safety. They will develop both an understanding of and skills in not only basic management principles as they apply to this discipline but also in the development and delivery of health and safety training programs. A sound foundation in the principles and practice of health promotion will also be developed. **Credit Points: 12** **Contact Hours: 3 per week**

### ■ PNP116 HUMAN FACTORS

This subject will introduce the human factors in occupational health and safety. Basic human anatomy and physiology will be reviewed prior to a discussion of how the physico-chemical environment of the workplace can impinge on normal physiological function. The psychology of humans in the work environment will be discussed with consideration of attitudes towards health and safety. The use of ergonomics, anthropometry and biomechanics in the design of safer workplaces will be reviewed. **Credit Points: 12** **Contact Hours: 3 per week**

### ■ PNP120 THERAPEUTIC DIETETICS

An extensive study of the application of dietary modifications and nutritional support in clinical settings. The emphasis is on dietary intervention for individuals particularly those with medical or surgical conditions where diet forms part of the treatment. There is a large practical component. **Prerequisites: PNP143, PNP104**

**Credit Points: 10** **Contact Hours: 7 per week**

### ■ PNP122 PRACTICE IN THERAPEUTIC DIETETICS

Practical experience and seminar presentations relevant to PNP120. The course will be conducted in institutions off-campus (40 hours per week for 11 weeks).

**Prerequisites: Completion of all subjects Semester 1 & Semester 2**

**Credit Points: 31** **Contact Hours: 40 per week**

### ■ PNP123 PRACTICE IN COMMUNITY NUTRITION

This subject enables students gain experience of nutrition and health care of individuals and groups in the community through off-campus practice (40 hours per week for 3 weeks).

**Prerequisites: Completion of all subjects Semester I & II**

**Credit Points: 7** **Contact Hours: 40 per week**

### ■ PNP124 INTRODUCTION TO DIETETICS PRACTICE I

### ■ PNP125 INTRODUCTION TO DIETETICS PRACTICE II

These subjects offer an introduction to clinical dietetics. They involve one week each principally in the hospital setting. They offer an opportunity to practise interviewing and dietary assessment.

**Credit Points: PNP124 - 4; PNP125 - 6**  
**Contact Hours: 40 per week**

### ■ PNP132 PRACTICE IN LARGE SCALE FEEDING

Practical experience and seminar presentations relevant to PNP137. The course will be conducted in institutions off-campus (40 hours per week for 4 weeks).

**Prerequisites: Completion of all subjects Semester 1 & Semester 2**

**Credit Points: 10** **Contact Hours: 40 per week**

### ■ PNP137 CATERING STUDIES

Introduction to institutional food service administration; the organisation of food service; production; distribution and service of food menu planning; hygiene; maintenance; financial control; human resource management; computer assistance and quality assurance. Field trips are included. **Co-requisite: PNP112**

**Credit Points: 7** **Contact Hours: 5 per week**

### ■ PNP142 MEDICINE

Aetiology of disease. Brief description of treatment other than dietary of hypertension, cardiovascular, renal, gastrointestinal and mental diseases, diabetes mellitus. Effect of nutrition on teeth, eyes, skin general dental care and the effects of special diets on teeth, child health, nutrition in pregnancy, lactation, the aged. Brief introduction to pharmacology and proprietary names of drugs.

**Credit Points: 4** **Contact Hours: 1.5 per week**

■ **PNP143 FOUNDATION OF NUTRITION**

This subject builds on the background of biochemistry and human physiology of the students. It brings together, in an integrated manner, appropriate areas of biological chemistry and physiological function, to provide a scientific base on which the study of human nutrition can be built. Special attention is given to the development, structure and function of the gastrointestinal tract and related organs, energy and work, interrelationships between food, additives and drugs.

**Credit Points:** 12    **Contact Hours:** 6 per week

■ **PNP151 PROJECT I**

■ **PNP251 PROJECT II**

The aims of these subjects are to introduce and practise research skills which will enable the student to formulate, design and conduct a research project, to analyse and interpret research data and write a scientific report. Additionally there will be an introduction to costing projects, presenting findings to different audiences and media releases. A start will be made on the community nutrition project for third semester.

**Prerequisites:** Nil for PNP151; PNP151 for PNP251

**Credit Points:** PNP151 – 4, PNP251 – 5

**Contact Hours:** 1 per week

■ **PNP215 OCCUPATIONAL HEALTH & SAFETY ADMINISTRATION II**

In this subject, students will develop an understanding of both the legal framework within which the discipline operates and industrial relations concepts and practices in so far as they impinge upon occupational health and safety. Basic statistical techniques will be reviewed as an introduction to the study of concepts of epidemiology applicable to an occupational setting.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PNP415 OCCUPATIONAL HEALTH**

This subject is designed to introduce students to basic disease processes in humans. They will also develop an understanding of the body's various uptake mechanisms of hazardous workplace agents and basic toxicological principles, including the body's various responses to toxic agents. Examples of acute and chronic occupational diseases will be discussed.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PNP416 OCCUPATIONAL HEALTH & SAFETY PROJECT**

This major project gives students an opportunity to research a particular aspect of their theoretical or practical studies, and thereby develop their research techniques, data collection and evaluation skills and ability to work independently under supervision. By submission of a written project report, they will draw upon many of the skills developed throughout the course.

**Credit Points:** 12

■ **SVB001 SURVEYING & MAPPING**

Instrumentation for land measurement, contour mapping; types of map, availability and interpretation; simple survey techniques; introduction to remote sensing techniques.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **SVB101 SURVEYING & MEASURING**

Basic concepts, applications of surveying, relationship with architecture and building; instrumentation; setting out of procedures, plotting of survey data, computations, cadastral system, land tenure systems; Titles Office procedures, searching, identification,

types of surveys, easements, encroachments, interpretation of survey plans.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **SVB103 MAPPING & SURVEYING FOR FIELD SCIENTISTS**

Introduction to maps, projections, grid, graticules, coordinates, scale and uses; principles of map making, position fixing, heighting; drafting; simple field instrumentation, aerial photography, remote session.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **SVB111 DATA PRESENTATION I**

Drafting instruments and techniques; introductory survey drafting; introductory engineering drawing.

**Co-requisite:** SVB121

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **SVB121 LAND SURVEYING I**

Principles of surveying; surveying instrumentation; traversing; levelling; elements of tachometry; contouring; elementary theory of error; plane surveying computations.

**Credit Points:** 13    **Contact Hours:** 6 per week

■ **SVB199 INDUSTRIAL EXPERIENCE I**

At least six weeks' employment, approved by Head of Department. Students must submit an industrial experience record form, completed by both student and employer.

**Contact Hours:** 6 per week

■ **SVB203 PROJECT SURVEY**

Two surveys of a building site; survey done by theodolite traverse.

**Prerequisite:** SVB101

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **SVB211 DATA PRESENTATION II**

Engineering survey drafting; working survey drawings; basic principles of computer graphics, hardware, software; programming; plotter production of maps and plans.

**Prerequisites:** CSB294, SVB111

**Co-requisite:** SVB226

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **SVB212 DATA PRESENTATION IIA**

Develops drafting skills; introduces engineering survey drafting and computer graphics.

**Prerequisite:** SVB111 **Co-requisite:** SVB226

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **SVB226 LAND SURVEYING II**

Plane surveying computations; detail surveying; reconnaissance surveying; route location; curve theory; setting out surveys; earthworks computation; elements of cadastral surveying.

**Prerequisite:** SVB121 **Co-requisite:** SVB211

**Credit Points:** 13    **Contact Hours:** 6 per week

■ **SVB270 LAND ADMINISTRATION I**

Introduction to the elements of law; law relating to land title and registration; crown land administration in Queensland.

**Credit Points:** 6    **Contact Hours:** 3 per week

■ **SVB282 SEMINAR I**

Preparation of technical papers and reports; written and oral presentation; business correspondence; meeting procedures.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **SVB299 INDUSTRIAL EXPERIENCE II**

At least six weeks' employment, approved by Head of Department. Students must submit an industrial

experience record form, completed by both student and employer.

**Contact Hours:** 6 per week

### ■ SVB306 SURVEYING I

Introductory surveying methods, instrumentation; use of level and theodolite for gathering and setting out data points, distance measurement, circular curves, areas and volumes; introductory photogrammetry and digital terrain models.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ SVB311 DATA PRESENTATION III

Cadastral plan drawing; introduction to cartography; cartographic reproduction; mapping agencies.

**Prerequisite:** SVB111 **Co-requisite:** SVB393

**Credit Points:** 5      **Contact Hours:** 3 per week

### ■ SVB331 OBSERVATIONS & ADJUSTMENTS I

Review of relevant statistical concepts; theory of observations and of random errors; linear and nonlinear functional model, stochastic model, the law of propagation of variances, the error ellipse; practical applications.

**Prerequisites:** MAB495, MAB499

**Co-requisite:** MAB795

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ SVB343 PHOTOGRAMMETRY I

Introduction to photogrammetry; photogrammetric optics; aerial photography; geometry and use of single photographs; geometry and use of the stereogram; students are required to undertake one half day visit to an aerial survey/mapping organisation in the greater Brisbane area.

**Prerequisite:** PHB170

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ SVB352 LAND STUDIES A

Introductory ecology; conservation of resources; introduction to physical aspects of land; assessment of physical land parameters; land classifications; land utilisation; sieve mapping and land use surveys; regional geography; students are required to undertake a full day ecology field trip.

**Credit Points:** 6 per semester

**Contact Hours:** 6 per week

### ■ SVB393 LAND SURVEYING III

Cadastral surveying; field astronomy; off-campus field work.

**Prerequisites:** SVB121, SVB270

**Co-requisites:** SVB311, SVB573

**Credit Points:** 10      **Contact Hours:** 5 per week

### ■ SVB399 INDUSTRIAL EXPERIENCE III

At least six weeks' employment, approved by Head of Department. Students must submit an industrial experience record form, completed by both student and employer.

**Contact Hours:** 6 per week

### ■ SVB412 CARTOGRAPHIC PRACTICE

Reprographic processes; colour systems, colour separation and colour correction; digital mapping techniques; cartographic data structures; geographical surfaces.

**Prerequisite:** SVB311

**Credit Points:** 5      **Contact Hours:** 3 per week

### ■ SVB430 LAND SURVEYING IV

Primary traversing; classical triangulation; trigonometrical levelling, precise levelling; off-campus field work.

**Prerequisite:** SVB121

**Co-requisites:** SVB431, SVB442

**Credit Points:** 9      **Contact Hours:** 4 per week

### ■ SVB431 OBSERVATIONS & ADJUSTMENTS II

Introduction to least squares adjustment; standard problems I and II; extensive practical applications to linear and non-linear problems with both univariate data sets.

**Prerequisite:** SVB331

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ SVB442 GEODETIC COMPUTATIONS

Plane coordinate computation; geometrical geodesy, geometry of spheroid, computation on the spheroid; theory of map projections; the transverse mercator and UTM; computations on the Australian Map Grid.

**Prerequisites:** MAB795, SVB121

**Co-requisite:** SVB430

**Credit Points:** 9      **Contact Hours:** 4 per week

### ■ SVB443 PHOTOGRAMMETRY II

Principles of construction; operation of analogue stereoplotters; aerial triangulation; terrestrial photogrammetry; analytical photogrammetry; one half-day visit to an aerial survey/mapping organisation.

**Prerequisites:** SVB343, MAB795

**Co-requisites:** SVB431

**Credit Points:** 11      **Contact Hours:** 6 per week

### ■ SVB451 LAND STUDIES B

An introduction to the theory of price; location theory; land economics.

**Credit Points:** 5      **Contact Hours:** 3 per week

### ■ SVB470 LAND ADMINISTRATION II

Introduction to government and public administration; Australian public land administration; private sector land administration.

**Credit Points:** 4      **Contact Hours:** 2 per week

### ■ SVB473 LAND INFORMATION SYSTEMS I

Need for a computerised land information system review of cadastral systems; land title systems: the multipurpose cadastre and automation; survey requirements for land information systems; design principles, retrieval techniques.

**Prerequisites:** CSB294, SVB211, SVB393

**Co-requisite:** SVB573

**Credit Points:** 5      **Contact Hours:** 3 per week

### ■ SVB535 LAND SURVEYING V

Hydrographic surveying; topographic surveying.

**Prerequisites:** MAB495, SVB121

**Co-requisite:** SVB430

**Credit Points:** 5      **Contact Hours:** 3 per week

### ■ SVB551 LAND VALUATION

Concepts and purposes of valuation; improvements; urban and rural valuation; interest in land; compensation; legislation affecting land valuation; land valuation practice.

**Prerequisite:** SVB451

**Credit Points:** 6      **Contact Hours:** 3 per week

### ■ SVB561 LAND DEVELOPMENT PRACTICE I

Land development as an economic activity; surveys for subdivision design; site planning; land use deter-

minants; political, economic, social and physical; traffic aspects affecting subdivision design; case studies.

**Prerequisites:** SVB351, SVB451

**Co-requisites:** CEB364, SVB551, SVB574

**Credit Points:** 10 **Contact Hours:** 6 per week

■ **SVB563 LAND INFORMATION SYSTEMS II**

Data acquisition, storage and management; spatial identifiers; cartographic display and generalisation in an automated system; implementation of a system.

**Prerequisite:** SVB473 **Co-requisite:** SVB412

**Credit Points:** 4 **Contact Hours:** 2 per week

■ **SVB571 CADASTRE**

Complex and modern problems involved in the cadastre.

**Prerequisite:** SVB393

**Credit Points:** 4 **Contact Hours:** 2 per week

■ **SVB573 LAND ADMINISTRATION III**

Queensland case law; legislation affecting land and the survey of land including the registration of interests in land, and statutory control of land development.

**Prerequisite:** SVB270

**Credit Points:** 6 **Contact Hours:** 3 per week

■ **SVB574 LAND ADMINISTRATION IV**

An introduction to rural and urban sociology; social aspects of land administration.

**Credit Points:** 4 **Contact Hours:** 2 per week

■ **SVB634 TOPICS IN ENGINEERING SURVEYING**

Network reliability; deformation surveys; subsidence monitoring; precision alignment and distance measurement; jig surveys; high rise buildings.

**Prerequisite:** SVB431 **Co-requisite:** SVB639

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **SVB636 LAND SURVEYING VI**

Geophysical surveying; mine surveying; field astronomical observation.

**Prerequisites:** PHB170, SVB430

**Credit Points:** 6 **Contact Hours:** 3 per week

■ **SVB639 OBSERVATIONS & ADJUSTMENTS III**

The design, preanalysis and optimisation followed by execution, adjustment and assessment of horizontal (two-dimensional) control networks, traverse and level networks (one-dimensional).

**Prerequisite:** SVB431

**Credit Points:** 4 **Contact Hours:** 2 per week

■ **SVB640 GEODESY**

An introduction to history; definitions; the gravity field of the earth; level surfaces; spherical harmonics; variations of the gravity field; gravity measurements; geodetic reference systems; datum transformations; satellite geodesy; satellite doppler surveying; the global positioning system; inertial surveying systems, and geodynamics.

**Prerequisites:** MEB221, PHB170, SVB430, SVB442

**Co-requisite:** SVB639

**Credit Points:** 6 **Contact Hours:** 3 per week

■ **SVB643 PHOTOGRAMMETRY III**

Numerical relative and absolute orientation; independent model and bundle methods of block adjustment for triangulation, close range photogrammetry including nonconventional techniques; analytical plotters including generation, manipulation

and storage of digital data; the use of micro and mini computers in analytical photogrammetry.

**Prerequisite:** SVB443 **Co-requisite:** SVB431

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **SVB645 REMOTE SENSING**

Definitions and major systems for remote sensing; characteristic spectral reflectance of objects and spectral response of sensors; remote sensing acquisition hardware; remote sensing satellites; thermography and radar; data processing for presentation and enhancement; cartographic correction of remote sensing data for systematic geometric error.

**Prerequisite:** SVB343

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **SVB664 LAND DEVELOPMENT PRACTICE II**

Preliminaries of development, data assembly, statutory approvals, elements of design, requirements of communication, hydraulic and energy services, factors affecting development costs, financial and technical controls of land development schemes; projects covering neighbourhood development; residential development, industrial estate development, canal and reclamation estates, commercial development, rural development schemes; design of small towns as are associated with mining ventures.

**Prerequisites:** SVB561, SVB574

**Credit Points:** 10 **Contact Hours:** 6 per week

■ **SVB670 LAND ADMINISTRATION V**

Organisation theory; development planning procedures; land development analysis.

**Prerequisites:** SVB470, SVB451

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **SVB680 PROFESSIONAL PRACTICE**

The history of surveying and surveyors; the surveyor in relation to statutory authorities, civil, commercial and taxation laws; the surveyor as employer, employee, expert witness; surveyor-client-consultant relationships; professional ethics.

**Prerequisite:** SVB470

**Credit Points:** 6 **Contact Hours:** 3 per week

■ **SVB682 SEMINAR II**

Preparation and presentation of at least one technically oriented seminar paper in a field germane to surveying.

**Prerequisites:** SVB282, successful completion of subjects totalling not less than 85 hours of weekly contact time

**Credit Points:** 2 **Contact Hours:** 1 per week

■ **SVB683 PROJECT**

Undertake and report on an approved project in the field of surveying. Field trips on site or to local firms may be required.

**Prerequisite:** Successful completion of subjects totalling not less than 85 hours of weeks contact time

**Credit Points:** 4 per semester

**Contact Hours:** 2 per week

■ **SVB684 MAP PRODUCTION PLANNING**

Planning of photogrammetric projects: specifications, control, costs accuracy; elements of critical path method.

**Prerequisites:** SVB412, SVB443

**Co-requisite:** SVB643

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **SVB685 PROJECT (CARTOGRAPHY)**

Undertake a substantial mapping project utilising knowledge gained in photogrammetric, traditional

and computer-assisted methods. The project may be topographic or thematic.

**Prerequisites:** SVB311, SVB412

**Co-requisite:** SVB443

**Credit Points:** 8 per semester

**Contact Hours:** 4 per week

■ **SVB688 PROFESSIONAL PRACTICE A**

Preparing surveyors for professional practice either as employer or employee.

**Prerequisites:** Successful completion of subjects totalling not less than 100 hours of weekly contact including SVB573

**Credit Points:** 4      **Contact Hours:** 2 per week

■ **SVB694 GEODESY II**

Review of matrices, the Jacobian matrix, orthogonal matrices, transformations, coordinate transformations, rotations in three dimensions, euler angles, datum transformations, the development of datums.

**Prerequisite:** SVB640

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **SVP111 CADASTRAL SURVEYING I**

The practice of cadastral surveying including subdivision design. Students may be required to spend four weeks at a field study centre and be required to carry out off-campus field work.

**Credit Points:** 26      **Contact Hours:** 356 total

■ **SVP112 SURVEY COMPUTING**

Computer applications in the practice of surveying.

**Credit Points:** 3      **Contact Hours:** 47 total

■ **SVP113 OFFICE OPERATIONS**

Written and oral communications; interviewing; office management, industrial relations.

**Credit Points:** 7      **Contact Hours:** 90 total

■ **SVP114 PRACTICE LAW**

The significance of court decisions on professional indemnity claims; statutes and regulations affecting surveyors. Preparation of brief and appearance in practice court sessions in conjunction with the Legal Practice Course.

**Credit Points:** 2      **Contact Hours:** 30 total

■ **SVP115 PROFESSIONAL PRACTICE**

The professional organisations in surveying; the conventions of surveying practice; professional relationships and the responsibilities of professional practice.

**Credit Points:** 1      **Contact Hours:** 8 total

■ **SVP116 SURVEY PROJECT**

The recording and planning of survey projects and assessing progress.

**Credit Points:** 7      **Contact Hours:** 100 total

■ **SVP211 CADASTRAL SURVEYING II**

The practice of cadastral surveying, including mining and real property surveys. Students may be required to spend four weeks at a field study centre and be required to carry out off-campus field work.

**Credit Points:** 18      **Contact Hours:** 247 total

■ **SVP212 BUILDING CONTROL SURVEY**

Lectures, tutorials and practical exercises covering horizontal and vertical building control surveys; interpretation of plans and client relationships. Students may be required to spend some time on off-campus field work and inspections.

**Credit Points:** 3      **Contact Hours:** 38 total

■ **SVP213 DETAIL SURVEYS**

Surveys for location and presentation of natural and man-made detail. Students may be required to spend some time at a field study centre and be required to carry out off-campus field work.

**Credit Points:** 2      **Contact Hours:** 30 total

■ **SVP214 MAPPING**

Mapping techniques and their relative cost.

**Credit Points:** 6      **Contact Hours:** 76 total

■ **SVP215 INNOVATIONS & SYSTEMS DEVELOPMENT**

Assessment of new techniques and equipment, and the development of an innovative approach to the practice of surveying.

**Credit Points:** 2      **Contact Hours:** 22 total

■ **SVP216 SURVEYS FOR GOVERNMENT**

Decision making in government organisations; survey services provided by or to local authorities and government departments; surveying contracts. Students may be required to carry out inspections of several government agencies.

**Credit Points:** 3      **Contact Hours:** 38 total

■ **SVP217 ENGINEERING SURVEYING**

Engineering surveys for a variety of development projects. Students may be required to spend two weeks at a field study centre and be required to carry out off-campus field work.

**Credit Points:** 16      **Contact Hours:** 210 total

■ **SVT113 INTRODUCTORY CARTOGRAPHY**

Introduction to graphical presentation as a means of communication; introduction to map projections; map types, concepts of scale; the Queensland land tenure system; introduction to map and plan reproduction; simple plotting.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **SVT115 CARTOGRAPHIC COMPUTATIONS I**

Calculation and calculating; plane geometry; a review of algebraic manipulation with cartographic applications; matrices and transformations as used in mapping.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **SVT222 SURVEY DRAFTING**

Survey Plan Manual; presentation standard for microfilming; techniques of survey drafting; sketches under the Survey Co-ordination Act; identification survey and detail plans; water course boundaries; requirements of Lands Department and plotting of plans for registration.

**Prerequisite:** SVT113

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **SVT225 SURVEYING**

Basic principles of surveying techniques for providing survey control, especially for mapping purposes; basic principles of measurement – angular and linear; historical review of surveying.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **SVT243 PHOTOGRAMMETRY I**

The photographic process, aerial survey and flight planning; geometry of the single photograph, scale etc; stereoscopy, stereoscopes and parallax bar; simple treatment of space resection; rectification and interpretation; one evening visit to an aerial surveying organisation.

**Credit Points:** 8      **Contact Hours:** 3 per week

**SVT306 ENGINEERING SURVEYING I**

Fundamental survey concepts, coordinate systems, differential and simple trigonometric levelling; angular measurements; bearing and azimuth; linear measurement by steel tape and stadia.

**Credit Points:** 7    **Contact Hours:** 3 per week

**SVT315 CARTOGRAPHIC COMPUTATIONS II**

Computer systems for the solution of cartographic problems; the structure of cartographic data and its relevance to computer solution; applications of mathematical languages.

**Prerequisite:** SVT115

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT316 LAND STUDIES I**

Introduction to the physical aspects of land; assessment of physical land parameters, land classification systems; land evaluation.

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT343 PHOTOGRAMMETRY II**

Use of stereoplotters, relative and absolute orientation; radial line methods; terrestrial photogrammetry; differential rectification and orthophoto construction; positioning and identification of ground control; introduction to remote sensing; one evening visit to a mapping organisation.

**Prerequisite:** SVT243

**Co-requisite:** SVT115

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT426 LAND STUDIES II**

Introduction to the cultural aspects of land use.

**Prerequisite:** SVT316

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT443 PHOTOGRAMMETRY III**

The operation of stereoplotting instruments; aerial triangulation; compilation of maps.

**Prerequisite:** SVT343

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT471 LAND LAWS & REGULATIONS**

Introduction to the Australian legal system, sources of law; the various acts affecting land and land surveying in Queensland.

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT511 CAD SYSTEMS**

Principles of digital mapping; the use of an interactive graphics system for mapping operations.

**Prerequisite:** SVT991

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT513 DIGITAL MAPPING**

Advanced three-dimensional mapping; analytical plotting systems including digital and graphical mapping, digital evaluation models and unconventional mapping applications; subject will be project oriented.

**Prerequisites:** SVT443, SVT315

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT623 PROJECT MAPPING**

Introduction to the role of government and the private sector in project mapping; planning projects for mapping purposes.

**Prerequisites:** SVT343, SVT443

**Credit Points:** 4    **Contact Hours:** 1.5 per week

**SVT626 SEMINAR**

Preparation of technical papers and reports for both written and oral presentation; business correspondence; meeting procedures.

**Credit Points:** 4    **Contact Hours:** 1.5 per week

**SVT642 MAP PROJECTIONS I**

Introduction to special trigonometry and its application to map projections; tangential, cylindrical, conical and conventional projections using a sphere as reference surface.

**Prerequisite:** SVT115

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT715 CARTOGRAPHY I**

Introduction to design; monochrome design; map compilation; the process camera for cartographic use; introduction to lithography.

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT742 MAP PROJECTIONS II**

Geodesy: geometry of ellipse and ellipsoid; descriptive treatment of gravity; role of geodesy in mapping; computations of spheroid; the traverse mercator projection, UTM and the Australian Map Grid; computations: geographic to grid and vice versa, computations on the grid.

**Prerequisite:** SVT642

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT815 CARTOGRAPHY II**

Map production; registration systems; scribing and masking techniques; printing methods including letter press, gravure, offset lithography and silk screen, paper and ink manufacture; colour theory; Munsell's system, colour synthesis, colour correction and proofing.

**Prerequisite:** SVT715

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT826 CARTOGRAPHIC ADMINISTRATION**

Introduction to government and public administration; theory of organisations and its application to mapping agencies.

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT915 CARTOGRAPHY III**

Standard mapping, economics of standard mapping, standard sheet sizes, map specifications, map accuracy; use of orthophotos as control for mapping; thematic mapping; special cartographic techniques, air brush tinting, hill shading etc.

**Prerequisite:** SVT815

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT916 CARTOGRAPHY IV**

Digital methods in cartography; compilation of data for computer-assisted cartography; coordinate systems and digitising; representation of geographic surfaces; methods of display and analysis of spatial data.

**Prerequisites:** SVT991, SVT315

**Credit Points:** 8    **Contact Hours:** 3 per week

**SVT945 REMOTE SENSING**

Introduction to remote sensing; data and information; review of electromagnetic propagation; spectral sensitivity and response; systems in current use; cartographic use of remote sensing imagery.

**Prerequisite:** SVT343

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **SVT991 COMPUTER GRAPHICS I**

Basic elements of computer graphics; systems hardware and software; the AUTO-DRAFT system.

**Prerequisite:** SVT315

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **SVT992 COMPUTER GRAPHICS II**

Generation of data for computer-assisted mapping; programming techniques for automated drafting; the HP Graphics language for driving plotters.

**Prerequisites:** SVT991, SVT315

**Credit Points:** 8      **Contact Hours:** 3 per week



# ALPHABETICAL LIST OF SUBJECTS

## Gardens Point campus

These subjects are listed in alphabetical order as a basis for reference to the Outline of Subjects section which is presented in subject code order.

### A

<b>ACB383</b>	Accountancy for Administrators	<b>LWN003</b>	Advanced Family Law
<b>ACB180</b>	Accounting for Managers	<b>MSP120</b>	Advanced Genetic Engineering
<b>ACB110</b>	Accounting I	<b>LPP212</b>	Advanced Graphics
<b>ACB115</b>	Accounting II	<b>CSN350</b>	Advanced Graphics I
<b>ACB181</b>	Accounting Inform Systems I	<b>CSN360</b>	Advanced Graphics II
<b>ACN813</b>	Accounting Principles	<b>MNN612</b>	Advanced Health Evaluation
<b>ACB482</b>	Accounting Principles C	<b>MNN611</b>	Advanced Health Planning
<b>ACP111</b>	Accounting Principles I	<b>EEB890</b>	Advanced Inform Tech Topics
<b>ACN183</b>	Accounting Principles(Mgmt III)	<b>ISB301</b>	Advanced Information Systems
<b>ACN114</b>	Accounting Research	<b>ISP381</b>	Advanced Information Systems
<b>ACB410</b>	Accounting Research	<b>CHB631</b>	Advanced Inorganic Chemistry
<b>ACB310</b>	Accounting Theory & Practice	<b>CET735</b>	Advanced Laboratory Testing I
<b>MAB641</b>	Actuarial Mathematics	<b>CET838</b>	Advanced Laboratory Testing II
<b>MAB741</b>	Actuarial Mathematics	<b>LPP213</b>	Advanced Landscape Construction
<b>MNB483</b>	Administration Analysis	<b>LPP209</b>	Advanced Landscape Ecology
<b>MNB026</b>	Administration for Geologists	<b>LWN004</b>	Advanced Law of Trusts
<b>MNB382</b>	Administration Research I	<b>MNN813</b>	Advanced Marketing Management
<b>LWB311</b>	Administrative Law	<b>MEB531</b>	Advanced Materials
<b>MNA012</b>	Administrative Practice	<b>CHB690</b>	Advanced Materials Science
<b>MNB385</b>	Administrative Theory	<b>CHP704</b>	Advanced Materials Science B
<b>ARP676</b>	Adv CAD for Industrial Designers I	<b>MEB680</b>	Advanced Mechanical Design
<b>ARP677</b>	Adv CAD for Industrial Designers II	<b>ASP705</b>	Advanced Microscopy Techniques
<b>CMN821</b>	Adv Organisational Communication	<b>NSN307</b>	Advanced Nursing Clinical I
<b>CMB543</b>	Advanced Advertising	<b>NSN308</b>	Advanced Nursing Clinical II
<b>CHB610</b>	Advanced Analysis	<b>NSN309</b>	Advanced Nursing Clinical III
<b>CHP703</b>	Advanced Analysis	<b>NSN301</b>	Advanced Nursing Education I
<b>PNB301</b>	Advanced Anatomy	<b>NSN302</b>	Advanced Nursing Education II
<b>ACN152</b>	Advanced Capital Budgeting	<b>NSN303</b>	Advanced Nursing Education III
<b>CHP706</b>	Advanced Chemical Technology	<b>NSN304</b>	Advanced Nursing Management I
<b>ISB219</b>	Advanced COBOL	<b>NSN305</b>	Advanced Nursing Management II
<b>CMP500</b>	Advanced Communication Seminar	<b>PNB667</b>	Advanced Nutritional Physiology
<b>ACN112</b>	Advanced Company Accounting	<b>MNB462</b>	Advanced Organisation Behaviour
<b>LWN001</b>	Advanced Company Law	<b>ISP451</b>	Advanced Organisation of Knowledge
<b>CSB311</b>	Advanced Computer Architectures	<b>PNB406</b>	Advanced Orthoses
<b>EET891</b>	Advanced Computing Techniques	<b>CHN730</b>	Advanced Physical Methods in Chem
<b>LWN002</b>	Advanced Constitutional Law	<b>BEP721</b>	Advanced Plant Physiology & Biochem
<b>CEB503</b>	Advanced Construction Methods	<b>CMB307</b>	Advanced Professional Writing
<b>CET857</b>	Advanced Construction Techniques	<b>ISP400</b>	Advanced Programming
<b>EEB621</b>	Advanced Control Systems	<b>CMB651</b>	Advanced Public Relations
<b>INN310</b>	Advanced Data Communications	<b>PHB570</b>	Advanced Radiographic Practice I
<b>ISB203</b>	Advanced Database	<b>PHB670</b>	Advanced Radiographic Practice II
<b>ISP301</b>	Advanced Database	<b>PHB576</b>	Advanced Radiographic Technique I
<b>MNB571</b>	Advanced Economic Theory & Policy	<b>PHB676</b>	Advanced Radiographic Technique II
<b>EEP125</b>	Advanced Eng Software Tools	<b>ESP705</b>	Advanced Resource Geology
<b>ESP706</b>	Advanced Engineering Geology	<b>ESP704</b>	Advanced Sedimentary & Environ Geol
<b>ARP613</b>	Advanced Ergonomics I	<b>CHB641</b>	Advanced Spectroscopy
<b>ARP623</b>	Advanced Ergonomics II	<b>CHP705</b>	Advanced Spectroscopy
<b>BEP200</b>	Advanced Experimental Methods II	<b>CEB551</b>	Advanced Structural Design
<b>BEP100</b>	Advanced Experimental Studies I	<b>BEP704</b>	Advanced Studies in Population Mgmt

<b>ACN171</b>	Advanced Taxation	<b>EET678</b>	Applied Electronics
<b>ARB497</b>	Advanced Technology	<b>ESB520</b>	Applied Geochemistry
<b>CMP562</b>	Advanced Text Analysis	<b>ESB453</b>	Applied Geomorphology
<b>CHP701</b>	Advanced Topics in Chemistry I	<b>ESB537</b>	Applied Geophysics
<b>CHP702</b>	Advanced Topics in Chemistry II	<b>MNB430</b>	Applied Health Care Analysis
<b>PHN703</b>	Advanced Topics in Medical Physics	<b>BTB209</b>	Applied Land Science for Designers
<b>PHN702</b>	Advanced Topics in Physics	<b>MAB610</b>	Applied Linear Algebra
<b>CEP215</b>	Advanced Traffic Engineering	<b>BTB110</b>	Applied Mathematics for Designers I
<b>MNB420</b>	Advanced Training Techniques	<b>BTB210</b>	Applied Maths for Designers II
<b>CEP276</b>	Advanced Treatment Processes	<b>MET201</b>	Applied Mechanics
<b>LPP413</b>	Advanced Urban Structure	<b>MET210</b>	Applied Mechanics I
<b>BGP422</b>	Advanced Valuations	<b>MET310</b>	Applied Mechanics II
<b>MSN401</b>	Advances in Medical Lab Science	<b>CHN750</b>	Applied Methods in X-ray Diffraction
<b>CMB641</b>	Advertising Campaigns	<b>MSB611</b>	Applied Microbiology
<b>CMB364</b>	Advertising Copywriting - Electronic	<b>LPP559</b>	Applied Natural Science
<b>CMB363</b>	Advertising Copywriting - Print	<b>PNP104</b>	Applied Nutrition I
<b>CMB542</b>	Advertising Management	<b>PNP108</b>	Applied Nutrition II
<b>CMP404</b>	Advertising Seminar	<b>PHB501</b>	Applied Quantum Mechanics
<b>MEB450</b>	Air Conditioning	<b>PHB609</b>	Applied Radiation Physics
<b>MET352</b>	Air Conditioning & Refrigeration	<b>MNN820</b>	Applied Research & Design
<b>EEP101</b>	Algorithms for Control & Signal Proc	<b>BTN901</b>	Applied Research Methods
<b>EEB561</b>	Analogue Communications	<b>MNN404</b>	Applied Research Project
<b>PHN101</b>	Analogue Electronics	<b>LPN114</b>	Applied Research Techniques
<b>MNB153</b>	Analysis & Methodology in Mgmt	<b>ASB991</b>	Applied Science Elective I
<b>MSB621</b>	Analytical Biochemistry	<b>ASB992</b>	Applied Science Elective II
<b>CHB110</b>	Analytical Chemistry I	<b>ASB993</b>	Applied Science Elective III
<b>CHA218</b>	Analytical Chemistry I	<b>ASB994</b>	Applied Science Elective IV
<b>CHA319</b>	Analytical Chemistry II	<b>ASB995</b>	Applied Science Elective V
<b>CHB210</b>	Analytical Chemistry II	<b>ASB996</b>	Applied Science Elective VI
<b>CHB310</b>	Analytical Chemistry III	<b>PHB144</b>	Applied Science for Designers I
<b>CHN510</b>	Analytical Chemistry V	<b>BTB204</b>	Applied Science for Designers II
<b>MSP104</b>	Analytical Electron Microscopy	<b>MAB924</b>	Applied Statistical Techniques
<b>PND131</b>	Anatomy	<b>ARB791</b>	Approved Employment I
<b>PNB231</b>	Anatomy & Physiology I	<b>ARB792</b>	Approved Employment II
<b>PNA170</b>	Anatomy & Physiology I	<b>ARB793</b>	Approved Employment III
<b>PNB125</b>	Anatomy & Physiology I	<b>ARB794</b>	Approved Employment IV
<b>PNN161</b>	Anatomy & Physiology I	<b>BEB388</b>	Aquaculture I
<b>PNB261</b>	Anatomy & Physiology I	<b>BEB588</b>	Aquaculture II
<b>PNB232</b>	Anatomy & Physiology II	<b>BEA016</b>	Aquaculture Techniques
<b>PNA171</b>	Anatomy & Physiology II	<b>BTB451</b>	Architectural Interior Systems I
<b>PNB225</b>	Anatomy & Physiology II	<b>BTB551</b>	Architectural Interior Systems II
<b>PNN165</b>	Anatomy & Physiology II	<b>CSN220</b>	Artificial Intelligence
<b>PNB262</b>	Anatomy & Physiology II	<b>CSB324</b>	Artificial Intelligence
<b>PNB131</b>	Anatomy I	<b>PHB411</b>	Astronomy
<b>PNB132</b>	Anatomy II	<b>ACN122</b>	Audit Sampling
<b>BEA398</b>	Animal & Plant Techniques	<b>ACB311</b>	Auditing
<b>BEB411</b>	Animal Physiology	<b>ACB312</b>	Auditing & Professional Practice
<b>BEA011</b>	Animal Physiology	<b>ACB413</b>	Auditing Honours
<b>ISB101</b>	Application Systems	<b>ACN124</b>	Auditing Honours
<b>BEA499</b>	Applications in Electron Microscopy	<b>ACN125</b>	Auditing Standards & Practice
<b>PHB608</b>	Applied Acoustics	<b>CMB291</b>	Aust Literature & Film
<b>MNB413</b>	Applied Cognitive Psychology	<b>MNB183</b>	Aust National Government A
<b>BGB642</b>	Applied Computer Techniques	<b>MNB181</b>	Aust National Government B
<b>BGB667</b>	Applied Computer Techniques	<b>ACB231</b>	Australian Capital Markets
<b>BEP102</b>	Applied Data Analysis I	<b>CMN825</b>	Australian Communication Contexts
<b>BEP202</b>	Applied Data Analysis II	<b>MNB330</b>	Australian Health Industry
<b>MNB572</b>	Applied Econometrics	<b>CMB423</b>	Australian Media Institutions
<b>EEB971</b>	Applied Electronics	<b>MNP508</b>	Australian Policy Studies

**CMB212** Australian Studies  
**ISN210** Automated Systems Management  
**MEB640** Automation I  
**MEB710** Automation II

## B

**LWN021** Banking & Finance Law I  
**LWN022** Banking & Finance Law II  
**MAB499** Basic Statistics for Surveyors  
**MNB007** Behavioural Science  
**CHP120** Biochemical Engineering  
**MSB310** Biochemical Methodology III  
**MSB410** Biochemical Methodology IV  
**MSB521** Biochemical Separations  
**MSB415** Biochemistry III  
**MSB473** Biochemistry III  
**MSB416** Biochemistry IV  
**MSB471** Biochemistry IV  
**MSB474** Biochemistry IV  
**MSB520** Biochemistry V  
**MSB620** Biochemistry VI  
**ESP701** Biogeog, Palaeoecology & Evolution  
**CHB651** Biological Chemistry  
**MSA111** Biological Chemistry I  
**MSA112** Biological Chemistry II  
**BEA297** Biological Data Handling  
**BEB563** Biological Resources  
**BEA207** Biological Systems  
**BEB207** Biological Systems  
**BEB150** Biology  
**BEB366** Biology & Soils  
**BEA200** Biology B  
**BEB103** Biology IA  
**BEB104** Biology IB  
**BEB303** Biology II  
**PHN202** Biomechanics  
**PND241** Biomedical Science  
**MAB259** Biomedical Statistics III  
**PHB613** Biophysics  
**BGB401** Bldg Econom & Cost Planning  
**BGB341** Building & Civil Eng Construction  
**CEB430** Building Construction  
**ARB295** Building Construction I  
**BTB310** Building Construction I  
**BTB410** Building Construction II  
**ARB296** Building Construction II  
**BTB510** Building Construction III  
**ARB395** Building Construction III  
**BTB610** Building Construction IV  
**ARB396** Building Construction IV  
**CET756** Building Construction Practice  
**SVP212** Building Control Surveys  
**ARP524** Building Economics  
**ARP600** Building Evaluation & Brief Devt  
**ACB281** Building Financial Management I  
**BGB406** Building Financial Management II  
**BGB403** Building Management I  
**BGB404** Building Management II

**BGB656** Building Research  
**BTB517** Building Services I  
**ARB391** Building Services I  
**BGB013** Building Services I - Hvac  
**BGB164** Building Services IA  
**BTB617** Building Services II  
**ARB392** Building Services II  
**BGB014** Building Services II - Electrical  
**BGB361** Building Services IIA  
**BGB443** Building Services III  
**BGB264** Building Services IIIA  
**BGB161** Building Studies I  
**BGB162** Building Studies II  
**BGB261** Building Studies III  
**BGB262** Building Studies IV  
**CMB105** Business Communication  
**ISN220** Business Computer Intelligence  
**ISB493** Business Computer Programming  
**ISB392** Business Computing  
**MNB642** Business Forecasting  
**ACB140** Business Law  
**ACN834** Business Law & Ethics  
**ACB440** Business Law Honours  
**LWN006** Business Planning: Tax Constraints  
**MNN403** Business Policy  
**MNB252** Business Statistics  
**MNB432** Business Strategy

## C

**BTB655** CAD for Industrial Designers  
**SVT511** CAD Systems  
**MET573** CAD/CAM Technology  
**SVP111** Cadastral Surveying I  
**SVP211** Cadastral Surveying II  
**SVB571** Cadastre  
**MAB301** Calculus & Analysis A  
**MAB302** Calculus & Analysis B  
**PNA550** Cardiac Physiology & Anatomy  
**SVT826** Cartographic Administration  
**SVT115** Cartographic Computations I  
**SVT315** Cartographic Computations II  
**SVB412** Cartographic Practice  
**SVT715** Cartography I  
**SVT815** Cartography II  
**SVT915** Cartography III  
**SVT916** Cartography IV  
**ARP642** Case Studies  
**PHN407** Case Studies  
**BEB655** Case Studies  
**MNN815** Case Study Program  
**PNP137** Catering Studies  
**BEB201** Cell Biology  
**BEA202** Cell Structure & Function  
**MSN102** Cellular Basis of Disease  
**CHN710** Chem Instrumentation & Electronics  
**CHA320** Chemical Process Principles I  
**CHA520** Chemical Process Principles II  
**CHB327** Chemical Technology III

<b>CHB427</b>	Chemical Technology IV	<b>PND540</b>	Clinical Physiology II
<b>CHB527</b>	Chemical Technology V	<b>PND640</b>	Clinical Physiology III
<b>CHB627</b>	Chemical Technology VI	<b>PNB303</b>	Clinical Podiatry I
<b>CHS200</b>	Chemistry	<b>PNB412</b>	Clinical Podiatry II
<b>CHD148</b>	Chemistry	<b>PNB504</b>	Clinical Podiatry III
<b>CHB142</b>	Chemistry I	<b>PNB603</b>	Clinical Podiatry IV
<b>CHB101</b>	Chemistry IA	<b>NSB112</b>	Clinical Practice I
<b>CHB102</b>	Chemistry IB	<b>NSD122</b>	Clinical Practice IA
<b>CHB242</b>	Chemistry II	<b>NSD123</b>	Clinical Practice IB
<b>CHB201</b>	Chemistry IIA	<b>NSB212</b>	Clinical Practice II
<b>CHB202</b>	Chemistry IIB	<b>NSD222</b>	Clinical Practice IIA
<b>CHB382</b>	Chemistry III	<b>NSD223</b>	Clinical Practice IIB
<b>CHA230</b>	Chemistry of Inorganic Materials	<b>NSD322</b>	Clinical Practice IIIA
<b>CHB640</b>	Chemistry VI	<b>NSD323</b>	Clinical Practice IIIB
<b>CHN720</b>	Chemometrics & Stat Anal of Chemdata	<b>NSD422</b>	Clinical Practice IVA
<b>NSN120</b>	Child & Adolescent Nursing I	<b>NSD423</b>	Clinical Practice IVB
<b>NSN121</b>	Child & Adolescent Nursing II	<b>NSD522</b>	Clinical Practice VA
<b>NSN122</b>	Child & Adolescent Nursing III	<b>NSD523</b>	Clinical Practice VB
<b>EEB203</b>	Circuit Analysis	<b>NSD622</b>	Clinical Practice VIA
<b>EEB101</b>	Circuits & Measurements	<b>NSD623</b>	Clinical Practice VIB
<b>CET704</b>	Civil Construction Practice	<b>PHB279</b>	Clinical Radiography I
<b>CEB304</b>	Civil Engineering Design I	<b>PHB379</b>	Clinical Radiography II
<b>CEB405</b>	Civil Engineering Design II	<b>PHB479</b>	Clinical Radiography III
<b>CET585</b>	Civil Engineering Drafting	<b>PHB579</b>	Clinical Radiography IV
<b>CET387</b>	Civil Engineering Drafting A	<b>PHB679</b>	Clinical Radiography V
<b>CEB102</b>	Civil Engineering I	<b>PHB289</b>	Clinical Radiotherapy I
<b>CET195</b>	Civil Engineering I	<b>PHB389</b>	Clinical Radiotherapy II
<b>CEB291</b>	Civil Engineering Materials	<b>PHB489</b>	Clinical Radiotherapy III
<b>CEB501</b>	Civil Engineering Practice I	<b>PHB589</b>	Clinical Radiotherapy IV
<b>CET703</b>	Civil Engineering Practice I	<b>PHB689</b>	Clinical Radiotherapy V
<b>CET802</b>	Civil Engineering Practice II	<b>PHN157</b>	Clinical Ultrasound I
<b>CEB506</b>	Civil Engineering Practice II	<b>PHN257</b>	Clinical Ultrasound II
<b>CEB701</b>	Civil Engineering Quantities I	<b>PHN357</b>	Clinical Ultrasound III
<b>CEB801</b>	Civil Engineering Quantities II	<b>ASB300</b>	Cooperative Education I
<b>CET286</b>	Civil Office Practice	<b>ASB400</b>	Cooperative Education II
<b>CET287</b>	Civil Office Practice A	<b>ESB607</b>	Coal Geology
<b>LWB404</b>	Civil Procedure	<b>CEB561</b>	Coastal Engineering
<b>CEB220</b>	Civil Systems I	<b>MAB920</b>	Coding & Encryption Techniques
<b>CEB421</b>	Civil Systems II	<b>ISP410</b>	Collection Build & Use I
<b>MAB635</b>	Classical Theoretical Mechanics	<b>ISP420</b>	Collection Build & Use II
<b>ISN240</b>	Classification	<b>ISP431</b>	Collection Building & Acquisitions
<b>MSA441</b>	Clin Microbiol Techs III	<b>MNB121</b>	Colloquial Japanese
<b>MSA442</b>	Clin Microbiol Techs IV	<b>ACB341</b>	Commercial & Securities Law
<b>MSB756</b>	Clinical Bacteriology VI	<b>LWN007</b>	Commercial Arbitration
<b>MSA471</b>	Clinical Biochem Techs III	<b>LWB303</b>	Commercial Law
<b>MSA472</b>	Clinical Biochem Techs IV	<b>ACN175</b>	Commercial Law Honours
<b>MSN510</b>	Clinical Biochemistry I	<b>LWN008</b>	Commercial Leases
<b>MSN610</b>	Clinical Biochemistry II	<b>CMB521</b>	Communic & Public Opinion
<b>MSB718</b>	Clinical Biochemistry V	<b>CMB134</b>	Communication
<b>MSB719</b>	Clinical Biochemistry VI	<b>CMN811</b>	Communication & Culture
<b>PND752</b>	Clinical Biomechanics	<b>CMN810</b>	Communication & Society
<b>MSN513</b>	Clinical Immunology I	<b>CMN720</b>	Communication Evaluation
<b>OPB505</b>	Clinical Optometry V	<b>CMB135</b>	Communication for Engineers
<b>OPB605</b>	Clinical Optometry VI	<b>CMB321</b>	Communication in Small Groups
<b>OPB705</b>	Clinical Optometry VII	<b>CMN824</b>	Communication Policy & Planning
<b>OPB805</b>	Clinical Optometry VIII	<b>CMP407</b>	Communication Policy Environment
<b>PNB665</b>	Clinical Physiology	<b>CMB211</b>	Communication Research
<b>PND340</b>	Clinical Physiology I	<b>CMP403</b>	Communication Research Methodology

CMN813	Communication Strategies	CSB201	Computer Systems II
CMA133	Communication Techniques	CSB282	Computer Systems II
EEB961	Communication Techniques	ISB492	Computerised Accounting Systems
CMP408	Communication Technologies & Society	LWB482	Computers & the Law
CMP401	Communication Theory I	CHA410	Computers in Chemistry
CMP402	Communication Theory II	CSB262	Computing
EET560	Communications Engineering I	CSA165	Computing
EET760	Communications Engineering II	INB001	Computing Practice (N.O.T.E.) I
EET860	Communications Technology	INB002	Computing Practice (N.O.T.E.) II
CMB351	Community Relations	LPN112	Concentration Officer
ACB212	Company Accounting	NSN102	Concepts for Advanced Clinical Nurs
LWB401	Company Law & Partnership	NSD121	Concepts for Nursing Practice I
ACB342	Company Law & Practice	NSD221	Concepts for Nursing Practice II
ACN119	Company Secretarial Practice	NSD321	Concepts for Nursing Practice III
MNB683	Comparative Administration	NSD421	Concepts for Nursing Practice IV
ACB352	Comparative Financial Systems	NSD521	Concepts for Nursing Practice V
CMB572	Comparative Journalism	NSD621	Concepts for Nursing Practice VI
LPN111	Comparative Planning Theory	CMN709	Concepts in Communication
MNB586	Comparative Politics	CEB532	Concrete & Masonry Structures
ISN190	Comparative Study of Inform Agencies	CET655	Concrete & Steel Design
CSN110	Compiler Construction	CET435	Concrete Practice
CSN340	Compiler Laboratory	CEB202	Concrete Structures
PHB583	Complementary & Evolving Techniques	CEB306	Concrete Structures II
ASP702	Complementary Studies	CEB231	Concrete Technology
CET894	Computations A	LWB407	Conflict of Laws
PHB681	Computed Tomography Imaging	BTN301	Conservation & Reuse in Urban Des
LPP216	Computer Aided Data Analysis A	ARP602	Conservation of Historic Interiors
LPP217	Computer Aided Data Analysis B	LPP505	Conservation Theory
MET920	Computer Aided Design & Drafting	BTB649	Conservation Theory
CET887	Computer Aided Drafting	LWB203	Constitutional Law
ISB180	Computer Applications	BGB151	Construction I
BEA349	Computer Applications in Biology	BGB154	Construction II
LPP335	Computer Applications in Planning	BGB153	Construction II
LPP418	Computer Applications in Planning	BGB172	Construction II
PHB585	Computer Assisted Treatment Plan I	BGB253	Construction III
PHB685	Computer Assisted Treatment Plan II	BGB254	Construction IV
ACN121	Computer Auditing	CET606	Construction Management
ISB393	Computer Based Inform Systems	CEP107	Construction Management & Economics
MEB977	Computer Control of Manuf Systems	CEB305	Construction Planning & Economics
EEB922	Computer Controlled Systems	CEB307	Construction Practice
MAB174	Computer Data Analysis	MNB392	Consumer Behaviour
SVT991	Computer Graphics I	OPB617	Contact Lens Studies VI
SVT992	Computer Graphics II	OPB717	Contact Lens Studies VII
EET103	Computer Hardware & Interfacing	MNN601	Contemporary Health Care Issues
MEB976	Computer Integrated Manufacturing	CMB311	Contemporary Social Issues
EET690	Computer Organisation	EEB520	Control Engineering
EET490	Computer Packages	EEB620	Control Systems Analysis
CSB294	Computer Programming	EET420	Control Systems I
EET790	Computer Programming I	EET522	Control Systems II
CST390	Computer Programming I	ACB220	Cost Accounting
EET791	Computer Programming II	BGP429	Cost Management & Economics
ISP401	Computer Project	BGB647	Cost Planning & Cost Control I
ACB360	Computer Security & Audit	BGB648	Cost Planning & Cost Control II
ISN150	Computer Security Risk Modelling	MNB666	Counselling for Health Professionals
BGB451	Computer Software Applications I	CMB461	Creative Writing
BGB452	Computer Software Applications II	LWN032	Credit for UQ Subject I
CSB101	Computer Systems I	LWN033	Credit for UQ Subject II
CSB281	Computer Systems I	LWN034	Credit for UQ Subject III

**LWB202** Criminal Law & Procedure  
**PHN152** Cross-sectional Anatomy  
**LPP201** Cultural Values  
**BGP430** Current Issues  
**MNN805** Current Issues in Aust Management A  
**MNN806** Current Issues in Aust Management B  
**CMN823** Current Issues in Communication  
**MSA465** Cytological Techniques III  
**MSA466** Cytological Techniques IV

## ■ D

**PHN704** Data Analysis in Physics  
**INP270** Data Communications  
**INB270** Data Communications  
**EEP124** Data Communications  
**INB285** Data Communications  
**ISP101** Data Design & Processing  
**BEP793** Data Handling, Interp & Biometrics  
**SVB111** Data Presentation I  
**SVB211** Data Presentation II  
**SVB212** Data Presentation IIA  
**SVB311** Data Presentation III  
**CSB323** Data Security  
**ISB202** Database & Procedural Languages  
**ISB283** Database & Procedural Languages  
**ISB302** Database Management  
**ISN120** Database Systems  
**MNN202** Decision Support Systems  
**LPP215** Department Field Trip  
**LPP420** Department Field Trip & Workshop  
**PND701** Dermatology  
**PNB502** Dermatology  
**EET880** Design  
**MEB381** Design II  
**MEB773** Design for Manufacturing I  
**MEB974** Design for Manufacturing II  
**ARB193** Design I  
**EEB587** Design I  
**MEB101** Design I  
**BTB300** Design I  
**ARB194** Design II  
**ARP521** Design II  
**BTB400** Design II  
**EEB788** Design II  
**ARB293** Design III  
**BTB500** Design III  
**EEB887** Design III  
**MEB483** Design III  
**ARB294** Design IV  
**BTB600** Design IV  
**EEB888** Design IV  
**ARB693** Design IX  
**BGP417** Design Management  
**MEB975** Design of Manufacturing Systems  
**MEB981** Design of Matls Handling Systems  
**MEB980** Design of Power Transmissn Systems  
**CEB401** Design Project  
**BTB408** Design Science

**BTB307** Design Science I  
**ARB289** Design Science I  
**BTB407** Design Science II  
**ARB288** Design Science II  
**BTB527** Design Science III  
**ARB389** Design Science III  
**BTB627** Design Science IV  
**ARB388** Design Science IV  
**ARB393** Design V  
**ARB394** Design VI  
**ARB493** Design VII  
**ARB593** Design VIII  
**SVP213** Detail Surveys  
**MNB250** Developmental Psychology  
**MAB612** Differential Equations  
**EEB967** Digital Communications  
**EET676** Digital Electronics  
**PHB573** Digital Imaging Modalities  
**SVT513** Digital Mapping  
**EEB272** Digital Principles  
**EEB968** Digital Signal Processing  
**CMB544** Direct Response Advertising  
**MAB216** Discrete Mathematics  
**MSB430** Disease Processes IV  
**OPB527** Diseases of the Eye V  
**OPB627** Diseases of the Eye VI  
**MSN530** Dissertation  
**NSN403** Dissertation  
**ACB411** Dissertation  
**BGP442** Dissertation  
**ACN950** Dissertation  
**INN500** Dissertation  
**CMP409** Dissertation  
**MNN607** Dissertation  
**CMN910** Dissertation I  
**CMN911** Dissertation II  
**CSN210** Distributed Systems  
**MNB633** Distribution Management  
**PHB481** Dosimetry  
**LWB414** Drafting & Legal Transactions  
**MET121** Drafting Practice IA  
**MET221** Drafting Practice IIA  
**CEP361** Drainage Engineering  
**ARP652** Dsgn Mgmt & Decision Theory  
**MEB111** Dynamics  
**MEB010** Dynamics I  
**MEB012** Dynamics II

## ■ E

**ESB101** Earth Science IA  
**ESB102** Earth Science IB  
**MNP218** Economic Analysis  
**MNB025** Economic Analysis for Geologists  
**ESB367** Economic Mineral Deposits  
**MNB614** Economic Seminars  
**MNN608** Economics & Health  
**BGB343** Economics of Construction Industry  
**BTB552** Economics of Industrial Production

<b>MNB591</b>	Economics of Information	<b>EEB430</b>	Engineering Fields
<b>MNB639</b>	Economics of Strategic Management	<b>ESB653</b>	Engineering Geology
<b>BTB561</b>	Economics of Town Planning	<b>EST219</b>	Engineering Geology
<b>LPP562</b>	Economics of Town Planning	<b>MEB121</b>	Engineering Graphics
<b>BTB651</b>	Elective (Landscape Architecture)	<b>EEB820</b>	Engineering Management
<b>BTB654</b>	Elective (Planning)	<b>MET140</b>	Engineering Materials I
<b>CSB999</b>	Elective I	<b>MET433</b>	Engineering Materials II
<b>ARB597</b>	Elective I	<b>MAB193</b>	Engineering Mathematics I
<b>CSB998</b>	Elective II	<b>MAB493</b>	Engineering Mathematics II
<b>ARB697</b>	Elective II	<b>MAB893</b>	Engineering Mathematics III
<b>CSB997</b>	Elective III	<b>MAB894</b>	Engineering Mathematics IV
<b>CSB996</b>	Elective IV	<b>CET135</b>	Engineering Mechanics
<b>BGB661</b>	Elective Research Project I	<b>CEB184</b>	Engineering Mechanics I
<b>BGB662</b>	Elective Research Project II	<b>CEB185</b>	Engineering Mechanics II
<b>ARP522</b>	Elective Study I	<b>PHB132</b>	Engineering Physics IA
<b>ARP531</b>	Elective Study II (Thesis)	<b>PHB232</b>	Engineering Physics IIA
<b>CSB995</b>	Elective V	<b>MEB772</b>	Engineering Project Appraisal
<b>EEB954</b>	Electrical Energy Utilisation	<b>CEB364</b>	Engineering Science II
<b>EET100</b>	Electrical Eng Computations	<b>CEB504</b>	Engineering Science III
<b>MET123</b>	Electrical Engineering Drawing IA	<b>ENS100</b>	Engineering Skills
<b>MET223</b>	Electrical Engineering Drawing IIA	<b>SVP217</b>	Engineering Surveying
<b>EET111</b>	Electrical Engineering I	<b>SVT306</b>	Engineering Surveying I
<b>EET211</b>	Electrical Engineering II	<b>IFB001</b>	English for Academic Purposes
<b>EET350</b>	Electrical Engineering III	<b>INB099</b>	English for Academic Purposes
<b>EEB209</b>	Electrical Engineering IIM	<b>CMB108</b>	English for Technologists
<b>EET650</b>	Electrical Equipment	<b>BTB403</b>	Environ Studies - Environ Impacts
<b>EEB404</b>	Electrical Machines	<b>MNN603</b>	Environmental & Occup Health (GU)
<b>EEB553</b>	Electrical Power Equipment	<b>CHB411</b>	Environmental Analyt Chem
<b>EEB400</b>	Electrical Power Systems	<b>BEA403</b>	Environmental Biology
<b>EET642</b>	Electrical Power Systems I	<b>CHB691</b>	Environmental Chemistry
<b>EEB531</b>	Electrical Power Transmission	<b>ARP502</b>	Environmental Communications
<b>EET500</b>	Electrical Technology	<b>PNN101</b>	Environmental Health
<b>PHB502</b>	Electromagnetic Field Theory	<b>PNB203</b>	Environmental Health III
<b>EEB202</b>	Electromagnetics	<b>PNB204</b>	Environmental Health IV
<b>MSB421</b>	Electron Microscopy	<b>PNB520</b>	Environmental Health Management I
<b>EEB371</b>	Electronic Devices	<b>PNB620</b>	Environmental Health Management II
<b>PHN350</b>	Electronics	<b>PNB205</b>	Environmental Health V
<b>EEB471</b>	Electronics	<b>PNB206</b>	Environmental Health VI
<b>PHB308</b>	Electronics I	<b>ARB387</b>	Environmental Impact Studies
<b>EET270</b>	Electronics I	<b>BEB447</b>	Environmental Monitoring
<b>PHB408</b>	Electronics II	<b>LPP511</b>	Environmental Psychology
<b>EET570</b>	Electronics II	<b>BTB113</b>	Environmental Science
<b>PHB508</b>	Electronics III	<b>MSD680</b>	Epidemiology
<b>EEB302</b>	Electrotechnology	<b>PNB513</b>	Epidemiology
<b>MNB120</b>	Elementary Japanese	<b>MSN150</b>	Epidemiology & Research Strategies
<b>LPP352</b>	Employment & Industry	<b>CET776</b>	Equipment Operation & Maintenance
<b>MET850</b>	Energy Management	<b>LWB301</b>	Equity
<b>CHB628</b>	Energy Technology	<b>BTB220</b>	Ergonomics I
<b>CEB393</b>	Eng Investigating & Reporting I	<b>BTB320</b>	Ergonomics II
<b>CEB492</b>	Eng Investigating & Reporting II	<b>BTB420</b>	Ergonomics III
<b>CEP131</b>	Eng Management & Administration	<b>BGB446</b>	Estimating I
<b>CHB346</b>	Engineering Chemistry C	<b>BGB540</b>	Estimating II
<b>CHB344</b>	Engineering Chemistry M	<b>ISN260</b>	Evaluation of Inform Services & Org
<b>MET101</b>	Engineering Drawing	<b>LWB402</b>	Evidence
<b>MET120</b>	Engineering Drawing I	<b>IFB999</b>	Exchange Program
<b>MET220</b>	Engineering Drawing II	<b>MAB258</b>	Experimental Design
<b>MET320</b>	Engineering Drawing III	<b>BEB358</b>	Experimental Design
<b>MET420</b>	Engineering Drawing IV	<b>PHB316</b>	Experimental Physics III

**PHB416** Experimental Physics IV  
**PHB516** Experimental Physics V  
**ISB313** Expert Information Systems  
**ISP313** Expert Information Systems  
**CSB325** Expert Systems  
**MNB411** Export Management  
**MSN001** External Elective (supporting)  
**MSN002** External Elective (supporting)  
**MSN003** External Elective (supporting)  
**MSN004** External Elective (supporting)  
**BEA090** External Projects I  
**BEA099** External Projects II  
**ACN127** External Reporting Issues  
**ISB215** External Sources of Information

## **F**

**LWB302** Family Law  
**ESB577** Field Excursions V  
**ISP428** Field Experience  
**CET306** Field Practice IA  
**CET405** Field Practice IIA  
**BEB390** Field Studies I  
**BEB490** Field Studies II  
**LPP319** Field Studs & Workshops I  
**ESB397** Field Techniques  
**BEA498** Field Techniques  
**MAB782** Field Theory  
**CEB404** Field Trip  
**BGP437** Field Trip  
**CMB561** Film & Television Script Writing  
**CMB664** Film & Video Business  
**CMB662** Film Drama Production  
**ARP601** Film, TV & Design for Theatre  
**ACB430** Finance Honours  
**ACN151** Finance Honours  
**ACB412** Financial Accounting Honours  
**ACN111** Financial Accounting Honours  
**ACN810** Financial Accounting I  
**ACN820** Financial Accounting II  
**ACN830** Financial Accounting III  
**MNB582** Financial Administration  
**ACB345** Financial Institutions - Law  
**ACB350** Financial Institutions - Lending  
**ACB351** Financial Institutions - Management  
**ACB481** Financial Management for Engineers  
**ACB230** Financial Management I  
**ACB331** Financial Management II  
**MAB442** Financial Mathematics  
**ACN155** Financial Modelling  
**ACB322** Financial Modelling  
**ACN126** Financial Reporting  
**ACN156** Financial Risk Management  
**MEB911** Finite Element Analysis  
**CEB520** Finite Element Methods  
**CEB260** Fluid Mechanics  
**MET961** Fluid Mechanics  
**MEB660** Fluid Power  
**MET960** Fluid Power

**MEB960** Fluid Systems Design  
**MEB361** Fluids I  
**MEB462** Fluids II  
**MEB464** Fluids III  
**PND421** Food & Nutrition  
**CHA580** Food Chemistry I  
**CHA680** Food Chemistry II  
**MSP152** Food Microbiology  
**MSB510** Food Microbiology  
**PNP111** Food Studies I  
**PNB318** Food Studies I  
**PNP112** Food Studies II  
**PNB418** Food Studies II  
**PNB518** Food Studies III  
**CSN320** Formal Secure Systems  
**ISN110** Formal Systems Specification  
**BGB601** Formwork Design & Construction  
**LPP206** Forum/Workshop A  
**LPP207** Forum/Workshop B  
**MNB461** Foundation Hr Competencies  
**PNP143** Foundation of Nutrition  
**CSB200** Foundations of Computing I  
**CSB290** Foundations of Computing I  
**CSB210** Foundations of Computing II  
**CSB292** Foundations of Computing II  
**NSB110** Foundations of Nursing Practice I  
**NSB111** Foundations of Nursing Practice II  
**MSB761** Fundamentals of Medicine I  
**MSB762** Fundamentals of Medicine II  
**CMB191** Fundamentals of Photography  
**CMP590** Fundraising Campaigns  
**CMP352** Fundraising Principles  
**BTB331** Furniture & Fittings I  
**BTB431** Furniture & Fittings II  
**BTB531** Furniture & Fittings III  
**BTB631** Furniture & Fittings IV

## **G**

**MNB130** General Psychology  
**PHB276** General Radiography I  
**PHB376** General Radiography II  
**MSB630** Genetic Engineering  
**BEB435** Genetics  
**ESB403** Geochemistry  
**SVB640** Geodesy  
**SVB694** Geodesy II  
**SVB442** Geodetic Computations  
**ESB487** Geological Field Studies  
**ESB687** Geological Investigations  
**ESA310** Geology  
**ESP702** Geology Case Studies  
**ESP703** Geology Case Studies II  
**ESB519** Geology for Engineers  
**ESB437** Geophysics  
**CEB440** Geotechnical Engineering I  
**CEB341** Geotechnical Engineering I  
**CEB541** Geotechnical Engineering II  
**CEB542** Geotechnical Engineering III

<b>NSN117</b>	Gerontological Nursing I	<b>ARP603</b>	Historic Technologies
<b>NSN118</b>	Gerontological Nursing II	<b>ESB201</b>	Historical Geology
<b>NSN119</b>	Gerontological Nursing III	<b>ARB491</b>	History of Architecture & Art III
<b>ESP708</b>	Global Plate Tectonics	<b>ARB591</b>	History of Architecture & Art IV
<b>MNB686</b>	Government & Business	<b>LPP503</b>	History of Landscape Design
<b>MNN203</b>	Government - Business Relations	<b>LPP560</b>	History of Planning
<b>ACB320</b>	Government Accounting	<b>ARB197</b>	History of the Built Environ I
<b>ISP419</b>	Government Documents	<b>ARB198</b>	History of the Built Environ II
<b>MNB231</b>	Government Economic Policy	<b>BTB102</b>	History of the Built Environment I
<b>ACB330</b>	Government Finance	<b>BTB202</b>	History of the Built Environment II
<b>MNB451</b>	Government, Business & Law	<b>ARP671</b>	History, Theory & Criticism of Ind Ds
<b>MNB613</b>	Govt Policy & the Tourism Industry	<b>LWN100</b>	Honours Dissertation
<b>BTB645</b>	Grading	<b>INN210</b>	Honours Project II
<b>BTB346</b>	Graphic Communication	<b>BTB656</b>	Housing & Community Services
<b>ARB911</b>	Graphic Design I	<b>LPP566</b>	Housing & Community Services
<b>ARB912</b>	Graphic Design II	<b>PNB163</b>	Human Anatomy I
<b>CSB321</b>	Graphics	<b>PNB363</b>	Human Anatomy III
<b>EEP122</b>	Graphics & Computer Vision	<b>ISN180</b>	Human Computer Interface
<b>NSN201</b>	Grief & Bereavement	<b>PNP116</b>	Human Factors

## H

<b>MSA481</b>	Haematological Techs III	<b>PNB483</b>	Human Factors I
<b>MSA482</b>	Haematological Techs IV	<b>PNB512</b>	Human Factors II
<b>MSN511</b>	Haematology I	<b>MNP123</b>	Human Factors in Quality
<b>MSN611</b>	Haematology II	<b>PNB305</b>	Human Nutrition I
<b>MSB426</b>	Haematology IV	<b>PNB405</b>	Human Nutrition II
<b>MSB726</b>	Haematology V	<b>PNB435</b>	Human Physiology
<b>MSB727</b>	Haematology VI	<b>PNB115</b>	Human Physiology I
<b>PNB611</b>	Hazard Assessment & Management	<b>PNB116</b>	Human Physiology II
<b>PNB511</b>	Hazard Assessment & Management I	<b>MNB587</b>	Human Resource Policies
<b>PHN204</b>	Health & Occupational Physics	<b>MNB361</b>	Human Resources & the Organisation
<b>MNB518</b>	Health Admin Project	<b>NSN203</b>	Human Sexuality & Health
<b>ACB280</b>	Health Administration Finance	<b>CET365</b>	Hydraulic Engineering
<b>MNB331</b>	Health Care Economics I	<b>CEB360</b>	Hydraulic Engineering I
<b>MNB431</b>	Health Care Economics II	<b>CEB460</b>	Hydraulic Engineering II
<b>MNN609</b>	Health Care Finance	<b>CEB560</b>	Hydraulic Engineering III
<b>MNB618</b>	Health Computer Systems	<b>BEA060</b>	Hydrobiological Techniques
<b>MNB319</b>	Health Information Management I	<b>ESB627</b>	Hydrogeology
<b>MNB419</b>	Health Information Management II	<b>CEB361</b>	Hydrology
<b>MNB519</b>	Health Information Management III	<b>BGB345</b>	Hygiene & Sanitation
<b>MNB619</b>	Health Information Management IV		
<b>MNB505</b>	Health Management I		
<b>MNB605</b>	Health Management II		
<b>MNN602</b>	Health Planning, Mgmt & Evaluation		
<b>PNB612</b>	Health Promotion & Education		
<b>MNB534</b>	Health Services Evaluation		
<b>MNN610</b>	Health Services Management		
<b>MNB543</b>	Health Services Planning		
<b>MEB550</b>	Heat Transfer		
<b>EEB951</b>	High Voltage Equipment		
<b>CEB312</b>	Highway Engineering		
<b>MSA463</b>	Histological Techs III		
<b>MSA464</b>	Histological Techs IV		
<b>MSN512</b>	Histopathology I		
<b>MSN612</b>	Histopathology II		
<b>MSB492</b>	Histopathology IV		
<b>MSB792</b>	Histopathology V		
<b>MSB793</b>	Histopathology VI		

## I

<b>ESB547</b>	Igneous & Metamorphic Petrology III
<b>PHB578</b>	Image Interpretation I
<b>PHB572</b>	Image Recording & Evaluation
<b>PNB425</b>	Imaging Anatomy
<b>MSB420</b>	Imaging Pathology
<b>MSB713</b>	Immunohaematology VI
<b>MSA435</b>	Immunological Techniques III
<b>MSB412</b>	Immunology IV
<b>MSB712</b>	Immunology V
<b>BTB650</b>	Impacts & Assessment
<b>LPP515</b>	Impacts & Assessment
<b>NSN205</b>	Independent Study
<b>MNB523</b>	Independent Study HRD
<b>MNB561</b>	Independent Study HRM
<b>MNB515</b>	Independent Study Unit, Ind Rel
<b>ACN176</b>	Indirect Taxation
<b>CMN831</b>	Individual Research
<b>ISP452</b>	Individual Study

<b>CHA610</b>	Industrial Analysis	<b>ISP429</b>	Information Brokerage
<b>CHA368</b>	Industrial Chemistry	<b>MAN008</b>	Information Retrieval
<b>ARP672</b>	Industrial Design I	<b>CHN702</b>	Information Retrieval I
<b>ARP673</b>	Industrial Design II	<b>PHN701</b>	Information Retrieval I
<b>ARP674</b>	Industrial Design Research I	<b>CHN802</b>	Information Retrieval II
<b>ARP675</b>	Industrial Design Research II	<b>IFN001</b>	Information Retrieval Skills
<b>EEB573</b>	Industrial Electronics	<b>ASP701</b>	Information Retrieval Skills
<b>EET870</b>	Industrial Electronics	<b>ISP433</b>	Information Sources & Services
<b>ENT100</b>	Industrial Employment I	<b>ISB316</b>	Information Support Systems
<b>ENT200</b>	Industrial Employment II	<b>ISN100</b>	Information Systems I
<b>ENT300</b>	Industrial Employment III	<b>ISN300</b>	Information Systems II
<b>ENT400</b>	Industrial Employment IV	<b>ISB314</b>	Information Systems Management
<b>ENT500</b>	Industrial Employment V	<b>ISP314</b>	Information Systems Mgmt
<b>ENT600</b>	Industrial Employment VI	<b>EEB661</b>	Information Theory & Noise
<b>ENT700</b>	Industrial Employment VII	<b>MNN816</b>	Initial Project in Management
<b>ENT800</b>	Industrial Employment VIII	<b>SVP215</b>	Innovations & Systems Development
<b>MEB670</b>	Industrial Engineering I	<b>CHB230</b>	Inorganic Chemistry II
<b>MEB771</b>	Industrial Engineering II	<b>CHB430</b>	Inorganic Chemistry IV
<b>SVB199</b>	Industrial Experience I	<b>CHB530</b>	Inorganic Chemistry V
<b>CEB192</b>	Industrial Experience I	<b>LWB307</b>	Insolvency Law
<b>EEB206</b>	Industrial Experience I	<b>CHB510</b>	Instrumental Analysis
<b>MEB200</b>	Industrial Experience I	<b>CHA318</b>	Instrumental Analytical Chem
<b>EEB901</b>	Industrial Experience I	<b>CHA240</b>	Instrumental Techniques
<b>CEB292</b>	Industrial Experience II	<b>PHB405</b>	Instrumentation
<b>SVB299</b>	Industrial Experience II	<b>PHN302</b>	Instrumentation
<b>EEB406</b>	Industrial Experience II	<b>ACB335</b>	Insurance Risk Management
<b>MEB300</b>	Industrial Experience II	<b>EEB473</b>	Integrated Circuits
<b>EEB902</b>	Industrial Experience II	<b>EEB972</b>	Integrated Electronic Techniques
<b>CEB392</b>	Industrial Experience III	<b>BTB335</b>	Interior Technology I
<b>MEB600</b>	Industrial Experience III	<b>BTB435</b>	Interior Technology II
<b>SVB399</b>	Industrial Experience III	<b>BTB535</b>	Interior Technology III
<b>EEB606</b>	Industrial Experience III	<b>BTB635</b>	Interior Technology IV
<b>MEB402</b>	Industrial Experience III	<b>ACN123</b>	Internal Auditing
<b>EEB903</b>	Industrial Experience III	<b>MNB533</b>	Internat Health Care Syst
<b>LWB308</b>	Industrial Law	<b>ACN118</b>	International Accounting
<b>MNB043</b>	Industrial Management	<b>MNB626</b>	International Economics
<b>MET733</b>	Industrial Metallurgy	<b>ACN153</b>	International Finance
<b>MEB810</b>	Industrial Noise & Vibration	<b>ACB336</b>	International Finance
<b>MET971</b>	Industrial Practice	<b>MNB526</b>	International Marketing
<b>CMB451</b>	Industrial Press	<b>MNB504</b>	International Politics & Business
<b>MNB018</b>	Industrial Relations	<b>ACN172</b>	International Taxation
<b>MNB363</b>	Industrial Relations I	<b>MNB661</b>	Interviewing & Counselling
<b>MNB630</b>	Industrial Relations II	<b>MNB111</b>	Intro Psychology for Health Prof
<b>MET933</b>	Industrial Tribology	<b>MNB184</b>	Intro to Admin & Political Analysis
<b>CHB660</b>	Industrial Visits	<b>CMB163</b>	Intro to Audio-vis Communic
<b>PNB614</b>	Industry Specialisations	<b>CHB002</b>	Intro to Engineering Chemistry
<b>LWS004</b>	Info Managers & the Law	<b>ISP453</b>	Intro to Records Management
<b>ISB201</b>	Info Systems Analysis & Design I	<b>MAB331</b>	Intro Vector Analysis
<b>ISB210</b>	Info Systems Analysis & Design II	<b>LPP404</b>	Intro to Theories of Planning
<b>ISP413</b>	Info Agency Mgt & Serv I	<b>ISB263</b>	Intro to Computers & Info Systems
<b>ISP423</b>	Info Agency Mgt & Serv II	<b>PNP124</b>	Intro to Dietetics Practice I
<b>ISP411</b>	Info Storage & Retrieval I	<b>PNP125</b>	Intro to Dietetics Practice II
<b>ISP421</b>	Info Storage & Retrieval II	<b>ARP501</b>	Intro to Facilities Management
<b>ISB290</b>	Info System Analysis & Design II	<b>PHN102</b>	Intro to Medical/Stats Computing
<b>ISB281</b>	Info Systems Analysis & Design I	<b>LPP321</b>	Intro to Theories of Plng
<b>ISP412</b>	Info Users & Services I	<b>CMB241</b>	Introduction to Advertising
<b>ISP422</b>	Info Users & Services II	<b>BEA339</b>	Introduction to Bioculture
<b>ISP418</b>	Information & Referral Services	<b>CSB100</b>	Introduction to Computer Science

**CSB181** Introduction to Computer Science  
**LPP563** Introduction to Computers  
**CSA259** Introduction to Computing  
**CSB155** Introduction to Computing  
**CSB191** Introduction to Computing  
**ARB299** Introduction to Computing I  
**ARB290** Introduction to Computing II  
**BTB345** Introduction to Ecology  
**BTB440** Introduction to Economics  
**PNB207** Introduction to Environmental Health  
**CSB291** Introduction to Fortran  
**LPP552** Introduction to Graphics  
**BTB235** Introduction to Interior Technology  
**LWB101** Introduction to Law  
**LPP510** Introduction to Law  
**MNN100** Introduction to Management  
**MEB171** Introduction to Manufacturing  
**LPP564** Introduction to Maps & Air Photos  
**CHA442** Introduction to Occupational Safety  
**MSB120** Introduction to Pathology  
**LPP403** Introduction to Planning Processes  
**LPP315** Introduction to Planning Processes  
**LPP513** Introduction to Plant Ecology  
**LPP512** Introduction to Plant Science  
**LPP508** Introduction to Practice  
**CMB452** Introduction to Public Relations  
**BTB151** Introduction to Technology  
**BTB343** Introduction to the Professions  
**LPS102** Introduction to Town Planning  
**LPP561** Introduction to Urban Design  
**ACB382** Introductory Accounting  
**MSA113** Introductory Biochemistry  
**BEB149** Introductory Biology  
**BEA108** Introductory Biology  
**SVT113** Introductory Cartography  
**CHB001** Introductory Chemistry  
**CHA145** Introductory Chemistry  
**BTB100** Introductory Design I  
**BTB200** Introductory Design II  
**ACB384** Introductory Legal Studies  
**MNB253** Introductory Marketing  
**MAS090** Introductory Mathematics  
**ASB200** Introductory Meteorology  
**PHB104** Introductory Physics  
**PHA154** Introductory Physics  
**MNB322** Introductory Training & Development  
**BGB466** Invest Dec & Fin Strategy II  
**BGB465** Invest Dec & Fin Strategy I  
**BTB643** Issues & Ethics

## ■ J

**MET782** Jig & Tool Design  
**CMB673** Journalism Ethics & Issues  
**CMP405** Journalism Seminar  
**CMP110** Journalistic Writing  
**LWB305** Jurisprudence

## ■ K

**PHB252** Kinesiology & Biomechanics  
**ISN160** Knowledge Based Systems

## ■ L

**CHN740** Lab Techniques for Preparative Chem  
**CHB618** Laboratory Automation  
**CSB259** Laboratory Computing I  
**MSB405** Laboratory Computing III  
**MSA123** Laboratory Instrumentation I  
**MSA124** Laboratory Instrumentation II  
**MSN405** Laboratory Medicine  
**CET837** Laboratory Practice  
**CET235** Laboratory Practice A  
**CHA111** Laboratory Techniques  
**MSB145** Laboratory Technology II  
**MSB445** Laboratory Technology III  
**MNN201** Labour-Management Relations  
**SVB270** Land Administration I  
**SVB470** Land Administration II  
**SVB573** Land Administration III  
**SVB574** Land Administration IV  
**SVB670** Land Administration V  
**LWB312** Land Contracts  
**BTB546** Land Development I  
**BTB646** Land Development II  
**SVB561** Land Development Practice I  
**SVB664** Land Development Practice II  
**BGB626** Land Development Studies  
**LPP524** Land Grading  
**SVB473** Land Information Systems I  
**SVB563** Land Information Systems II  
**LWB201** Land Law  
**ESB377** Land Law & Mining Applications  
**SVT471** Land Laws & Regulations  
**SVB352** Land Studies A  
**SVB451** Land Studies B  
**SVT316** Land Studies I  
**SVT426** Land Studies II  
**SVB121** Land Surveying I  
**SVB226** Land Surveying II  
**SVB393** Land Surveying III  
**SVB430** Land Surveying IV  
**SVB535** Land Surveying V  
**SVB636** Land Surveying VI  
**BTB547** Land Use Generation  
**LPP551** Land Use Generation  
**BTB647** Land Use Policies  
**SVB551** Land Valuation  
**BTB511** Landscape Construction  
**LPP523** Landscape Construction  
**LPP205** Landscape Design  
**BTB411** Landscape Ecology  
**LPP514** Landscape Ecology  
**LPP214** Landscape Engineering  
**LPP520** Landscape Graphics  
**BTB565** Landscape Graphics

**LPP210** Landscape Management A  
**LPP211** Landscape Management B  
**LPP204** Landscape Planning  
**LPP208** Landscape Practice  
**CSB212** Languages & Language Processing  
**CSP212** Languages & Language Processing  
**ACB380** Law & Communication  
**LWS003** Law & Environmental Health  
**BTN402** Law & Legislation in Urban Design  
**BGB243** Law 1 - Building Acts & Regulations  
**BGB342** Law 2 - Principles & Property  
**BGB440** Law 3 - Building Contracts  
**BGB543** Law 4 - Torts & Arbitration  
**BGB643** Law 5 - Commercial Law  
**BGB668** Law 6 - Valuation of Land  
**LWD001** Law for Nurses  
**ACB240** Law of Business Associations  
**LWB102** Law of Contract  
**BTB609** Law of the Built Environment  
**ARB386** Law of the Built Environment  
**LWN009** Law Rel to Build & Eng Contracts  
**ASB101** Learning at University  
**LWP001** Legal Practice  
**LWB104** Legal Research & Writing I  
**LWB415** Legal Research & Writing II  
**LWN010** Legislation  
**ISP414** Lib Service to Yng People  
**CHA991** Liberal Studies Elective  
**ISP454** Library Programs & Services  
**ISP442** Library Programs Management  
**ISP430** Library Systems Evaluation  
**BTB132** Light & Colour Studies  
**MAB310** Linear Algebra  
**MAB410** Linear Algebra  
**MAB710** Linear Algebra B  
**ACN174** Liquidations & Receiverships  
**CMB161** Literature & Communication  
**PHN706** Literature Review I  
**PHN707** Literature Review II  
**LWN011** Litigation  
**MNB482** Local Government  
**LWB306** Local Government Law  
**MNB684** Local Govt Admin Pract II  
**MNB584** Local Govt Admin Practice I

## **M**

**MET580** Machine Elements I  
**MET680** Machine Elements II  
**MNB251** Macroeconomic Analysis  
**MNB472** Macroeconomic Policy  
**MNB372** Macroeconomic Theory  
**CMB462** Magazine & Feature Writing  
**INN401** Major Project  
**INN400** Major Project - Part I  
**INN450** Major Project - Part II  
**MNB004** Management  
**MNB040** Management

**MNP054** Management & Marketing  
**MNB412** Management & Organisations  
**ARP523** Management & Law I  
**ARP532** Management & Law II  
**ISN156** Management Information Systems  
**ISB156** Management Information Systems  
**MNB405** Management Science A  
**ACB321** Managerial Accounting  
**ACN840** Managerial Accounting  
**ACB420** Managerial Accounting Honours  
**ACN231** Managerial Accounting Honours  
**ACN232** Managerial Accounting Issues A  
**ACN233** Managerial Accounting Issues B  
**ACB282** Managerial Accounting Principles  
**MNN106** Managerial Economics  
**ACN835** Managerial Finance  
**MNB651** Managerial Strategy  
**MNP113** Managing Communications for Quality  
**MEB471** Manufacturing Engineering I  
**MEB571** Manufacturing Engineering II  
**MEB673** Manufacturing Engineering III  
**MEB173** Manufacturing Practice  
**MEB900** Manufacturing Project  
**MEB978** Manufacturing Systems Engineering  
**MEB370** Manufacturing Systems I  
**MEB472** Manufacturing Systems II  
**MET170** Manufacturing Technology  
**BTB315** Manufacturing Technology I  
**BTB415** Manufacturing Technology II  
**BTB558** Manufacturing Technology III  
**BTB658** Manufacturing Technology IV  
**BTB135** Map & Air Photo Interpretation  
**LPP521** Map & Air Photo Interpretation  
**SVB684** Map Production Planning  
**SVT642** Map Projections I  
**SVT742** Map Projections II  
**SVP214** Mapping  
**SVB103** Mapping & Surveying for Field Scient  
**BTB556** Marketing  
**MNB091** Marketing  
**MNB525** Marketing Decision Making  
**MNB391** Marketing Management  
**MNN204** Marketing Methods & Practices  
**MNB592** Marketing Research  
**BGB103** Material Science I  
**BGB173** Material Science I  
**BGB104** Material Science II  
**BGB174** Material Science II  
**BGB247** Material Science III  
**MEB339** Materials & Manufacturing Project  
**MET141** Materials (Civil)  
**MET600** Materials for Electrical Engineers  
**MEB133** Materials I  
**MEB230** Materials II  
**MEB231** Materials III  
**CHB590** Materials Science  
**MEB031** Materials Technology  
**MAB788** Mathematical Statistics

<b>MAB417</b>	Mathematical Statistics A	<b>PHB387</b>	Megavoltage Therapy II
<b>MAB418</b>	Mathematical Statistics B	<b>PHB487</b>	Megavoltage Therapy III
<b>MAB317</b>	Mathematical Statistics I	<b>MAB941</b>	Methods of Mathematical Economics
<b>MAB318</b>	Mathematical Statistics IIA	<b>MAB921</b>	Methods of Mathematical Physics A
<b>MAB608</b>	Mathematical Statistics IIB	<b>LPN115</b>	Metropolitan Planning Practice & Law
<b>MAB907</b>	Mathematical Statistics IIIA	<b>MNN808</b>	Mgmt, Technology & Social Change
<b>MAB908</b>	Mathematical Statistics IIIB	<b>MSB511</b>	Microbial Physiology & Metabolism V
<b>MAS091</b>	Mathematics	<b>MSB610</b>	Microbial Technology
<b>MAB298</b>	Mathematics & Statistics	<b>MSB150</b>	Microbiology
<b>MAS092</b>	Mathematics A	<b>MSD742</b>	Microbiology
<b>MAB297</b>	Mathematics for Construction	<b>MSB201</b>	Microbiology
<b>MAB251</b>	Mathematics I	<b>MSB101</b>	Microbiology I
<b>MAB211</b>	Mathematics IA	<b>MSB301</b>	Microbiology I
<b>MAB224</b>	Mathematics IB	<b>MSD360</b>	Microbiology I
<b>MAB225</b>	Mathematics IC	<b>MSA161</b>	Microbiology I
<b>MAB226</b>	Mathematics ID	<b>MSN515</b>	Microbiology I
<b>MAB411</b>	Mathematics IIA	<b>MSB102</b>	Microbiology II
<b>MAB412</b>	Mathematics IIB	<b>MSB402</b>	Microbiology II
<b>MAB425</b>	Mathematics IIC	<b>MSD460</b>	Microbiology II
<b>MAB342</b>	Mathematics of Finance	<b>MSA162</b>	Microbiology II
<b>MAB001</b>	Maths for Science & Technology	<b>MSN615</b>	Microbiology II
<b>BGB005</b>	Measurement of Construction I	<b>MSB450</b>	Microbiology III
<b>BGB131</b>	Measurement of Construction IA	<b>MSB103</b>	Microbiology III
<b>BGB245</b>	Measurement of Construction IB	<b>MSB454</b>	Microbiology IV
<b>BGB006</b>	Measurement of Construction II	<b>MSB755</b>	Microbiology V
<b>BGB246</b>	Measurement of Construction IIB	<b>ISB382</b>	Microcomputer Applications
<b>BGB009</b>	Measurement of Construction III	<b>ISB385</b>	Microcomputer Software Applications
<b>BGB010</b>	Measurement of Construction IV	<b>EEB273</b>	Microcomputers in Engineering
<b>BGB461</b>	Measurement of Construction V	<b>MNB151</b>	Microeconomic Analysis
<b>BGB462</b>	Measurement of Construction VI	<b>MNB471</b>	Microeconomic Policy
<b>BGB524</b>	Measurement of Construction VII	<b>MNB371</b>	Microeconomic Theory
<b>LPP522</b>	Measurement of Sites	<b>EET590</b>	Microprocessor Systems
<b>BGB444</b>	Mechanical & Electrical Estimating	<b>PHN301</b>	Microprocessors
<b>MEB489</b>	Mechanical Design Project	<b>EEB472</b>	Microprocessors
<b>MET940</b>	Mechanical Measurements	<b>BEA198</b>	Microscopy Techniques
<b>MET601</b>	Mechanical Plant	<b>EEB662</b>	Microwave & Antenna Technology
<b>MET421</b>	Mechanical Project IA	<b>EEB962</b>	Microwave Systems Engineering
<b>MAB735</b>	Mechanics	<b>NSN114</b>	Midwifery I
<b>MEB313</b>	Mechanics I	<b>NSN115</b>	Midwifery II
<b>MEB610</b>	Mechanics II	<b>NSN116</b>	Midwifery III
<b>LWB480</b>	Media Law	<b>ESB517</b>	Mineral Exploration
<b>CMB541</b>	Media Strategy	<b>LWB481</b>	Mineral Law
<b>CMB562</b>	Media Text Analysis	<b>ESA510</b>	Mineralogy Techniques
<b>PHN206</b>	Medical Imaging	<b>ESB697</b>	Mining Feasibility Studies
<b>PHN304</b>	Medical Imaging Science	<b>ESB617</b>	Mining Geology
<b>PHA213</b>	Medical Instrumentation II	<b>INN300</b>	Minor Project
<b>PHB475</b>	Medical Radiation Computing I	<b>INN301</b>	Minor Project
<b>PHB575</b>	Medical Radiation Computing II	<b>INN302</b>	Minor Project
<b>MNB320</b>	Medical Terminology	<b>INN303</b>	Minor Project
<b>PHB473</b>	Medical Ultrasound	<b>CSB350</b>	Miscellaneous Studies
<b>NSN105</b>	Medical/surgical Nursing I	<b>MAB309</b>	Modern Algebra
<b>NSN106</b>	Medical/surgical Nursing II	<b>MAB409</b>	Modern Algebra
<b>NSN107</b>	Medical/surgical Nursing III	<b>CMN814</b>	Modern Communication Technologies
<b>PNP142</b>	Medicine	<b>EET720</b>	Modern Control Technology
<b>PNB410</b>	Medicine	<b>CMB463</b>	Modern Literature & Film in Society
<b>LWS001</b>	Medicine & the Law	<b>MSN110</b>	Molecular Basis of Disease
<b>LWB483</b>	Medico-Legal Issues	<b>MSN101</b>	Molecular Basis of Disease I
<b>PHB287</b>	Megavoltage Therapy I	<b>MSN201</b>	Molecular Basis of Disease II

**MSB530** Molecular Biology  
**MSP105** Molecular Diagnosis of Disease  
**CMB442** Motivation & Ethics in Advertising  
**MAN009** Moving Boundary Problems  
**MAB601** Multivariable Calculus A  
**MAB602** Multivariable Calculus C  
**CET707** Municipal Engineering  
**CEP128** Municipal Engineering Planning  
**CEP491** Municipal Engineering Practice  
**CEP109** Municipal Law & Regulations

## ■ N

**CMB466** Narrative Concepts  
**CMP421** National Media Institutions  
**CSN330** Natural Language Processing  
**EEB303** Network Theory I  
**EEB401** Network Theory II  
**ECP120** Networks & Distributed Computing  
**PNA750** Neurological Physiology & Anatomy  
**CMB359** Newswriting  
**MEB510** Noise & Vibrations  
**MET511** Noise, Stress & Vibration Practice  
**LWN020** Non-resident & Foreign Source Tax  
**PHB373** Nuclear Medicine Imaging I  
**PHB680** Nuclear Medicine Imaging II  
**PHB602** Nuclear Physics & Energy  
**MAB718** Numerical Analysis A  
**MAB719** Numerical Analysis B  
**MAB618** Numerical Analysis I  
**MAB619** Numerical Analysis II  
**MAB913** Numerical Analysis III  
**NSN202** Nursing & Health Education Practice  
**NSB120** Nursing in Social Systems I  
**NSB220** Nursing in Social Systems II  
**NSB240** Nursing Practice I  
**NSB241** Nursing Practice II  
**PNN102** Nutrition & Lifestyle  
**MSB631** Nutritional Biochemistry

## ■ O

**ISN130** Object-orientated Systems  
**SVB639** Observations & Adjustments III  
**SVB331** Observations & Adjustments I  
**SVB431** Observations & Adjustments II  
**PNP115** Occup Health & Safety Admin I  
**PNP215** Occup Health & Safety Admin II  
**PNP415** Occupational Health  
**PNB482** Occupational Health  
**PNB210** Occupational Health & Safety I  
**PNB212** Occupational Health & Safety I  
**PNB211** Occupational Health & Safety II  
**PNP416** Occupational Health & Safety Project  
**PHP250** Occupational Hygiene  
**PNB485** Occupational Hygiene I  
**PNB585** Occupational Hygiene II  
**OPB803** Occupational/Public Health Optometry  
**OPB401** Ocular & Regional Anatomy

**OPB608** Ocular Pharmacology  
**OPB508** Ocular Physiology  
**ISB303** Office Information Systems  
**ISP383** Office Information Systems  
**BGB552** Office Management  
**SVP113** Office Operations  
**PHB683** Oncological Imaging  
**ISP441** Online Information Services  
**CSB301** Operating Systems  
**MNB551** Operations Management  
**MAB737** Operations Research A  
**MAB738** Operations Research B  
**MAB637** Operations Research IA  
**MAB638** Operations Research IB  
**MAB927** Operations Research IIA  
**MAB928** Operations Research IIB  
**OPB132** Ophthalmic Optics II  
**OPB504** Ophthalmic Optics V  
**ESB317** Optical Mineralogy & Mineragraphy  
**PHN150** Optics  
**PHB311** Optics & Acoustics  
**PHB240** Optics II  
**PHB340** Optics III  
**LPN124** Option Course  
**LPN113** Option Projects  
**OPB509** Optometry V  
**OPB609** Optometry VI  
**OPB709** Optometry VII  
**LPP517** Oral Communication Skills  
**BTB344** Oral Presentation  
**CHB150** Organic Chemistry I  
**CHA250** Organic Chemistry I  
**CHB250** Organic Chemistry II  
**CHA350** Organic Chemistry II  
**CHA550** Organic Chemistry III  
**CHB350** Organic Chemistry III  
**CHB351** Organic Chemistry IIIC  
**CHB450** Organic Chemistry IV  
**CHB451** Organic Chemistry IVC  
**CHB550** Organic Chemistry V  
**CHB551** Organic Chemistry VC  
**MNB463** Organisation Development  
**ISP432** Organisation of Knowledge  
**MNB351** Organisational Analysis & Management  
**CMP125** Organisational Communication  
**MNN814** Organisational Economics  
**MNN812** Organisational Psychology  
**MNB516** Organisational Sociology  
**ISN280** Organisations, Systems & Information  
**PNB411** Orthopaedics  
**PNB420** Orthotic Science I  
**PNB506** Orthotic Science II  
**PND742** Orthotics VI  
**PHB587** Orthovoltage & Superficial Therapy

## ■ P

**LWN012** Pacific Legal Systems  
**MNB528** Pacific Rim Economic Relations

<b>NSN204</b>	Pain: a Nursing Focus	<b>PNB465</b>	Physiology III
<b>EET121</b>	Parallel & Super Computing	<b>LPN123</b>	Planning in Developing Countries
<b>CSN310</b>	Parallel Processing	<b>LPP412</b>	Planning Prac & Law (Reg & Strateg )
<b>MSA121</b>	Pathology	<b>LPP326</b>	Planning Pract II (Urban)
<b>MSN202</b>	Pathology I	<b>LPP336</b>	Planning Practice & Law
<b>MSN302</b>	Pathology II	<b>LPP411</b>	Planning Practice & Law (Urban)
<b>NSB252</b>	Pathophysiology	<b>LPN121</b>	Planning Thesis
<b>MSN306</b>	Pathophysiology	<b>BEA026</b>	Plant Cell & Tissue Culture
<b>MSN304</b>	Pathophysiology I	<b>MET650</b>	Plant Engineering IA
<b>MSN404</b>	Pathophysiology II	<b>CET876</b>	Plant Operation & Maintenance
<b>MNN302</b>	People in Organisations	<b>BEB321</b>	Plant Physiology
<b>MNB364</b>	Pers Admin Systems/Occ Hlth & Safety	<b>BEA021</b>	Plant Physiology
<b>ACB480</b>	Personal & Corporate Finance	<b>BEB621</b>	Plant Physiology II
<b>MNB254</b>	Personnel Mgmt & Ind Relations	<b>BTB342</b>	Plant Recognition
<b>NSD120</b>	Perspectives for Nursing Practice I	<b>BEB423</b>	Plant Tissue Culture I
<b>NSD220</b>	Perspectives for Nursing Practice II	<b>BEB523</b>	Plant Tissue Culture II
<b>NSD320</b>	Perspectives for Nursing Practice III	<b>BTB640</b>	Planting Design
<b>NSD420</b>	Perspectives for Nursing Practice IV	<b>LPP504</b>	Planting Design
<b>NSD520</b>	Perspectives for Nursing Practice V	<b>BGB301</b>	PM1 - Advanced Constn Methods
<b>NSD620</b>	Perspectives for Nursing Practice VI	<b>BGB529</b>	PM2 - Quantitative Techniques
<b>MSA120</b>	Perspectives in Medicine	<b>BGB547</b>	PM3 - Construction Planning Techs I
<b>ESP707</b>	Petrochemistry	<b>BGB548</b>	PM4 - Construction Planning Techs II
<b>ESB417</b>	Petrography	<b>BGB550</b>	PM5 - Project Cost Control
<b>ESB557</b>	Petroleum Geology	<b>BGB623</b>	PM6 - Building Develop Techs I
<b>PNB306</b>	Pharmacology	<b>BGB624</b>	PM7 - Building Develop Techs II
<b>SVB343</b>	Photogrammetry I	<b>BGB606</b>	PM8 - Land Development Studies
<b>SVT243</b>	Photogrammetry I	<b>PNB422</b>	Podiatric Anaesthesiology
<b>SVB443</b>	Photogrammetry II	<b>PNB302</b>	Podiatric Medicine I
<b>SVT343</b>	Photogrammetry II	<b>PNB421</b>	Podiatric Medicine II
<b>SVB643</b>	Photogrammetry III	<b>PNB503</b>	Podiatric Medicine III
<b>SVT443</b>	Photogrammetry III	<b>PNB505</b>	Podiatric Surgery
<b>CHB180</b>	Physical & Inorganic Chemistry I	<b>PND731</b>	Podiatry V
<b>CHA270</b>	Physical Chemistry I	<b>PND732</b>	Podiatry VI
<b>CHB270</b>	Physical Chemistry II	<b>MNN811</b>	Policy Analysis
<b>CHA370</b>	Physical Chemistry II	<b>ISB216</b>	Polit & Social Aspects of Info Tech
<b>CHA670</b>	Physical Chemistry III	<b>MNB281</b>	Political Behaviour
<b>CHB370</b>	Physical Chemistry III	<b>PNB300</b>	Pollution Science I
<b>CHB371</b>	Physical Chemistry IIIC	<b>PNB481</b>	Pollution Science I
<b>CHB470</b>	Physical Chemistry IV	<b>BEB357</b>	Population & Systems Ecology
<b>CHB471</b>	Physical Chemistry IVC	<b>BTB414</b>	Population & Urban Studies
<b>CHB570</b>	Physical Chemistry V	<b>LPP558</b>	Population & Urban Studies
<b>CHB571</b>	Physical Chemistry VC	<b>BEB444</b>	Population Analysis
<b>PNB304</b>	Physical Medicine	<b>BEA405</b>	Population Biology
<b>PHB510</b>	Physical Methods of Analysis I	<b>BEB535</b>	Population Genetics
<b>PHB312</b>	Physical Properties of Materials	<b>BEB653</b>	Population Management
<b>PHD351</b>	Physics for Nurses	<b>ACB332</b>	Portfolio & Security Analysis
<b>PHB170</b>	Physics for Surveyors	<b>BGB526</b>	Post Contract Services I
<b>PHB110</b>	Physics IA	<b>BGB653</b>	Post Contract Services II
<b>PHB111</b>	Physics IB	<b>EEB652</b>	Power Electronics
<b>PHB150</b>	Physics IH	<b>EEB944</b>	Power Station Engineering
<b>PHB210</b>	Physics IIA	<b>EEB741</b>	Power Systems Analysis
<b>PHB211</b>	Physics IIB	<b>EEB742</b>	Power Systems Engineering
<b>PHB260</b>	Physics IIg	<b>CMB666</b>	Pr Consulting & Management
<b>PHB250</b>	Physics IIH	<b>INB100</b>	Practice I (°NJ232)
<b>PHN151</b>	Physics of Ultrasound	<b>INB125</b>	Practice IA (IFJ222)
<b>MNB450</b>	Physiological & Health Psychology	<b>INB105</b>	Practice IA (INJ232)
<b>PHN405</b>	Physiological Measurement	<b>INB130</b>	Practice IB (IFJ222)
<b>PNB165</b>	Physiology II	<b>INB110</b>	Practice IB (INJ232)

<b>INB150</b>	Practice II (INJ232)	<b>MET350</b>	Process Engineering
<b>INB155</b>	Practice IIA (INJ232)	<b>CHA644</b>	Process Measurement & Monitoring I
<b>INB180</b>	Practice IIB (IFJ222)	<b>CHA744</b>	Process Measurement & Monitoring II
<b>INB160</b>	Practice IIB (INJ232)	<b>CEP200</b>	Process Modelling
<b>INB200</b>	Practice III (CSJ128)	<b>CET777</b>	Process Operation & Control I
<b>INB201</b>	Practice III (ISJ210)	<b>CET877</b>	Process Operation & Control II
<b>INB202</b>	Practice III (ISJ243)	<b>MEB950</b>	Process Plant Design
<b>INB205</b>	Practice IIIA (CSJ128)	<b>PHB275</b>	Processing Technology
<b>INB225</b>	Practice IIIA (IFJ222)	<b>MET572</b>	Production Planning & Control
<b>INB206</b>	Practice IIIA (ISJ210)	<b>EEB821</b>	Production Technology & Quality
<b>INB207</b>	Practice IIIA (ISJ243)	<b>CMB622</b>	Prof Communication Practice
<b>INB210</b>	Practice IIIB (CSJ128)	<b>ARP504</b>	Prof Prac & Mgt for Int Designers I
<b>INB211</b>	Practice IIIB (ISJ210)	<b>ARP505</b>	Prof Prac & Mgt for Int Designers II
<b>INB212</b>	Practice IIIB (ISJ243)	<b>NSB130</b>	Professional Aspects of Nursing I
<b>PNP123</b>	Practice in Community Nutrition	<b>NSB230</b>	Professional Aspects of Nursing II
<b>PNP132</b>	Practice in Large Scale Feeding	<b>CMB104</b>	Professional Communication
<b>PNP122</b>	Practice in Therapeutic Dietetics	<b>CMB106</b>	Professional Communication
<b>INB250</b>	Practice IV (CSJ128)	<b>LPP556</b>	Professional Communication
<b>INB251</b>	Practice IV (ISJ210)	<b>LWB409</b>	Professional Conduct
<b>INB252</b>	Practice IV (ISJ243)	<b>NSN104</b>	Professional Issues in Nursing
<b>INB255</b>	Practice IVA (CSJ128)	<b>MNB625</b>	Professional Marketing Practice
<b>INB275</b>	Practice IVA (IFJ222)	<b>ARP653</b>	Professional Practice
<b>INB256</b>	Practice IVA (ISJ210)	<b>SVB680</b>	Professional Practice
<b>INB257</b>	Practice IVA (ISJ243)	<b>CEB403</b>	Professional Practice
<b>INB260</b>	Practice IVB (CSJ128)	<b>SVP115</b>	Professional Practice
<b>INB281</b>	Practice IVB (IFJ222)	<b>PNB621</b>	Professional Practice
<b>INB261</b>	Practice IVB (ISJ210)	<b>SVB688</b>	Professional Practice A
<b>INB262</b>	Practice IVB (ISJ243)	<b>MSN720</b>	Professional Practice I
<b>SVP114</b>	Practice Law	<b>PNB516</b>	Professional Practice I
<b>MNB072</b>	Practice Management	<b>MSN820</b>	Professional Practice II
<b>PHS021</b>	Preparatory Physics	<b>PNB613</b>	Professional Practice II
<b>BTN601</b>	Prescriptive Subject for Urban Des	<b>LPP406</b>	Professional Procedures & Ethics
<b>NSN108</b>	Primary Health Care Nursing I	<b>LPN122</b>	Professional Seminars
<b>NSN109</b>	Primary Health Care Nursing II	<b>CMB422</b>	Professional Speechwriting
<b>NSN110</b>	Primary Health Care Nursing III	<b>ARB495</b>	Professional Studies I
<b>NSP171</b>	Principles of Education	<b>ARB595</b>	Professional Studies II
<b>MNN604</b>	Principles of Epidemiology (UQ)	<b>ARB695</b>	Professional Studies III
<b>ISB113</b>	Principles of Information Mgmt	<b>LPP361</b>	Professnl Procds & Ethics
<b>ISF113</b>	Principles of Information Mgmt	<b>MNB627</b>	Program Evaluation
<b>MNB302</b>	Principles of Management	<b>ISP303</b>	Programming
<b>PHB178</b>	Principles of Medical Radiations	<b>CSP214</b>	Programming Languages & Structures
<b>ESB220</b>	Principles of Mineralogy	<b>CSB482</b>	Programming Languages & Structures
<b>NSB201</b>	Principles of Patient Care	<b>CSB110</b>	Programming Principles
<b>CEB359</b>	Principles of Structure I	<b>CSB280</b>	Programming Principles
<b>CEB559</b>	Principles of Structure III	<b>CHB600</b>	Project
<b>ARB297</b>	Principles of Structures I	<b>IFP222</b>	Project
<b>ARB298</b>	Principles of Structures II	<b>MSN900</b>	Project
<b>CEB459</b>	Principles of Structures II	<b>MSP145</b>	Project
<b>ARB397</b>	Principles of Structures III	<b>OPB750</b>	Project
<b>ARB398</b>	Principles of Structures IV	<b>PND770</b>	Project
<b>CEB659</b>	Principles of Structures IV	<b>PHB616</b>	Project
<b>PNB514</b>	Principles of Toxicology	<b>PHB672</b>	Project
<b>PHB484</b>	Principles of Treatment I	<b>PHN520</b>	Project
<b>PHB584</b>	Principles of Treatment II	<b>PHN540</b>	Project
<b>PHN154</b>	Principles of Ultrasound Imaging	<b>MSP125</b>	Project
<b>LPP405</b>	Procedural Planning Theory	<b>ISB305</b>	Project
<b>LPP331</b>	Procedural Planning Theory	<b>IFB880</b>	Project
<b>EEP123</b>	Process Control & Robotics	<b>CEP999</b>	Project

**SVB683** Project  
**EEB789** Project  
**BEP700** Project  
**CHP700** Project  
**ESP700** Project  
**MSP146** Project  
**PNB622** Project  
**CET797** Project I  
**PNB610** Project & Professional Management  
**MNN830** Project & Seminar A  
**MNN831** Project & Seminar B  
**SVB685** Project (Cartography)  
**CEB491** Project (Civil)  
**CET495** Project A  
**MEB408** Project A (Mechanical)  
**MEB409** Project B (Mechanical)  
**BGB569** Project Cost Management I  
**BGP426** Project Development  
**BGB664** Project Development II  
**BGB663** Project Development Process I  
**BGB405** Project Equipment & Safety  
**PNP151** Project I  
**PNB517** Project I  
**PNP251** Project II  
**CET598** Project II  
**PNB617** Project II  
**PNP301** Project III  
**BGP431** Project Management  
**CEB505** Project Management & Administration  
**BGP432** Project Management II  
**BGP433** Project Management Law  
**SVT623** Project Mapping  
**SVB203** Project Survey  
**CSB960** Project Work  
**MAB960** Project Work  
**INB300** Project Work  
**CSP960** Project Work  
**INB301** Project Work  
**CSP970** Project Work A  
**BEB560** Projects I  
**BEB660** Projects II  
**MNB624** Promotional Strategy  
**BGP412** Property Maintenance  
**BGB561** Property Maintenance I  
**BGB562** Property Maintenance II  
**BGP439** Property Management  
**BGB665** Property Management I  
**BGB666** Property Management II  
**BGB362** Property Marketing  
**NSN111** Psychiatric/Mental Health Nursing I  
**NSN112** Psychiatric/Mental Health Nursing II  
**NSN113** Psychiatric/Mental Health Nursing III  
**MND501** Psychology  
**MNB267** Psychology  
**MNB067** Psychology  
**MNB154** Psychology  
**MNB002** Psychology for Engineers  
**MND011** Psychology I

**HSD011** Psychology I  
**MND033** Psychology II  
**MND055** Psychology III  
**MND066** Psychology IV  
**NSB250** Psychosocial Adaption  
**ACB381** Public Administrative Law  
**CMB671** Public Affairs Reporting  
**MNB485** Public Enterprise  
**CET775** Public Health Engineering  
**CEB370** Public Health Engineering I  
**CEB470** Public Health Engineering II  
**CEB570** Public Health Engineering III  
**CEP174** Public Health Engineering Practice  
**LWB406** Public International Law  
**MNB484** Public Personnel Management  
**MNB509** Public Policy & Business  
**MNB588** Public Policy Process I  
**MNB687** Public Policy Process II  
**CMP406** Public Relations Seminar  
**BTB648** Public Services  
**CMB553** Publicity & Promotion - Electronic  
**CMB552** Publicity & Promotion - Print  
**ACN110** PY Module - Accounts  
**ACN120** PY Module - Audit & EDP  
**ACN170** PY Module - Taxation

## ■ Q

**CHA219** Qualitative Analysis  
**PHB574** Quality Assurance in Medical Imaging  
**ACP213** Quality Cost Analysis  
**ISP380** Quality Information Systems  
**MEP273** Quality Measurement & Testing  
**MEP173** Quality Planning  
**MAP221** Quality Problem Solving Techniques  
**MNP112** Quality System Management  
**MEP473** Quality Systems & Assessment  
**MAB173** Quantitative Methods  
**MAB195** Quantitative Methods I  
**MAB172** Quantitative Methods IB  
**MAB196** Quantitative Methods II  
**MAB150** Quantitative Techniques  
**MAB151** Quantitative Techniques  
**LPP509** Quantities & Costs  
**BTB553** Quantities & Costs

## ■ R

**PHB671** Radiation Biology  
**PHB272** Radiation Physics I  
**PHN103** Radiation Physics I  
**PHB471** Radiation Physics II  
**PHN104** Radiation Physics II  
**CMB571** Radio/Television Journalism I  
**CMB672** Radio/Television Journalism II  
**PHB374** Radiographic Equipment I  
**PHB474** Radiographic Equipment II  
**PHB313** Radiographic Image Interpretation  
**PHN402** Radiotherapy

<b>PHB382</b>	Radiotherapy Physics I	<b>CEP127</b>	Road & Traffic Engineering
<b>PHB482</b>	Radiotherapy Physics II	<b>CET815</b>	Road Location & Design
<b>MSP123</b>	Readings in Biomedical Science I	<b>LPP333</b>	Rural Land Use & Planning
<b>MSP124</b>	Readings in Biomedical Science II	<b>LPP401</b>	Rural Land Use & Planning
<b>ESP710</b>	Readings in Environmental Geology I		
<b>ESP720</b>	Readings in Environmental Geology II	<b>S</b>	
<b>ENN001</b>	Readings in Structural Engineering	<b>CET709</b>	Safety & Industrial Relations
<b>BGB367</b>	Real Estate - Accounting I	<b>MEP201</b>	Safety Technology & Practice I
<b>BGB368</b>	Real Estate - Accounting II	<b>MEP301</b>	Safety Technology & Practice II
<b>BGP438</b>	Real Estate Investment & Economics	<b>MEB035</b>	Safety Technology I
<b>BGB567</b>	Real Estate Practice I	<b>PHB404</b>	Safety Technology II
<b>BGB568</b>	Real Estate Practice II	<b>MNB426</b>	Sales Management
<b>EEB601</b>	Realtime Operating Systems	<b>MAP211</b>	Sampling Procedures
<b>EEP104</b>	Realtime Operating Systems	<b>CSP213</b>	Scientific Applications
<b>MNB362</b>	Recruitment & Selection	<b>CSB213</b>	Scientific Applications
<b>PNB325</b>	Regional & Sectional Anatomy	<b>CSB283</b>	Scientific Applications
<b>PHB402</b>	Relativity & Radiation Physics	<b>ESB497</b>	Sedimentology
<b>MEP371</b>	Reliability & Maintainability	<b>LWN024</b>	Select Problems of Tribunals & Enq
<b>SVB645</b>	Remote Sensing	<b>LWN018</b>	Select Problems of Trust
<b>SVT945</b>	Remote Sensing	<b>BEB500</b>	Selected Topics I
<b>BTB562</b>	Report Preparation	<b>BEB600</b>	Selected Topics II
<b>LPP518</b>	Report Preparation	<b>SVT626</b>	Seminar
<b>CMB360</b>	Reporting Principles	<b>SVB282</b>	Seminar I
<b>ISB102</b>	Representation of Information	<b>PHN705</b>	Seminar I
<b>ISB107</b>	Representation of Information	<b>SVB682</b>	Seminar II
<b>ISB182</b>	Representation of Information	<b>CMN830</b>	Seminar in Communication
<b>LWB412</b>	Research & Writing Project	<b>CMN723</b>	Seminar in Communication Research
<b>CMN832</b>	Research Colloquium	<b>CHN703</b>	Seminars
<b>MNN807</b>	Research Design & Data Analysis	<b>CHB440</b>	Separation Methods
<b>LWN300</b>	Research Dissertation	<b>EEB372</b>	Sequential Logic
<b>BGP440</b>	Research Methodology	<b>MNB492</b>	Services Marketing
<b>INN200</b>	Research Methodology	<b>EEB602</b>	Signal Processing
<b>INN201</b>	Research Methodology	<b>EEB361</b>	Signals & Systems
<b>LPP339</b>	Research Methods & Individ Project	<b>BTB340</b>	Site Measurement
<b>LPP415</b>	Research Methods & Individ Project	<b>LPP507</b>	Site Planning
<b>NSN103</b>	Research Methods in Nursing	<b>LPP553</b>	Site Planning Data & Techniques
<b>EEP300</b>	Research Project	<b>LPP554</b>	Site Planning Practice
<b>CHN704</b>	Research Project	<b>LPP502</b>	Site Planning Techniques
<b>CHN714</b>	Research Project	<b>MNN606</b>	Social & Behavioural Sciences (GU)
<b>PHN708</b>	Research Project	<b>LPP318</b>	Social & Political Structures
<b>LWN025</b>	Research Project I	<b>LPP408</b>	Social & Political Structures
<b>LWN026</b>	Research Project II	<b>ISN270</b>	Social Impacts of Inform Technology
<b>BEP101</b>	Research Seminars I	<b>LPP402</b>	Social Planning
<b>BEP201</b>	Research Seminars II	<b>LPP344</b>	Social Planning
<b>MSP121</b>	Research Strategies I	<b>MNB323</b>	Social Psychology
<b>MSP122</b>	Research Strategies II	<b>CMD100</b>	Sociology
<b>BEP104</b>	Research Techniques I	<b>CMB111</b>	Sociology
<b>BEP204</b>	Research Techniques II	<b>HSD100</b>	Sociology
<b>LPP202</b>	Residential Landscape Design	<b>CMB300</b>	Sociology for Health Professionals
<b>LPP414</b>	Resource Management	<b>CMB119</b>	Sociology for Professionals
<b>LPP343</b>	Resource Management	<b>CMB400</b>	Sociology of Health & Illness
<b>LWN014</b>	Resources Development Law	<b>CMD200</b>	Sociology of Health & Illness
<b>PNA650</b>	Respiratory Physiol & Anatomy	<b>CSB490</b>	Software Engineering
<b>LWN017</b>	Restitution	<b>CSB302</b>	Software Engineering
<b>CMB441</b>	Retail Advertising	<b>CSP112</b>	Software Principles
<b>MNB491</b>	Retailing Management I	<b>CEB240</b>	Soil Mechanics I
<b>MNB524</b>	Retailing Management II	<b>CET645</b>	Soil Mechanics I
<b>CET565</b>	Road & Drainage Engineering	<b>CEB241</b>	Soil Mechanics II

**LWB405** Solicitors' Trust Accounts  
**PHB601** Solid State Physics  
**CHB671** Solids & Surfaces  
**CMB999** Spec Topic - Communication  
**PHB476** Special Procedures  
**PND461** Special Procedures Clinic  
**BEP103** Special Research Topic I  
**BEP203** Special Research Topics II  
**ISN170** Special Studies  
**CSB319** Special Studies - Applied AI  
**CSB320** Special Studies - O O D  
**CMN899** Special Topic  
**MNN899** Special Topic  
**CSN370** Special Topic  
**ISP437** Special Topic  
**ISB999** Special Topic - Business Computing  
**ISB998** Special Topic - Business Computing  
**ISP998** Special Topic - Commercial Computing  
**ISP999** Special Topic - Commercial Computing  
**ISB317** Special Topic - Information Mgmt  
**ISP427** Special Topic - Library Science  
**ACN997** Special Topic - Commercial Law  
**ACN998** Special Topic - Mngl Acctg & Finance  
**ACN999** Special Topic - Public Accounting  
**ACB999** Special Topic Accountancy  
**ACA999** Special Topic Business  
**MNB997** Special Topic Health Admin  
**MEB500** Special Topic I  
**MEB601** Special Topic II  
**MEB701** Special Topic III  
**MNB517** Special Topic in Ind Relations  
**MNB611** Special Topic in Tourism  
**MEB800** Special Topic IV  
**MNB999** Special Topic Management  
**MNB998** Special Topic Public Admin  
**ISP417** Special Topic/Gen Elect  
**PHB687** Specialised Radiotherapy Technique  
**BGB520** Specifications  
**CET708** Specifications & Estimates  
**CHB340** Spectroscopy  
**CMB220** Speech & Drama  
**CMB012** Speech Communication  
**PND761** Sports Medicine  
**PNB602** Sports Medicine  
**EEB600** Starting a Tech Based Business  
**MNB282** State Government  
**CEB282** Statics  
**EEB761** Statistical Communications  
**MAB929** Statistical Forecasting  
**MNN307** Statistical Methods  
**MNN605** Statistical Methods & Computing (UQ)  
**MAP111** Statistical Methods in Quality  
**MAP121** Statistical Process Control  
**MAB252** Statistics  
**MAP256** Statistics  
**MAB156** Statistics  
**MAB227** Statistics  
**BGP441** Statistics  
**MAA251** Statistics & Data Processing  
**CEB201** Steel Structures  
**ISB318** Strategic Information Management  
**MNB691** Strategic Marketing  
**NSN401** Strategies for Nursing Research  
**CEB281** Strength of Materials  
**MEB511** Stress Analysis  
**CEB406** Structural Applications  
**CET888** Structural Drawing & Design  
**CET787** Structural Engineering Drawing  
**CEB253** Structural Engineering I  
**CEB354** Structural Engineering II  
**CEB355** Structural Engineering III  
**ESB357** Structural Geology  
**ESB647** Structural Geology & Geotectonics  
**CET255** Structural Mechanics  
**CEB356** Structures  
**BGB143** Structures I  
**BGB175** Structures I  
**BGB144** Structures II  
**BGB176** Structures II  
**BGB257** Structures III  
**BGB258** Structures IV  
**ASP703** Studies in Global Systems A  
**ASP704** Studies in Global Systems B  
**CMB371** Sub-editing & Layout  
**EET840** Substations & Protection Systems  
**LWB309** Succession  
**MET901** Sugar Mill Technology I  
**MET902** Sugar Mill Technology II  
**SVP112** Survey Computing  
**SVT222** Survey Drafting  
**MAB199** Survey Mathematics I  
**MAB495** Survey Mathematics II  
**MAB795** Survey Mathematics III  
**SVP116** Survey Project Management  
**SVT225** Surveying  
**SVB001** Surveying & Mapping  
**SVB101** Surveying & Measuring  
**SVB306** Surveying I  
**SVP101** Surveying Practice  
**SVP216** Surveys for Government  
**PNB220** Systematic Anatomy  
**MSB320** Systematic Pathology  
**ISP200** Systems Analysis & Design  
**CSB211** Systems Arch & Op Systems  
**CSP211** Systems Architecture & Op Systems  
**CSB326** Systems Programming  
**EEB591** Systems Programming Languages  
**T**  
**ACN178** Tax Planning  
**ACB344** Taxation & Professional Practice  
**ACB441** Taxation Honours  
**LWB403** Taxation Law  
**ACB340** Taxation Law & Practice  
**ACB343** Taxation of Business Entities  
**LWN019** Taxation of Business Entities

- ACN177** Taxation Policy Honours  
**BEA004** Taxonomy  
**CMB136** Technical Writing  
**MNP309** Technological Innovation  
**ARB195** Technology I  
**ARB196** Technology II  
**EET460** Telecommunications  
**EET753** Testing & Commissioning Techniques  
**ISP100** The Computer System  
**LWN015** The Criminal Justice System  
**BTB101** The Human Environment I  
**ARB191** The Human Environment I  
**BTB201** The Human Environment II  
**ARB192** The Human Environment II  
**BTB301** The Human Environment III  
**ARB291** The Human Environment III  
**BTB401** The Human Environment IV  
**ARB292** The Human Environment IV  
**ISN250** The Information Industries  
**ISB214** The Information Resource  
**MNB503** The Tourism Industry in Aust  
**BTN202** The Urban Environment & Behaviour II  
**BTN203** The Urban Environment & Behaviour II  
**BTN302** The Urban Landscape  
**NSB210** Theories of Nursing I  
**NSB211** Theories of Nursing II  
**CSN100** Theory of Computing I  
**CSN300** Theory of Computing II  
**MEB411** Theory of Machines  
**LPP501** Theory of Site Planning  
**LPP555** Theory of Site Planning  
**PNP120** Therapeutic Dietetics  
**PHB401** Thermal & Vacuum Physics  
**MET250** Thermodynamics  
**MEB250** Thermodynamics I  
**MEB251** Thermodynamics II  
**MEB650** Thermodynamics III  
**MET560** Thermofluids  
**CMN950** Thesis/Project  
**BGB565** Time Management  
**BGP434** Time Management I  
**BGP414** Time Management II  
**CHN701** Topics in Advanced Chemistry I  
**CHN801** Topics in Advanced Chemistry II  
**MAB906** Topics in Analysis  
**MSP127** Topics in Biotechnology  
**SVB634** Topics in Engineering Surveying  
**PHB620** Topics in Physics  
**LWB103** Torts  
**BTN305** Tourism & Recreation in Urban Design  
**LWN005** Trade Practices & Consumer Protect  
**LWB410** Trade Practices Law  
**MET171** Trade Training IA  
**MET271** Trade Training IIA  
**CHA844** Trade Waste Control  
**CEB313** Traffic Engineering  
**MSA436** Transfusion Techniques IV  
**EEB562** Transmission & Propagation  
**EET737** Transmission & Propagation  
**BTN303** Transport & Movement Syst in Urb Des  
**MNB527** Transport Economics  
**CEB512** Transport Engineering I  
**CEB410** Transport Engineering I  
**CEB511** Transport Engineering II  
**BTB563** Transport Planning  
**LPP557** Transport Planning  
**CEP218** Transportation Engineering  
**PHB286** Treatment Planning I  
**PHB386** Treatment Planning II  
**MEB463** Tribology  
**LWN016** Tribunals & Enquiries
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- PHN155** U/sonic Exam in Obstetrics/Gynaecol  
**PHN354** U/sonic Exam of Head  
**PHN156** Ultrasonic Exam of the Abdomen  
**PHN153** Ultrasound Equipment I  
**PHN351** Ultrasound Equipment II  
**PHN352** Ultrasound Examination in Cardiology  
**PHN353** Ultrasound in Medical Diagnosis  
**PHN158** Ultrasound Pathology  
**MSN158** Ultrasound Pathology  
**EET102** Unix & C for Engineering  
**BTN404** Urb Des Feasibilities & Management  
**BTN403** Urb Des Guidelines & Develop Contrl  
**BTN501** Urb Des Research Dissertation Elect  
**BTN304** Urban Climate & Services  
**LPP325** Urban Design  
**BTN101** Urban Design Analysis Studio  
**BTN401** Urban Design Computer Applications  
**BTN103** Urban Design Conjecture Studio  
**BTN102** Urban Design Context Studio  
**BTN105** Urban Design Field Studies Studio  
**BTN104** Urban Design Guidelines Studio  
**BTN201** Urban Design History of Urb Systems  
**BTN701** Urban Design Research Electives I  
**BTN702** Urban Design Research Electives II  
**BTN204** Urban Design Theory & Criticism  
**BGB166** Urban Economics  
**LPP341** Urban Governance  
**LPP323** Urban Land Development  
**LPP565** Urban Land Development  
**LPP203** Urban Landscape Design  
**BTB663** Urban Planning I  
**LPB441** Urban Planning II  
**LPB444** Urban Planning III  
**LPP416** Urban Policy Implementation  
**LPP407** Urban Policy Processes  
**LPP322** Urban Structure  
**CEP310** Urban Transportation Planning  
**PNA850** Urological Physiology & Anatomy  
**LPP506** User & Character Design Studies
- V**
- BGB442** Valuations & Dilapidations

**BGB563** Valuations - Advanced I  
**BGB564** Valuations - Advanced II  
**BGB263** Valuations I  
**BGB268** Valuations II  
**BGB363** Valuations III  
**BGB364** Valuations IV  
**BGB464** Valuations V - Rural  
**BEB429** Vegetation Studies  
**MNP310** Venture Management & Development  
**CMB592** Video Documentary Editing  
**CMB464** Video Production Techniques  
**MSB408** Virology IV  
**MSB512** Virology V  
**LPP516** Visual Communication - Graphics  
**BTB306** Visual Communication I  
**BTB406** Visual Communication II  
**BTB506** Visual Communication III

**BTB653** Visual Communication IV  
**OPB312** Visual Science III  
**OPD412** Visual Science IV

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**CEP277** Waste Management  
**CEP172** Water Quality Engineering  
**PHB310** Wave Theory & A C Circuits  
**ARP503** Workplace Design  
**MET175** Workshop (Mechanical) IA  
**MET475** Workshop (Mechanical) IIIA  
**CMB014** Writing & Communication Theory  
**CMB116** Writing for Designers I  
**ARB189** Writing for Designers I  
**CMB117** Writing for Designers II  
**ARB190** Writing for Designers II



# SUBJECT SYNOPSES

## Northern Campuses

This section provides synopses of the subjects offered on the University's Northern Campuses. The synopses are presented in alpha-numeric order according to their codes and provide the following information:

- code;
- subject title;
- brief outline of content of subject;
- prerequisite subject(s) where applicable;
- credit point value (first numeral);
- class contact in hours per week where applicable (second numeral).

### Subject coding and numbering

The format of the coding system is as follows:

- (i) two letters to represent discipline areas. A list of discipline areas appears below.
- (ii) first numeral represents the level of course in which the subject is normally offered.
  - 1 Associate Diploma
  - 2 Diploma
  - 3 Degree
  - 4 Graduate Diploma
  - 5 Masters Degree
- (iii) for some teacher education courses the second numeral represents course strands as follows:
  - 0, 1, 2 Curriculum and Discipline Studies
  - 3 Studies in Education
  - 6 Studies in the Teaching/Learning Process
  - 7 Specialist Studies
  - 8 Liberal Studies
  - 9 Field Studies
- (iv) the remaining numerals provide each subject with a unique number in the series 00-99.

### Discipline Areas

AB	Aboriginal Studies	CO	Computing
AC	Accounting	CR	Community Recreation
AD	Administration and Management	CS	Consumer Studies
AE	Aesthetics	CT	Clothing and Textiles
AR	Art	CU	Curriculum Studies
AS	Asian Studies	CW	Community Welfare
BC	Biochemistry	DA	Dance
BI	Biology	DP	Drawing and Painting
BM	Business Machines	DR	Drama
CC	Child Care	DS	Design Studies
CE	Ceramics	DY	Developmental Psychology
CH	Chemistry	EC	Economics
CL	Counselling	ED	Education

EE	Early Childhood Studies	MW	Metalwork
EN	English	NS	Nursing Studies
EP	Educational Psychology	NU	Nutrition
ER	Earth Science	OE	Outdoor Education
FD	Foods	PE	Physical Education
FI	Film	PG	Photography
FS	Food Science	PH	Physics
GE	Geography	PI	Philosophy
GR	Graphics	PL	Physiology
HE	Health	PO	Political Studies
HI	History	PT	Practice Teaching
HO	Housing	PY	Psychology
HP	Humanistic Psychology	RC	Residential Care
HS	Home Economics	RE	Reading Studies
HW	Health and Welfare Studies	RM	Recreation Management
IA	Industrial Arts	RP	Court and Parliamentary Reporting
IR	Industrial Relations	RS	Resource Studies
JE	Jewellery	SB	School Studies
LA	Language Studies	SC	Science
LB	Library Studies	SE	Special Education
LE	Leatherwork	SK	Secretarial Skills
LI	Literature Studies	SP	Social Psychology
LS	Liberal Studies	SR	Sport Studies
LW	Law	SS	Social Studies
MA	Mathematics	ST	Statistics
MB	Microbiology	SU	Sculpture
MC	Multicultural Studies	SY	Sociology
ME	Media Studies	TE	Textiles
MG	Management	TS	Teaching Skills
MK	Marketing	TX	Textiles Science
ML	Modern Language and Culture Studies	WS	Women's Studies
MU	Music	WW	Woodwork

**■ AC1002 ACCOUNTING PRINCIPLES**

Introduction to accounting; basic assumptions inherent in accounting; recording and reporting to management on assets, liabilities, revenue and expense; short and long-term concept; overview of managerial accounting concepts and techniques.

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3013 ACCOUNTING**

Accounting concepts and methods; recording business transactions in basic books of account; measurement of capital and income in business enterprises; preparation of financial statements; accounting for inventory; accounting for fixed assets; control of cash and receivables; single entry accounting; non-trading concerns; analysis and interpretation of financial reports.

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3014 FINANCIAL ACCOUNTING 1**

Accounting entries appropriate to differing forms of business organisation, partnerships, branches and companies; fund statements, extended payment transactions, revenue recognition, relevant accounting standards.

**Prerequisite:** AC3013

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3015 BUSINESS FINANCE 1**

Establishment of a conceptual and institutional framework for analysis of corporate financial decision making and behaviour of capital markets.

**Prerequisites:** AC3013, EC3028 and MK3032

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3016 FINANCIAL ACCOUNTING 2**

Accounting for companies to comply with legal requirements; professional accounting standards and exposure drafts; company taxation; liquidations; preparation of consolidated accounts and equity accounting.

**Prerequisite:** AC3014

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3017 MANAGERIAL ACCOUNTING 1**

Accounting information for management planning and control, budgeting, cost accounting concepts, job costing and process costing techniques; direct and absorption costing.

**Prerequisite:** AC3013

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3018 AUDITING**

Auditing concepts and procedures; review and evaluation of internal control systems; audit of computer-based systems; impact of computer or internal control; sample evidence, statistical sampling applied to auditing populations; audit reports; recommendations of professional bodies; legal and ethical environment of auditors; duties, rights and liabilities of auditors.

**Prerequisites:** AC3014, CO3104 and MK3032

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3019 BUSINESS FINANCE 2**

Analysis of the investment, financing and dividend decisions of the firm. Specific topics include capital budgeting, discounting techniques of investment analysis and capital structure issues.

**Prerequisite:** AC3015

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3023 FINANCIAL ACCOUNTING 3**

Objectives and methodology of financial accounting theory; concepts of and valuation/measurement methods for assets, profit, capital maintenance, equities and liabilities; accounting for changing prices; contemporary developments in accounting theory.

**Prerequisites:** AC3014, AC3015 and AC3025

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3024 BUSINESS FINANCE 3**

Continuation of investment analysis and financial management sections of AC3015 and AC3019; relationship between financial policy and security prices; investigation into behaviour of security prices and capital markets to draw together accounting studies completed.

**Prerequisite:** AC3019

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3025 MANAGERIAL ACCOUNTING 2**

Design, implementation and users of cost accounting systems to provide accounting information required by managers for recurring decisions with reference to manufacturing organisations.

**Prerequisites:** AC3015 and AC3017

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3027 COMPUTER APPLICATIONS IN PUBLIC PRACTICE 1**

Concepts and audit implications of computer-based systems: hardware, systems software, applications software, database systems, data communications, centralised vs distributed systems, networks. Systems development and systems controls: analysis of systems development methods, documentation, control objectives, types of control. Audit procedures and techniques relevant to EDP-based systems; exposure to commonly used packages.

**Prerequisite:** AC3026

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3028 COMPUTER APPLICATIONS IN PUBLIC PRACTICE 2**

Reinforcement and further development of such topics as: income, allowable deductions, trusts, companies, partnerships, primary production and provisional tax; use of computer packages in tax; preparation of returns via computer systems; application of programming skills in developing small packages and modifying existing packages.

**Prerequisites:** AC3027 and LW3015

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3029 INTERNATIONAL FINANCE**

Introduction – the multinational firm; the international monetary system; fundamental exchange rate theories; forecasting exchange rates; international debt markets; international equity markets; international cost of capital and financial structures; the foreign investment decision and political risk; international capital budgeting decisions; measuring foreign exchange risk exposure; managing foreign exchange risk; international taxation considerations.

**Prerequisite:** AC3015

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ AC3032 ACCOUNTING INFORMATION SYSTEMS 1**

Reinforcement of accounting concepts through the study of financial modelling in accounting cases; use of electronic spreadsheet packages to implement

computerised accounting applications; introduction to Accounting Information Systems (AIS) and accounting data design.

Co-requisite: AC3013

Credit Points: 12 Contact Hours: 4 per week

#### ■ AC3033 ACCOUNTING INFORMATION SYSTEMS 2

Reinforcement of further accounting concepts through the study of, and 'hands-on' experience with, a popular accounting package; advanced use of fourth generation database systems and spreadsheets to implement current accounting applications; advanced study of Accounting Information Systems and accounting data design; data retrieval and manipulation techniques of share price and company data files for business finance projects.

Prerequisite: AC3013, AC3032 or CO3104

Credit Points: 12 Contact Hours: 4 per week

#### ■ AC3034 ACCOUNTING & CONTROL SYSTEMS

Accounting packages, systems and applications executing on various hardware platforms; introduction to the management control framework; application of the controls in accounting application software and systems; controls necessary in the accounting systems conversion process.

Credit Points: 12 Contact Hours: 4 per week

#### ■ AC3040 INTRODUCTORY ACCOUNTING

Overview of accounting; double entry; recording, classifying and reporting business; transactions; accounting for cash; accounting for receivables and payables; accounting for inventories; accounting for non-current assets; accounting for payroll; single entry.

Credit Points: 10 Contact Hours: 5 per week

#### ■ AC3041 ACCOUNTING 1

Accounting for partnerships; accounting for companies; accounting for non-current liabilities; statement of sources and applications of funds; company financial statements; auditing; analysis and interpretation of financial statements.

Credit Points: 10 Contact Hours: 5 per week

#### ■ AC3042 BUSINESS MANAGEMENT

Management theory; business planning and control; business forecasting; marketing management; production management; personnel management and control; financial planning and control: an overview.

Credit Points: 10 Contact Hours: 3 per week

#### ■ AC3043 COMPUTERS IN ACCOUNTING EDUCATION 1

Business information systems concepts; accounting applications; controls and accounting; systems software-DOS; application software-accounting package; application software-spreadsheet package; and their applicability to business education.

Credit Points: 10 Contact Hours: 4 per week

#### ■ AC3044 MANAGEMENT ACCOUNTING

The nature of management accounting; cost concepts; budgeting and standards for control; cost profit volume analysis; job and process costing; standard costs; direct and absorption costing; and their applicability to business education.

Credit Points: 10 Contact Hours: 3 per week

#### ■ AC3045 SMALL BUSINESS ENTERPRISE

Small business in terms of its entrepreneurial qualities, management, planning, financing; its legal

and economic environment, and its growth and development.

Credit Points: 10 Contact Hours: 3 per week

#### ■ AC3046 COMPUTERS IN ACCOUNTING EDUCATION 2

System design, implementation and running a computer installation; data base query languages; the Unix operating system; business graphics; expert systems; communications: computer networks; and their applicability to business education.

Prerequisite: AC3040 or AC3043

Credit Points: 10 Contact Hours: 4 per week

#### ■ AC3047 ACCOUNTING 2

Tax effect accounting; reorganisation of capital; liquidations; accounting for leases; accounting ethics and social responsibility; financial mathematics; project evaluation; the capital market; lease financing. Incompatible with AC3049 and AC3050.

Prerequisite: AC3041

Credit Points: 10 Contact Hours: 4 per week

#### ■ AC3048 BUSINESS ORGANISATION

The interrelationship of key characteristics of the business organisation: people, strategies, structures, technology and business environment.

Prerequisite: AC3042

Credit Points: 10 Contact Hours: 3 per week

#### ■ AC3049 CORPORATE FINANCE

The nature of corporate finance; financial mathematics; project evaluation; short term asset management; the capital market; short and long term finance; dividend policy; and relevant computer applications. Incompatible with AC3047

Prerequisite: AC3040

Credit Points: 10 Contact Hours: 4 per week

#### ■ AC3050 FINANCIAL ACCOUNTING

Tax effect accounting; reorganisation of capital; liquidations; amalgamations; accounting for leases, consolidations, accounting ethics and social responsibility; computer applications. Incompatible with AC3047.

Prerequisite: AC3040

Credit Points: 10 Contact Hours: 4 per week

#### ■ AC3701 COMPANY ACCOUNTING

Accounting procedures and records required on formation of a company; procedures for alteration of capital structure and for liquidations, amalgamations and consolidations of companies; professional and legal requirements of accounting reporting.

Prerequisite: Tertiary studies in accounting or relevant teaching experience

Credit Points: 12 Contact Hours: 3 per week

#### ■ AC4020 PROFESSIONAL YEAR – ACCOUNTS

Analysis of current accounting standards; development of the ability to solve complex practical accounting issues (This subject is a compulsory component of the Chartered Accountants Professional Year).

Prerequisite: AC4026

Credit Points: 24 Contact Hours: 6 per week

#### ■ AC4021 PROFESSIONAL YEAR – AUDIT & E.D.P.

An examination of auditing concepts; exposure to recent auditing research; this subject is an extension of undergraduate auditing studies and is a compulsory

component of the Chartered Accountants Professional Year.

**Prerequisite:** AC4026

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AC4022 PROFESSIONAL YEAR – TAXATION**

Advanced taxation planning; examination of different tax structures; alienation of income; implications of anti-avoidance legislation; objections and appeals against assessments (This subject is a compulsory component of the Chartered Accountants Professional Year).

**Prerequisite:** AC4024

**Credit Points:** 24 **Contact Hours:** 6 per week

■ **AC4023 COMPUTERS IN TAXATION**

Further development of such topics as: superannuation, eligible termination payments, Fringe Benefit Tax, provisional tax; the application of financial modelling and database packages; exposure to packaged taxation software, taxation return preparation software; export system concepts and the application of expert systems in taxation.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AC4024 TAXATION PLANNING**

Operation of international tax agreements; revenue law other than income tax law; solving complex taxation problems; Sales Tax legislation; Stamp Duty legislation.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AC4025 COMPUTER APPLICATIONS IN ACCOUNTING**

Control aspects of systems development and design; analysis of system development methods, documentation, control objectives, types of control; audit concepts, exposure to audit software; hardware and software selection process; exposure to accounts and word processing packages.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AC4026 ACCOUNTING PRACTICE**

Conceptual and technical knowledge of the practice of management accounting including: cost accounting methods and systems; an introduction to micro computer modelling packages and their application to management accounting practice.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AC4027 ADVANCED FINANCIAL MANAGEMENT**

Utility theory; capital asset pricing model; option pricing theory; Roll's critique of capital asset pricing model; the futures market; money and banking in international markets.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AC4030 ADMINISTRATIVE ACCOUNTING**

Theoretical concepts underlying accounting information; basic accounting procedures; internal control systems; bank reconciliation; analysis and interpretation of financial statements; external reporting issues; understanding annual reports; cost-volume-profit analysis; preparation of budgets; analysis of budget variances.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD1004 INTRODUCTION TO MANAGEMENT**

Examination of basic management skills and their application in the workplace.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD1005 COMMUNICATION**

Principles of effective communication; techniques of oral and written communication; reading and listening to gain information; interviewing, report writing; preparing documentation and manuals.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD1008 WRITTEN ENGLISH**

The appreciation and study of correct English writing style in the business profession; grammar, punctuation, spelling, usage and composition.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD1009 WRITTEN & SPOKEN ENGLISH**

The development of the written and spoken language skills used in business communication; report writing, letter writing, speech writing, intra-office communication; presentational speaking, interviewing and meeting procedure.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3025 OFFICE TECHNOLOGY 1**

The concepts and applications of office automation and their relevance to the school curriculum; workflow in both traditional and automated office systems; the components of office systems and how these components interrelate.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **AD3026 OFFICE SKILLS**

Integrated office assignments of an increasingly complex nature involving the application of advanced typing and word processing principles and their relevance to the school curriculum; fostering initiative and problem-solving skills related to the production of business correspondence, documents and form design.

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **AD3027 BUSINESS COMMUNICATIONS**

Knowledge and skills associated with all forms of office communication and their relevance to the school curriculum; verbal, non-verbal, written, electronic and visual communications.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **AD3028 RECORDS MANAGEMENT**

The scope and relevance of information and records management in business organisations, including paper-based as well as electronic information systems; and their relevance to the school curriculum.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **AD3029 EXECUTIVE SECRETARIAL FUNCTION**

Organisation of and preparation for meetings, business functions, and conferences; travel arrangements, initiating correspondence, conducting interviews, public relations; and their relevance to the school curriculum.

**Prerequisite:** AD3027

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **AD3030 OFFICE TECHNOLOGY 2**

Applications of office automation in a business organisation and their relevance to the school curriculum; evaluation and description of the impact that office automation has on that organisation and the people who work there.

**Prerequisite:** AD3025

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **AD3031 OFFICE TRANSCRIPTION A**

Progressive development of transcription skills to an advanced level; dictation material consisting of a

wide range of business correspondence including technical, legal and medical.

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **AD3032 OFFICE TRANSCRIPTION B**

Progressive development of audio transcription skills to an advanced level; transcription material consisting of a wide range of business correspondence including technical, legal and medical.

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **AD3033 SUPERVISION & ADMINISTRATION**

Supervision procedures; policy and procedures manuals; work measurement; creating the work environment; forms management; controlling administrative operations.

**Prerequisites:** AD3025 and AD3027

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **AD3034 OFFICE MANAGEMENT**

The role of administrative management; policy making procedures involving administrative operations, communication management and information management.

**Prerequisites:** AD3030 and AD3033

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **AD3035 FIELD STUDY PROJECT**

An individual research project investigating an approved aspect of office administration in a local business organisation.

**Prerequisites:** AD3030 and AD3033

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **AD3040 ORGANISATIONAL COMMUNICATION I**

An introduction to the basic concepts of organisational communication – effective business speaking and writing; organisational behaviour; and interpersonal communication.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3041 ORGANISATIONAL COMMUNICATION 2**

Continuation of AD3040.

**Prerequisites:** AD3040 and AD3050

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3042 SPOKEN COMMUNICATION**

Development of successful verbal communication in contemporary business and professional situations.

**Co-requisite:** AD3040

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3043 GROUP COMMUNICATION**

Development of an in-depth understanding of the theoretical concepts of small group interaction; interviews and group problem-solving.

**Prerequisites:** AD3040 and AD3042

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3044 WRITTEN COMMUNICATION**

Development of proficiency in writing for a variety of business and professional contexts; the use of desktop publishing and other aids to produce effective written communications; the impact of the 'electronic office' on written communications.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3045 MEDIA MANAGEMENT**

The use of the print and broadcasting media to improve organisational communications; instruction in basic news writing and other media practices; the

development of in-house and external media programs.

**Prerequisite:** AD3040

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3046 TRAINING & DEVELOPMENT**

The development of skills and concepts used in training and development; introductory consultancy skills; training needs analysis; processes and methods; training education.

**Prerequisite:** AD3047

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3047 MANAGEMENT PROCESSES**

Basic management skills; management roles, and organisation structure and design; human resource management; industrial relations and administrative reform.

**Co/Prerequisite:** AD3048

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3048 MANAGEMENT & INDUSTRIAL RELATIONS**

The development of modern management and industrial relations; contemporary managerial processes in the organisation and in society; relations between managers and the state; industrial regulation; the control of work, and representative organisations; unions and workers; strategic management; management task planning and change; leadership and motivation; control and evaluation; organisational power and politics.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3049 AUSTRALIAN GOVERNMENT**

An introduction to Government in Australia; an examination of processes and institutions; Commonwealth Parliament, the electoral system, political parties and pressure groups; Australian Constitution and the judiciary; public policy formulation; the Public Service.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3050 PERSPECTIVES ON ORGANISATION & MANAGEMENT**

Classic and contemporary views of organisation work and management; concepts and skills necessary for analysing and understanding organisations and organisational processes; mechanistic stereotypes of organisations; organic views of organisations, organisations as political systems; organisational analysis.

**Prerequisite:** AD3047

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3051 MANAGEMENT POLICY & STRATEGY**

Issues of management policy and strategy in both private and public sectors, including organisational context, techniques and processes involved in the formulation of policy and strategy, the problems of moving from advocacy to implementation and evaluation and review.

**Prerequisites:** AD3047 and AD3050

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **AD3052 STRATEGIC HUMAN RESOURCE MANAGEMENT**

The role of human resource/personnel management in the strategic management of both private and public sector organisations; theory and practice including human resource planning, recruitment and selection, induction and training, management and organisation development, career planning and development,

motivation and job satisfaction, and performance evaluation.

**Prerequisite:** AD3048

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AD3053 PROFESSIONAL COMMUNICATION**

The communication process; listening and non-verbal communication; style in technical writing, oral and audiovisual presentations. Interviews, negotiation skills, small group communication, meeting, writing instruction manuals and technical papers.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **AD3054 INTERNATIONAL OPERATIONS**

Introduction; structure – purpose of structure, control and coordination; logistics – what is business logistics, implications for coordination and control; control – accounting, information and planning; review and technological trends.

**Prerequisite:** AD3048

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AD3055 INTERNATIONAL HUMAN RESOURCE MANAGEMENT**

Cultural differentiation; organisational structure and cultural differential; communicating across cultural boundaries – dynamics, skills; multicultural teams; cross-cultural leadership, motivation and decision-making; negotiating with foreigners; cross-cultural transitions; comparative human resource management; comparative employee relations; doing business in South East Asia.

**Prerequisites:** AD3040 and AD3048

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AD4010 BUSINESS COMMUNICATION**

The development of strategic communication skills for application within the contemporary business and professional organisation: listening and non-defensive communication; negotiation, interviewing and assertion; group communication processes and meeting procedure; oral reporting; proposal and report writing; the study of managerial communication involving organisational climate, behaviour and politics.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **AD4011 ARTS ADMINISTRATION & SOCIETY**

The conceptual, historical and philosophical foundations of the arts and arts administration in Australia; the role of arts organisations in meeting the cultural needs of society and the individual; organisational structures and planning processes for arts organisations; facilities for the arts; policy-making in the arts; government and the arts; community arts; current research and practices in arts administration.

**Credit Points:** 12    **Contact Hours:** 5 per week

■ **AD4012 THE ARTS INDUSTRY**

The framework of the arts as an industry; contracts and artists' rights; personnel and industrial relations; marketing the arts; law and the arts; tickets and subscriptions; government funding and private sponsorship; communications and use of the media; management case studies; operational procedures within arts organisations.

**Prerequisite:** AD4011

**Credit Points:** 12    **Contact Hours:** 5 per week

■ **AD4013 STRATEGIC MANAGEMENT THOUGHT & PRACTICE 1**

Philosophy and development of management; leadership; managerial roles and skills; decision making and

problem solving; organisational design; organisational change; organisational analysis using metaphors; organisational dynamics; creativity and control; management of human resources; strategic thinking. Incompatible with AD3048

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AD4014 STRATEGIC MANAGEMENT THOUGHT & PRACTICE 2**

Continuation of AD4013.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AD4015 ISSUES IN OFFICE ADMINISTRATION**

Issues in office administration (roles in the workplace; interpersonal relations; organisational culture and climate) and development of practical skills within an appropriate learning framework to deal with these issues.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AE3000 THE CREATIVE PROCESS**

The aesthetic dimension of everyday life; exploration of the personal significance of creative acts; theories of creativity and the dichotomy between the commonality of art and the artist as a special person; investigation of the interdependence of idea and form; independent practical study.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **AR2040 ART & MUSIC EDUCATION**

The arts in the school curriculum; visual acuity; expressive potentials of elements and media; appreciation of artists' works; musical literacy; practical work with classroom instruments; classroom singing; music as an impressive art; planning a teaching/learning sequence of art and music activities.

**Credit Points:** 12    **Contact Hours:** 6 per week

■ **AR2041 ART EDUCATION**

Perspectives on art education; children's artistic development; planning an art program; approaches used in the teaching of art; evaluation of learning in art.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **AR2042 THE WORLD OF THE ARTS**

Children's literature and drama; music and movement; frameworks for listening and moving, music and dance relationships, program planning, visual arts.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **AR2800 TWENTIETH CENTURY ARTS & CULTURE**

The forces which shaped arts in this century; the nature and intentions of twentieth-century art forms; the extent to which the arts share similar values and characteristics; the role of the arts in modern society.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **AR2803 UNDERSTANDING ART**

Practical and theoretical studies in the history and meaning of art and design, using drawing and design exercises as a personal means of coming to terms with the complexities of modern art.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **AR2805 EXPRESSIVE ARTS & EARLY CHILDHOOD**

Development of individual skills in art, music and drama suitable for young children; children's theatre.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **AR3005 ARTS IN SOCIETY**

Images of the artist in various cultures; artistic modes (music, dance, drama, visual arts); functions of the

arts (ritual, celebration, revolt); the role and place of the arts in contemporary Australian society.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **AR3006 SIGNS & MEANINGS**

Concepts of the sign advanced by Saussure and Peirce; how signs are organised into codes or rule-governed systems; how these systems depend on agreement amongst their users and how they rest upon a shared cultural background; how signs interact with the cultural and personal experience of the user (Barthes' notions of connotation, myth and symbol; Jacobson's metaphor/metonymy dichotomy); the function of ideology particularly in relation to the ideas advanced by Raymond Williams and Barthes.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **AR3016 INDEPENDENT STUDY: VISUAL ARTS**

Students are required to design and carry through a major program on their own initiative following negotiation and consultation with lecturing staff.

**Credit Points:** 20

■ **AR3017 PROFESSIONAL STUDIES**

Studio workshop management; business principles; legal principles; promotion and marketing.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **AR3018 THE MAKING OF MODERNISM**

The birth of modern art from French Impressionism to the eve of the Second World War; the major movements and their theoretical underpinnings.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **AR3019 EUROPEAN & AMERICAN ART**

Major developments in the visual arts since 1945 with a particular examination of post-modernism; the role of the artist in contemporary society; the role of the media/art critic in shaping contemporary art practice.

**Prerequisite:** AR3018

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **AR3020 CURRENT DEBATES ON THE NATURE OF ART**

An examination of the theoretical debates and their visual manifestations in contemporary Australia and overseas.

**Prerequisite:** AR3019

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **AR3021 HISTORY OF AUSTRALIAN ART**

Development of Australian art since its human settlement 40,000 years ago; the visual arts since European settlement, contemporary Western and Aboriginal art.

**Prerequisite:** AR3019

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **AR3022 PRACTICUM 1**

Four weeks work experience in visual arts related locations such as public and commercial galleries, conservation, State Library, Queensland Museum.

**Credit Points:** 10

■ **AR3023 PRACTICUM 2**

Shared responsibility by graduating students for all aspects of their graduation exhibition.

**Credit Points:** 10

■ **AR3024 RESEARCH METHODS SEMINAR**

Training in the research and writing of a theoretical/historical dissertation. Compulsory elective for students intending to undertake Honours Studies.

**Credit Points:** 20    **Contact Hours:** 15 per week

■ **AR3025 RESEARCH PROJECT**

Students undertake a substantial piece of supervised research after academic advisement. In some cases this might include practical work and associated seminars.

**Credit Points:** 80

■ **AR3028 FOUNDATION ART STUDIES 1**

Students will be exposed to a wide variety of experiences – lectures, seminars, tutorials, discussions, audiovisual presentations, performances, field trips, gallery visits and studio practice, in which they undertake a number of individual and group activities. These activities will act as departure points for the investigation of personal concepts. Students will be given the opportunity to select whatever medium or media they deem appropriate to the solution of problems inherent in the realisation of these concepts as art forms.

**Credit Points:** 20    **Contact Hours:** 12 per week

■ **AR3029 ADVANCED ART STUDIES 2**

Students pursue their chosen area of artistic inquiry, and subject this inquiry to analysis, to critical comparison, and to an assessment of the values which have arisen or been developed in the course of artistic production.

**Prerequisite:** AR3028, AR3031 and AR3032

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **AR3031 FOUNDATION ART STUDIES 2**

Students submit a proposed outline of the art forms they wish to undertake, in consultation with an appropriate supervisor. These proposals will be formalised into written agreements which will include: a description of the work; the proposed duration of its undertaking; the criteria for its assessment.

**Credit Points:** 20    **Contact Hours:** 12 per week

■ **AR3032 ADVANCED ART STUDIES 1**

Students select the media areas in which they intend to work, and develop a program of practical activity in consultation with staff. Gallery visits, studio talks etc. form a significant part of this subject.

**Prerequisites:** AR3028 and AR3031

**Credit Points:** 10    **Contact Hours:** 16 per week

■ **AR3033 ART CURRICULUM, DESIGN & DEVELOPMENT**

Consideration of Art curriculum provisions at conceptual, contextual, procedural/transactional levels using topics selected from the following domains: culture/society; subject knowledge; teaching strategies; the child learner; negotiation and examination of these topics in terms of curriculum theory, design and development.

**Prerequisite:** CU3040

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **AR3702 ADVANCED THREE-DIMENSIONAL STUDIES**

The role of drawing and the preparation of three-dimensional design both as a point of reference, stimuli or source, and as working drawings; work with a variety of media; development of programs suitable for implementation in the school situation.

**Prerequisite:** Studies in art at Diploma of Teaching level or equivalent experience

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **AR3803 VISUAL AWARENESS & COMMUNICATION**

Psychological reactions to being visually aware; classifying explanatory diagrams/pictures as educative symbols; aesthetic response; interpretation of

personal vision; strategies for designing visual messages; analysis, visual exploration and interpretation of painting, sculpture, advertising; the environment and the action and reaction of the viewer.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **AR3804 HISTORY OF PAINTING & GRAPHICS**

Painting and graphics in the seventeenth century; Italian Baroque, French Classicism, Flemish and Dutch painting. Painting and graphics in the eighteenth century: naturalism, landscape and cityscape painting on the Continent, English painting and graphics. Neo-Classicism and the beginnings of Romanticism.

**Prerequisite:** Studies in art at Diploma of Teaching level or equivalent experience

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **AR4007 UNDERSTANDING THE WORLD OF THE ARTS I**

The nature of music; elements of music such as rhythm, melody, harmony and expression; graphic and traditional notation; performance using classroom instruments and voice; listening in order to gain an appreciation of music, its historical development and cultural significance. Art in the school curriculum; expressive potential of appropriate media for schools; appraisal of artists' works; sequencing of art objectives and activities.

**Credit Points:** 8    **Contact Hours:** 2 per week

■ **AR4008 UNDERSTANDING THE WORLD OF THE ARTS 2**

Objectives and evaluation in the arts; the structure of a program: investigation of syllabi, curriculum guides and the developmental stages of children in relation to visual education and music education; development of classroom music and art subjects.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **AR4016 ART EDUCATION PROGRAM DESIGN & PRACTICE**

Design and implementation of defensible art education programs at broad and specific school levels; examination of the learning outcomes of art activities, classroom practice and evaluation across all levels of schooling.

**Prerequisite:** CU4017

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **AR4017 APPLIED STUDY IN ART EDUCATION**

Supervised individual academic investigation of existing, or innovative facets of art; art education or education displaying professional endeavour and/or reflection.

**Credit Points:** 12

■ **AS3004 ASIAN CULTURAL STUDIES**

'Traditional' Asian values and beliefs; impact of these values and beliefs on social structures, decision making, technological development; western colonialism, imperialism and neo-imperialism and their impact on Asian cultures; the emergence of contemporary Asian cultures.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AS3005 ASIAN POLITICAL ECONOMY**

History and social development of Asia from economic and political perspectives; case studies of the economic and political development of certain Asian countries and regions; current political and economic issues in the Asian region, including their impact upon Australia; political and economic

theories and concepts and their application to Asia and its relationship to Australia.

**Prerequisite:** AS3004

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AS3006 INTERNATIONAL BUSINESS STRATEGIES**

Environmental context of international business; interaction with international home societies; business customs, protocol and values; methods of operation in Asian Pacific countries; trade policy issues; international agreements and conventions; organisation of international business; negotiation in the international business arena; the practice of international business negotiation; the future.

**Prerequisite:** AS3005

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **AS3007 INTERNATIONAL ENVIRONMENT OF BUSINESS**

Field of international business, global trade and investment patterns; profile of Australian internationalisation in context of global trends; theories of international business; political/economic environment – industrial and developing countries; international trade infrastructure – trade agreements; legal environment – property, technology transfer; financial environment – balance of payments; labour environment – comparative labour relations; cultural environment; meaning of culture; future directions of international business.

**Prerequisites:** AS3004 and AS3005

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **BC3026 BIOCHEMISTRY**

The meaning and function of intermediary metabolism; nucleic acids; vitamins and coenzymes; biocenergetics; carbohydrate metabolism; biological oxidation; lipid metabolism; regulation of carbohydrates and lipid metabolism; amino acid metabolism.

**Prerequisite:** CH3025

**Credit Points:** 9    **Contact Hours:** 5 per week

■ **BI2803 AUSTRALIAN BIOLOGY**

The theory of plate tectonics and the geological history of the Australian continent; theories of Gondwanan origins of Australian flora and fauna; the distinctive nature of Australian terrestrial vertebrate and insect fauna; Australian ecosystems; survival strategies of Australian animals and plants.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **BI3012 PATTERNS OF LIFE**

Three major themes within biology; evolution, ecology and systematics; the breadth of diversity of life; patterns of structure and function; the development of ecological and evolutionary theories.

**Co-requisite:** BI3013

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **BI3013 HUMAN PHYSIOLOGY**

The basic concepts of cellular structure, function, reproduction; physiological systems and their function and structure; the fundamental concepts of biology.

**Co-requisite:** BI3012

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **BI3014 ECOLOGY**

Theoretical principles of ecology at the levels of population, communities and ecosystems; terrestrial and freshwater ecosystems; field work.

**Prerequisite:** BI3012

**Credit Points:** 10    **Contact Hours:** 4 per week

### ■ BI3015 STRUCTURES & FUNCTIONS IN BIOLOGY

The principles of structure, physiology and behaviour in a range of different types of animals; the principles of plant structure and function; anatomy, photosynthesis, respiration, water relationships; the genetic basis of evolution.

**Prerequisite:** BI3012

**Credit Points:** 10    **Contact Hours:** 4 per week

### ■ BI3025 BIOLOGICAL SCIENCE

Basic concepts of cellular biology; haematology; circulatory system; lymphatic system; immunology; respiratory system; excretory system; sense organs; reproductive system; human population and food.

**Credit Points:** 10    **Contact Hours:** 4 per week

### ■ BI3702 AUSTRALIAN FAUNA

Uniqueness and diversity of Australian fauna; methods and resources for identification of fauna; adaptation; behaviour; conservation and economic considerations. Voluntary study school for external students.

**Prerequisite:** Science studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ BI3703 AUSTRALIAN FLORA

The major groups of Australian plants; origins, adaptation and radiation of Australian flora; plant ecosystems; biological, social and economic implications of plants and plant communities; techniques of cultivation and study of plants in the school environment. Incompatible with extensive tertiary studies in botany

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ BI3801 THE HUMAN SPECIES

Characteristics of the biological groups in which the human species is placed; variation within the human species; comparative animal behaviours; genetics; theories of the presence and distribution of the human species; development of the theory of evolution; fossils; natural environment and ecological principles; human population growth; tools and technology; impact of the human species; environmental strategies and options; application to teaching. Incompatible with tertiary anthropology studies

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CE2800 ELEMENTARY CERAMICS

The nature of clay; elements and principles of design in clay; simple, traditional and contemporary methods of applying decoration to clay surfaces; firing levels and techniques.

**Credit Points:** 5    **Contact Hours:** 2 per week

### ■ CE2801 CLAY STUDIES 1

The nature of clay and glazes; practical application of various ceramic techniques and decorating styles; firing techniques; appreciation of ceramic history.

**Credit Points:** 8    **Contact Hours:** 3 per week

### ■ CE2802 CLAY STUDIES 2

Development of creativity through imagemaking in a ceramic context; practical application of low temperature techniques and firing styles; appreciation of ceramics in contemporary culture.

**Credit Points:** 8    **Contact Hours:** 3 per week

### ■ CE2805 CERAMICS 2

Builds on CE2800 and develops building and firing technique to stoneware temperatures. Further design work and theoretical studies.

**Prerequisite:** CE2800

**Credit Points:** 10    **Contact Hours:** 4 per week

### ■ CE3701 ADVANCED CERAMICS

The nature of clays suitable for various ceramic techniques and skills; exploration of creative starting points and ideas; firing techniques and procedures; applicable decorative/glazing techniques.

**Prerequisite:** Tertiary level work in ceramics

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CE4002 CLAY MATERIALS 1

Develop ceramic knowledge, artistic concepts, and practical/technical skills; investigation of selected historical ceramic eras; understanding of the relationship between ceramics and the maker's culture; development of personal imagery and design.

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CE4003 CLAY MATERIALS 2

Detailed specialisation in individually selected styles; emphasis on conceptual matters and imagery; expansion of ceramic knowledge and technical formats; investigation of contemporary trends, influences and issues in Australian ceramics.

**Prerequisite:** CE4002

**Credit Points:** 12    **Contact Hours:** 3 per week

### ■ CH3005 FOUNDATIONS OF CHEMISTRY

Consideration of the simplest methods and the fundamental ideas of chemistry in a way which stresses common substances and highlights aspects where chemistry has a significant role for people, science and society.

**Co-requisite:** CH3006

**Credit Points:** 10    **Contact Hours:** 4 per week

### ■ CH3006 GENERAL CHEMISTRY

Major theories related to the impact of chemistry on the everyday affairs of humankind; the importance of various substances and common processes to society; related chemical concepts, facts, terminology and conventions related to the content topics; water and aqueous solutions, reaction rates, bonding, acid-base properties, organic form and function.

**Co-requisite:** CH3005

**Credit Points:** 10    **Contact Hours:** 4 per week

### ■ CH3007 PRINCIPLES OF INORGANIC CHEMISTRY

States of matter; bonding; descriptive inorganic chemistry; coordination chemistry and electrochemistry.

**Prerequisite:** CH3006

**Credit Points:** 10    **Contact Hours:** 4 per week

### ■ CH3008 PRINCIPLES OF PHYSICAL CHEMISTRY

Atomic and molecular structure; kinetics; equilibrium; gases; liquids and solids; thermodynamics; surface chemistry.

**Prerequisite:** CH3006

**Credit Points:** 10    **Contact Hours:** 4 per week

### ■ CH3021 PRINCIPLES OF CHEMISTRY

Atomic theories, chemical bonding, water, pH; chemical reactions and energetics, overview of inorganic chemistry, properties of selected inorganic compounds.

**Credit Points:** 8    **Contact Hours:** 4 per week

### ■ CH3025 ORGANIC CHEMISTRY

The chemistry of carbon; covalent bonding; families of organic compounds, their properties and reactions; bio-molecules and polymers, carbohydrates, lipids, proteins, enzymes.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **CL3001 FOUNDATIONS OF COUNSELLING**

The nature of the counselling process and helping relationship; the theoretical bases of the major counselling approaches; counselling skills of the major approaches; ethical issues in counselling; counselling applied in particular situations.

**Prerequisites:** HW3006, PY3016 and PY3017  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **CL3702 COUNSELLING: A HELPING RELATIONSHIP**

The nature of counselling; the teacher as counsellor; the ethics of counselling; alternative interventions; the role of self in the counselling process; building an empathic relationship; interpersonal skills; problem analysis and intervention within the framework of several counselling models; other counselling approaches. Students taking CL3702 externally should note that attendance at a four day study school during the Easter break is mandatory.

**Prerequisite:** Studies in interpersonal psychology at Diploma of Teaching level or equivalent  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CL3703 COUNSELLING: METHODS OF CHANGE**

The major theoretical approaches to counselling applied to practical issues in the areas of nurture and care, peer support and community relations, assertion training, conflict management and negotiation and stress management; the empowerment of teachers in the skills of human relations and counselling through an analysis of counselling theories.

**Prerequisite:** CL3702 or equivalent  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CL4000 INTERPERSONAL RELATIONSHIPS IN COUNSELLING**

Overview of concepts related to interpersonal relationships; social perception and attribution theory; self concept and the circular process of social interaction; contemporary models of interpersonal communication; the emotions and their effects on communication; facilitating communication; interpersonal influence; the family and interpersonal relationships.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **CL4001 THEORY & PRACTICE OF COUNSELLING 1**

Overview of the counselling process; role of theory in counselling; 'micro-counselling' skills; philosophies in counselling; humanistic counselling; existential counselling.

**Co-requisite:** CL4002  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **CL4002 PRACTICUM 1**

Skills appropriate for the initial phase of counselling; attending, active listening and responding skills; relationship building skills and exploration and goal setting. Conducted over a one week, intensive, full-time period, using a workshop format.

**Co/Prerequisite:** CL4000 and CL4001  
**Credit Points:** 5

■ **CL4003 COUNSELLING & HUMAN DEVELOPMENT**

Major theoretical approaches to human development: age/stage perspective, life event and transition perspective, individual variability perspective; nature of research in developmental psychology; psychological transitions in the life-span; relevance of

developmental theories and concepts to personal development.

**Prerequisite:** CL4000 or CL4001  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **CL4004 THEORY & PRACTICE OF COUNSELLING 2**

Development and diversity of cognitive-behavioural approaches to counselling; behavioural interviewing and assessment strategies; cognitive-behavioural intervention strategies; ethics and practicalities of cognitive-behavioural interventions; accountability and empirical methods.

**Prerequisite:** CL4001  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **CL4005 PRACTICUM 2**

Advanced skill training workshops; supervised counselling experience involving work with clients; interaction of student and supervisor.

**Co-requisite:** CL4007  
**Prerequisite:** CL4002  
**Credit Points:** 5

■ **CL4006 COUNSELLING: A SOCIOLOGICAL PERSPECTIVE**

The nature of helping and the helping process; sociological conceptions of the individual; social control function of helping; medicalisation and professionalisation of helping; the effect of organisation on the helping process.

**Prerequisite:** CL4001  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **CL4007 THEORY & PRACTICE OF COUNSELLING 3**

Historical development of psycho-analysis and analytic theory; psychodynamics in counselling practice; hypnosis and conscious phenomena in counselling; scientific credibility of psycho-analytic and analytic psychotherapy; neurosis and psychosis in counselling.

**Co-requisite:** CL4005  
**Prerequisite:** CL4004  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **CL4011 COGNITIVE-BEHAVIOURAL COUNSELLING**

Contemporary trends and issues in cognitive-behavioural counselling; influences of interpersonal psychotherapy, systems theory, strategic therapy and multimodal therapy on cognitive-behavioural counselling; applications of the cognitive-behavioural approach.

**Prerequisite:** CL4007  
**Credit Points:** 5    **Contact Hours:** 1.5 per week

■ **CL4012 CAREER GUIDANCE & COUNSELLING**

Theoretical approaches to career guidance: developmental theories and opportunity structure theories; resources and information for career guidance; career education programs; independent research.

**Credit Points:** 5    **Contact Hours:** 1.5 per week

■ **CL4013 FAMILY COUNSELLING**

Self awareness in family counselling; formation and models of the family; family counselling techniques.

**Prerequisite:** CL4007  
**Credit Points:** 5    **Contact Hours:** 1.5 per week

### ■ CL4014 PRACTICUM 3

Further supervision of counselling work with a specific emphasis on the student's work context and the development of a professional role.

Prerequisite: CL4005

Credit Points: 10

### ■ CL4015 INTERACTIONAL COUNSELLING

The interactional conceptualisation of counselling; models of interactional influence: placebo model, resocialisation model and contextual model; developing interactional skills; paradoxical interventions; interactional change strategies.

Prerequisite: CL4007

Credit Points: 5 Contact Hours: 1.5 per week

### ■ CL4016 GROUP COUNSELLING

The concept of group counselling; organisation of group counselling; leader and members' behaviour; group techniques; evaluation of group counselling; application of group counselling.

Prerequisite: CL4007

Credit Points: 5 Contact Hours: 1.5 per week

### ■ CL4017 THE COUNSELLOR & THE ORGANISATION

Helping organisations as bureaucracies; organisation's response to social change; stress within helping organisations; teamwork among professional helpers; counsellor roles.

Prerequisite: CL4001

Credit Points: 5 Contact Hours: 1.5 per week

### ■ CL4018 INDEPENDENT STUDY

Independent counselling-related studies under the supervision of a member of staff. Studies must be approved by the Course Coordinator.

Prerequisite: CL4007

Credit Points: 5 Contact Hours: 1.5 per week

### ■ CL4019 FAMILY COUNSELLING 2

Models of family counselling; relating theory to practice; stages of family counselling; use of teams in family counselling.

Prerequisite: CL4013

Credit Points: 5 Contact Hours: 1.5 per week

### ■ CO1025 INTRODUCTION TO COMPUTERS

Overview of computer applications in business; computer hardware and software; input and output devices; storage devices; business information systems; concepts of data processing; computers in society; introduction to microcomputers using application software packages.

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1026 COMMERCIAL PROGRAMMING

Modular programming; structured design; introduction to COBOL programming; basic elements of COBOL, report generation, control breaks, tables, disk file processing.

Prerequisite: CO1035

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1027 SYSTEMS ANALYSIS

Systems in business; overview of system analysis and design; system life cycle; tools and techniques of systems analysis; communication; file organisation and design.

Prerequisite: CO1025

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1028 COMPUTER LANGUAGES

Advanced programming concepts and structures; further algorithm development; testing and debugging; inspection and walkthroughs; practical computer programming using appropriate languages.

Prerequisite: CO1025

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1029 MICROCOMPUTERS: HARDWARE & APPLICATIONS

Overview of microcomputer systems; microprocessors; operating system functions on microcomputers; application packages and programming on microcomputers; evaluation and selection.

Prerequisites: CO1025 and CO1035

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1030 COMPUTER NETWORKS

Concepts of data communications; communications hardware; distributed processing issues; online systems using networking; back-up, recovery and security, design considerations, queuing and system timing; local area networks.

Prerequisite: CO1025

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1031 SOFTWARE DEVELOPMENT

Introduction to commercial software engineering; structured design, development and testing techniques; advanced COBOL programming; data base programming.

Prerequisite: CO1026

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1032 DATABASE SYSTEMS 1

Overview of database management systems; relational model, relational algebra and normalisation; query languages including SQL; network and hierarchical models; database management; practical work involving database systems and query languages.

Prerequisite: CO1025

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1033 DATABASE SYSTEMS 2

Analysis of organisations and their information needs; design, implementation, management and evaluation of an information system; fourth generation techniques in the development of information systems.

Prerequisite: CO1032

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1034 PROJECT

Individual work related to an application of computers in business or other approved area.

Prerequisites: CO1027 and other subjects as required

Credit Points: 12

### ■ CO1035 SOFTWARE PRINCIPLES

Problem solving and the computer; design of algorithm; program design; basic algorithms; introduction to data structures; testing and debugging; documentation; practical experience using appropriate programming language.

Credit Points: 12 Contact Hours: 4 per week

### ■ CO1036 SYSTEMS DESIGN

Structured design techniques; tools and methods of design; large system construction and implementation; project management and control; implementation and maintenance issues; alternative design methodologies and strategies.

Prerequisite: CO1027

Credit Points: 12 Contact Hours: 4 per week

**■ CO2039 PROBLEM SOLVING WITH COMPUTER GRAPHICS**

Problem solving and design principles appropriate to generating graphic images; the syntax, data structures and control structures of a programming language suitable for the generation of computer graphics; writing programs to generate static computer graphics; spatial concepts; dynamic computer graphics; advanced programming.

**Credit Points:** 5      **Contact Hours:** 3 per week

**■ CO2041 COMPUTING IN THE PRIMARY SCHOOL**

Introduction to computers; programming and problem solving using LOGO; applications in the curriculum; general applications.

**Credit Points:** 6      **Contact Hours:** 2 per week

**■ CO2802 PERSONAL COMPUTING**

History of the development of the personal computer; computer terms; features of the personal computer; computer operation; software and programming.

**Credit Points:** 5      **Contact Hours:** 2 per week

**■ CO2804 WRITING & COMPUTERS**

Text editing; text formatting; form handling and printer commands; characteristics of word processing packages; interaction between word processing packages, data bases and spreadsheet programs; sociological and economic implications of the electronic processing of text; language generators.

**Credit Points:** 5      **Contact Hours:** 2 per week

**■ CO2807 COMPUTER STUDIES 1**

History of computing and computing devices; strategies for problem solving (algorithm, design, flow-charting); computer-aided instruction; word processing.

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ CO2808 COMPUTER STUDIES 2**

Computer applications; data base; spreadsheet; graphics; word processing; authoring software packages are used in various student initiated projects.

**Prerequisite:** CO2807

**Credit Points:** 8      **Contact Hours:** 3 per week

**■ CO2812 COMPUTER PROGRAMMING**

Programming, problem-solving constructs, algorithm development, concepts associated with communicating with a computer including structured programming, data representation and control structures.

**Credit Points:** 10      **Contact Hours:** 5 per week

**■ CO3036 COMPUTERS IN THE SCHOOL CURRICULUM**

Computers in the school environment and in the curriculum; methods for teaching computing; use of computers for classroom management and support; computer technology and its impact on schools and society. Access to appropriate microcomputer required.

**Prerequisite:** CU3040

**Credit Points:** 12      **Contact Hours:** 3 per week

**■ CO3060 COMPUTER SYSTEMS & ARCHITECTURE**

Single and multi-user operating systems; interaction with computer systems and management of stored information; definition and implementation of algorithms in suitable language; selection of computable representation for real world concepts and application in computer programs; hierarchy of levels of abstraction; adoption of abstracted views of real world

information processing or problem-solving situations; capabilities and limitations of conventional, sequential processing machine architectures.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ CO3061 COMPUTER APPLICATIONS**

Application of technologies in a teaching context; the use of writing and publishing software; graphics design software; numerical software tools; personal and project management tools; communications technologies and computer peripherals used in the production of computer generated materials.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ CO3062 COMPUTATIONAL & MATHEMATICAL FOUNDATIONS**

Fundamental structures and operations; set theory, algorithms, model building, problem solving and computer implementation.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ CO3063 DATA BASE THEORY & TECHNIQUES**

Logical and physical models of information systems; the characteristics of these models; use of a structured query language to query existing curriculum data bases and construct new ones; the sociological implications of the utilisation of public and private data bases.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ CO3064 PROGRAMMING PRINCIPLES**

The development of computer software; data and procedural abstraction; modular programming, step-wise refinement and bottom-up techniques.

**Prerequisite:** CO3060

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ CO3065 INFORMATION SYSTEM MODELLING**

Modelling of information systems, in particular relational systems; fact oriented approaches; conceptual schema design.

**Prerequisite:** CO3063

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ CO3066 ARTIFICIAL INTELLIGENCE**

Artificial intelligence as a discipline; philosophical issues, knowledge representation, reasoning and heuristic methods used in AI; introduction to AI programming.

**Prerequisites:** CO3060 and CO3062

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ CO3068 COMPUTATIONAL LINGUISTICS**

The nature of language; the expression of ideas in language; formalisable grammars and methods of representing both syntax and semantics in computable form; philosophical arguments concerning the computability of natural language understanding; studies of relevant programs and programming techniques.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ CO3069 ROBOTICS & CONTROL TECHNOLOGY**

Geometry, kinematics and control of robotic systems; the design of feedback, control loops and sensors for control applications; programming techniques and specialised languages used for robotic and control applications.

**Prerequisite:** CO3064

**Credit Points:** 10      **Contact Hours:** 3 per week

■ **CO3070 PROJECT PLANNING & IMPLEMENTATION**

Planning, implementation and management of projects involving the use of computers.  
Prerequisites: CO3064, CO3065 and CO3066  
Credit Points: 10 Contact Hours: 3 per week

■ **CO3071 COMPUTER EDUCATION PROJECT**

Trialling and development of new ideas and innovative uses of computers in education.  
Prerequisite: CO3070  
Credit Points: 10 Contact Hours: 3 per week

■ **CO3072 INFORMATION SYSTEM IMPLEMENTATION 1**

Implementation of a curriculum or administrative information system in a school environment.  
Prerequisite: CO3065  
Credit Points: 10 Contact Hours: 3 per week

■ **CO3073 INFORMATION SYSTEM IMPLEMENTATION 2**

Extension of CO3072.  
Prerequisite: CO3072  
Credit Points: 10 Contact Hours: 3 per week

■ **CO3074 HEURISTIC PROGRAMMING**

Heuristic based programming in a suitable language (Lisp or PROLOG); the standard heuristic methods (best-first, hill-climbing, difference reduction, AI); adaptation or variations on those methods for particular problem-solving situations.  
Prerequisites: CO3064 and CO3066  
Credit Points: 10 Contact Hours: 3 per week

■ **CO3075 HUMAN-COMPUTER INFORMATION**

The limits that exist to the understanding of human cognition with particular reference to the construction of computer models; the utility and limitations of the tool metaphor to describe human-computer interaction; pre-understanding and background required for effective tool use; model building by the user; identification of forms of linguistic communication; tool construction and use.  
Prerequisites: CO3060, CO3061, CO3062 and CO3063  
Credit Points: 10 Contact Hours: 3 per week

■ **CO3080 COMPUTING FOR SCIENCE EDUCATORS**

The practical aspects of electronic communication in science; introductory programming in an appropriate language; computer interfacing in science experiments; application of available technology in a data capture and reduction; computer modelling and simulation in science.  
Credit Points: 10 Contact Hours: 4 per week

■ **CO3085 BUSINESS SYSTEMS 1**

Systems development life cycle; investigation and analysis; modelling tools; data analysis; data dictionary; data flow diagrams; file design; implementation, installation and review.  
Prerequisite: CO3104  
Credit Points: 12 Contact Hours: 4 per week

■ **CO3086 BUSINESS SYSTEMS 2**

Overview of structured analysis and design; structured specification; transition to design guidelines and strategies; detailed file design; online screen dialogue

design; practical design of business systems. Incompatible with CO3109

Prerequisites: CO3085 and CO3097

Credit Points: 12 Contact Hours: 4 per week

■ **CO3087 PROGRAMMING LANGUAGES**

Further software development; techniques of program development; top-down design and modularity; computer programming using other appropriate languages. Incompatible with CO3103 and CO3105  
Prerequisite: CO3095  
Credit Points: 12 Contact Hours: 4 per week

■ **CO3088 COMPUTER ORGANISATION**

Multilevel machines; CPU structure and functioning; conventional machine instructions and microprogramming; assemblers, compilers and interpreters; computer operating systems.  
Prerequisite: CO3095  
Credit Points: 12 Contact Hours: 4 per week

■ **CO3089 COMMERCIAL SYSTEMS DEVELOPMENT**

Production of reliable software; standards and documentation; programming for large systems; managing software development; programming using advanced COBOL.  
Prerequisite: CO3095 (BAppSc - CO3104)  
Credit Points: 12 Contact Hours: 4 per week

■ **CO3090 DATABASE SYSTEMS 1**

Database system architecture; storage structures and database models; relational database systems; relational algebra and calculus; further normalisation theory; advanced use of database languages including SQL.  
Prerequisite: CO3104  
Credit Points: 12 Contact Hours: 4 per week

■ **CO3091 INDUSTRY PROJECT**

Individual work related to an application of computers in business or other approved area.  
Prerequisite: CO3085 or CO3109 plus subjects as required  
Credit Points: 12 Contact Hours: 4 per week

■ **CO3092 ONLINE SYSTEMS**

Data communication techniques; communication hardware; network and online system design; security, back-up and recovery; online systems operation; practical development of online system. Incompatible with CO3108 and CO3110  
Prerequisite: CO3089  
Credit Points: 12 Contact Hours: 4 per week

■ **CO3093 SYSTEMS PLANNING**

Information system classifications; corporate modelling and data base developments; management of information system development; costing and development strategies; information systems trends.  
Prerequisites: (CO3090 or CO3102) or (CO3109 or CO3085)  
Credit Points: 12 Contact Hours: 4 per week

■ **CO3095 COMMERCIAL APPLICATIONS DEVELOPMENT**

Development of algorithms; program design; programming style; structured programming concepts; file processing; report generation; practical programming using COBOL.  
Prerequisite: CO3101  
Credit Points: 12 Contact Hours: 4 per week

**■ CO3096 COMPUTER SYSTEMS MANAGEMENT**

Management of computer installation; overview of computer equipment of different manufacturers; organisation of personnel; evaluation and selection of hardware and software; physical security and administrative controls.

**Prerequisite:** CO3085 or completion of 96 credit points for the BAppSc

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ CO3097 INFORMATION ANALYSIS**

Introduction to database systems; database concepts; conceptual data modelling; normalisation; relational database design and implementation; information analysis; conceptual schema design; data definition languages.

**Prerequisite:** CO3104 or equivalent

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ CO3098 DATABASE SYSTEMS 2**

Advanced database concepts; performance and reliability criteria; recovery, integrity, concurrency and security; optimisation techniques; distributed database systems.

**Prerequisite:** CO3090

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ CO3099 DECISION SUPPORT SYSTEMS**

Overview of decision support systems; use of computers to assist in decision making; integrating optimisation models with information systems; expert systems.

**Prerequisite:** CO3097 and MK3022

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ CO3100 INTRODUCTION TO SOFTWARE ENGINEERING**

Sets; propositional calculus; predicate calculus; matrices; graphs; trees; Boolean algebra; finite state automata; Turing machine; Halting problem; complexity; formal methods; Z notation; case studies; refinement.

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3101 INTRODUCTION TO PROGRAMMING**

Conversion of problems to algorithmic solutions; design, coding, testing and debugging programs; structured programming techniques, style and documentation.

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3102 CONCEPTS IN COMPUTER SYSTEMS**

Computer evolution, computer hardware and architecture; input, output and storage devices; computer systems, computer software levels, data communications; applications packages and an introduction to SQL. Incompatible with CO3101

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3103 DATA STRUCTURES**

Built-in data structures: arrays, strings, sets, seconds, files (sequential, indexed, random). User-defined data structures: lists, stacks, queues, trees, graphs. Data abstraction: information hiding, packages, generic packages.

**Prerequisites:** CO3100 and CO3101

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3104 INTRODUCTION TO INFORMATION SYSTEMS**

Basic information system concepts; the utilisation of information; microcomputer packages and equipment; office automation; introduction to SQL.

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3105 SYSTEMS SOFTWARE**

Systems structure, kernel architectures, user perspective, file system, buffer cache, control processes, system call interface, interrupt handling, process scheduling, memory management. Shell programming, system management. Introduction to C.

**Prerequisite:** CO3101

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3107 SOFTWARE ENGINEERING**

Specification methods; modular programming techniques; language support for modular programming; debugging techniques.

**Prerequisites:** CO3101 and CO3109

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3108 INTRODUCTION TO COMPUTER NETWORKS**

Distributed system architecture and open system interconnection; data communications hardware; data communications software, network management; local area networks; future trends in networking.

**Prerequisite:** CO3095 or CO3104

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3109 SYSTEMS ANALYSIS & DESIGN**

Information systems and their development; the systems development life cycle; project management; structured analysis and design tools and techniques; security and controls; systems documentation; system conversion; testing implementation planning and user training.

**Prerequisite:** CO3104

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3110 SYSTEMS DEVELOPMENT PROJECT**

The design, development and implementation of a computer based system; demonstration of the working system.

**Prerequisites:** CO3109 and subjects as required by supervisor

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3111 SOCIAL IMPLICATIONS OF COMPUTING**

The change in employment trends; personal information held in databases. Privacy: legal aspects of data gathering. Codes of conduct for professionals. Intellectual property and copyright. Unauthorised access to information.

**Prerequisite:** 96 credit points of computing

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3112 GRAPHICS SYSTEMS**

Hardware and software of graphics systems; coordinate systems and algorithms for two-dimensional graphics; standard graphics systems; two-dimensional and three-dimensional transformations; hidden surfaces, shading, colouring and animation.

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ CO3113 KNOWLEDGE ENGINEERING**

Introduction to knowledge engineering; definition, history of artificial intelligence, current trends. Knowledge representation; rule based, frame based and logic programming. Knowledge manipulation; search methods, inferencing and inference engines.

Language for knowledge representation and manipulation. Expert systems; Bayesian measures of certainty, systems which explain their conclusions. Applications of knowledge engineering.

**Prerequisite:** CO3103

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO3114 INTELLIGENT INFORMATION SYSTEMS

The different aspects of the conceptual schema: structure, validation rules, deduction rules; storage. Implementation techniques: views and triggered procedures. Combination of an inference engine with a DBMS.

**Prerequisites:** CO3090 and CO3112

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO3115 NETWORKS

The Open System Interconnection (ISO) model: physical layer, medium access sublayer, data link layer, network layer, transport layer, session layer, presentation layer, applications layer. A detailed exposition of each layer.

**Prerequisites:** CO3105 and CO3108

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO3116 SPECIAL TOPIC

The subject is designed to give students an opportunity to explore an area of mutual interest with a topic supervisor.

**Prerequisites:** As determined by the topic supervisor

**Credit Points:** 12

#### ■ CO3117 STATISTICS & SIMULATION TECHNIQUES

Descriptive techniques for ungrouped data; probability distributions; sampling distributions; introduction to SPSS/SA; simulation techniques; discrete simulation models; queuing theory; introduction to stochastic processes; analysis of output and validation of models; random number generators.

**Prerequisites:** CO3100 and CO3101

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO3118 TRANSACTION BASED SYSTEMS

Transaction processing systems (TPS) requirements; transaction rates, atomic events, multiple access; disk performance, performance tuning; distributed TPS, planning for TPS, capacity planning for TPS.

**Prerequisite:** CO3089

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO3712 COMPUTERS & EDUCATION

An overview of microcomputer hardware and software with emphasis on the usefulness of various hardware components in schools; development of programming skills through a study of algorithms and their computer implementation in a high level language; critical examination of a variety of uses of computers in education; the impact of computer technology on society in general and education in particular.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4035 COMPUTER SYSTEMS

Algorithms; principles of structured programming; programming languages; hardware and operating systems.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4036 COMPUTERS IN EDUCATION

Range of possible uses of computers in education; impact of information technologies on learning, curriculum development and teaching strategies; the computer as an administrative tool in education; social implications of the use of computers.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4037 STRUCTURED PROGRAMMING

Extends the programming concepts introduced in CO4035; advanced topics in programming: functions; data abstraction; recursion, pointers; use of programming tool boxes.

**Prerequisite:** CO4035

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4038 COMPUTER EDUCATION PROJECT

Types of educational and administrative problems which are and are not amenable to a computer solution; factors unique to planning computer related activities; evaluation and publishing.

**Prerequisites:** CO4035, CO4036 and CO4045

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4039 TEACHING SECONDARY COMPUTER STUDIES: SECONDARY

The nature of computer studies at secondary school level; existing computer studies subjects; frames of reference for teaching computer studies; application to particular subject areas; relating computer studies to the total school curriculum.

**Prerequisites:** CO4035 and CO4036

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4040 COMPUTERS IN PRIMARY EDUCATION

Computer-based techniques for teaching problem-solving strategies; application of word processing and other software packages to the language arts curriculum; the computer as an information resource for the classroom; teaching and learning with microcomputers; computers, society and education.

**Prerequisite:** CO4036

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4041 COMPUTERS & SCHOOL ADMINISTRATION

Application of computer to educational administration; student information system; data bases, spreadsheets, textprocessing and graphics packages; timetabling and resource utilisation; financial accounting; office automation.

**Prerequisites:** CO4036 and CO4045

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4042 ARTIFICIAL INTELLIGENCE

Overview of artificial intelligence research, its current and future impact on society; computer capabilities and the human mind; methods and techniques used in AI programming; overview of logic programming in PROLOG and Pascal.

**Prerequisites:** CO4035 and CO4037

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4043 COMPUTER GRAPHICS

Use of computer-generated graphics in education; examination and use of a selection of graphics packages running on microcomputers; programming for computer graphics.

**Prerequisite:** CO4035

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ CO4044 MODELLING INFORMATION SYSTEMS

Knowledge representation; very high level problem description and data base languages; development of information processing systems.

**Prerequisite:** CO4045

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CO4045 INFORMATION SYSTEMS & EDUCATION**

Information storage; types and models of information systems; knowledge representation; data bases and data base languages; social impact of information systems.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CO4046 COMPUTER TOOLS FOR TEACHING**

Application of computers to educational activities; use of software packages for: graphic presentation, text processing and numerical analysis; development of teaching materials.

**Prerequisite:** CO4035

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CO4050 ADVANCED DATABASE TECHNOLOGY**

Integrity constraints in a database; backup and recovery; security issues; transaction handling; data communications and distributed databases; database engines; comparison of contemporary DBMS.

**Prerequisite:** CO4052

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **CO4051 COMMERCIAL SYSTEMS**

Overview of business systems; tools and techniques of systems analysis; structured approaches to systems analysis; introduction to systems design; selection, acquisition and installation of a computer; implementation and documentation; project management.

**Prerequisite:** CO3104 or equivalent

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **CO4052 DATABASE MANAGEMENT SYSTEMS**

Three-level database architecture; storage structures and data models; relational database model; IBM's DB2; network database systems; CODASYL model; hierarchical database systems and IMS; comparison of commercial database systems.

**Prerequisite:** CO3104 or equivalent

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **CO4053 KNOWLEDGE ENGINEERING**

'Intelligent' information systems; the ISO three-schema model; knowledge representation (KR); knowledge manipulation (KM); languages for KR and KM; expert systems; applications of knowledge engineering techniques.

**Prerequisite:** CO3097 and CO3100

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **CO4055 MICROCOMPUTER APPLICATIONS**

Introduction to the applications of microcomputers in a business environment; hardware and software components of a microcomputer system; operating system functions; database management systems and spreadsheets; trends in microcomputer technology and applications.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **CS3026 CONSUMERS & THE LAW**

The place of the consumer in the Australian economy; the consumer in the market place; alternatives to mass consumption; legal procedures; legal requirements regarding business transactions and business organisations; consumer protection; family and the law.

**Credit Points:** 9    **Contact Hours:** 4 per week

■ **CS3031 CONSUMER EDUCATION**

Consumer education in the school curriculum; curriculum content in the consumer education

curriculum; examination of various teaching strategies with emphasis on developmental discussion approaches; games and simulation, inquiry approaches, team teaching, audiovisual aids, community resources; curriculum development and innovation.

**Prerequisite:** CU3040 or equivalent (Students not from secondary schools or TAFE colleges must obtain approval from the Head of School before enrolling.)

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CT2800 CREATIVE CLOTHING**

Use and care of the sewing machine; choosing patterns; fitting adjustments; codes and layouts; fabric selection; clothing construction processes; garment making.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **CT3701 CLOTHING DESIGN**

Influences on fashion; fashion research and analysis; concepts of design; design development; apparel production; consumer demand; fashion change and consumer acceptance; teaching strategies and resources.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **CU3005 INTRODUCTION TO CURRICULUM & TEACHING STUDIES A**

The nature of the subject/discipline and its role and contribution as a medium for education; introduction to relevant Queensland Years 8-10 and Years 11-12 syllabuses and the organisation of learning into school work programs, semester/term courses, teaching units and lessons; lesson and activity planning routines and models; basic teaching strategies for practice teaching.

**Prerequisite:** A minimum of 100 credit points in the Discipline Studies Strand. Students preparing in two teaching areas should have a minimum of 40 credit points in Discipline Studies in each of the two unless prior arrangements have been made with the Course Coordinator.

**Credit Points:** 15

■ **CU3006 INTRODUCTION TO CURRICULUM & TEACHING STUDIES B**

The nature of the subject/discipline and its role and contribution as a medium for education; introduction to relevant Queensland Years 8-10 and Years 11-12 syllabuses and the organisation of learning into school work programs, semester/term courses, teaching units and lessons; lesson and activity planning routines and models; basic teaching strategies for practice teaching.

**Prerequisite:** A minimum of 100 credit points in the Discipline Studies Strand. Students preparing in two teaching areas should have a minimum of 40 credit points in Discipline Studies in each of the two unless prior arrangements have been made with the Course Coordinator.

**Credit Points:** 15

■ **CU3007 CURRICULUM PLANNING & IMPLEMENTATION A**

The curriculum development process; advantages/disadvantages of the broad framework/modified objectives model in use in Queensland secondary schools; principles of curriculum design and implementation; school-based curriculum development; translating a syllabus into a school work program; planning modules of learning; diagnosing and responding to student strengths and problems; factors affecting the relationship between planning and teaching; planning an assessment pro-

gram; alternative approaches to assessment, assessment requirements in Queensland schools; writing a variety of assessment instruments; curriculum evaluation.

**Prerequisites:** CU3005 and CU3006

**Credit Points:** 10

#### ■ CU3008 CURRICULUM PLANNING & IMPLEMENTATION B

The curriculum development process; advantages/disadvantages of the broad framework/modified objectives model in use in Queensland secondary schools; principles of curriculum design and implementation; school-based curriculum development; translating a syllabus into a school work program; planning modules of learning; diagnosing and responding to student strengths and problems; factors affecting the relationship between planning and teaching; planning an assessment program; alternative approaches to assessment, assessment requirements in Queensland schools; writing a variety of assessment instruments; curriculum evaluation.

**Prerequisites:** CU3005, CU3006 and CU3007

**Credit Points:** 10

#### ■ CU3009 DIRECTIONS & ISSUES IN CURRICULUM STUDIES

The nature of innovation, ideological and contextual influences on curriculum change, teachers' beliefs and responses to innovations.

**Co-requisites:** CU3010 and TS3003

**Prerequisites:** CU3005, CU3006, CU3007 and CU3008

**Credit Points:** 10

#### ■ CU3010 DIRECTIONS & ISSUES IN CURRICULUM STUDIES B

The nature of innovation, ideological and contextual influences on curriculum change, teachers' beliefs and responses to innovations.

**Co-requisites:** CU3009 and TS3003

**Prerequisites:** CU3005, CU3006, CU3007 and CU3008

**Credit Points:** 10

#### ■ CU3040 TEACHERS & THE CURRICULUM

Introduction to the concepts of curriculum and of the relationship of curriculum theory and practice; consideration of the role of the teacher as a curriculum analyst, designer and change agent in the context of curriculum theory, school-based curriculum development and a selected educational issue; the development of a proposed curriculum action incorporating situational analysis, design, implementation and evaluation.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ CU3041 EVALUATION IN CURRICULUM DEVELOPMENT

Basic concepts of evaluation; models of curriculum evaluation; procedures for undertaking an evaluation within the social context of the school; data-gathering methods; report writing.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ CU3042 INTRODUCTION TO CURRICULUM CONSTRUCTION

Curriculum terminology and theory; the key elements of a curriculum; the pressures or influences that affect decision making; the process of curriculum development; school-based curriculum development and innovation.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ CU4015 CURRICULUM & RESOURCE DEVELOPMENT IN HRE

Curriculum as political activity – the case of human relationship education; models of curriculum development; program building for specific school/community environments. Participatory curriculum policy development and decision making.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ CU4016 APPLIED STUDY IN HRE

Develop, implement, evaluate an HRE program in a specific school or community; initiate curriculum development and change in the school setting.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ CU4017 ART CURRICULUM FOUNDATIONS

Overview and understanding of aims, content and agenda of historical and contemporary art education orientations; assumptions by movements in relation to art theories, child development, teachers' role and classroom practice; investigation of strengths and weaknesses, theory and practice and historical, social and intellectual influence on past and present art education philosophies.

**Credit Points:** 12 **Contact Hours:** 2 per week

#### ■ CU4018 CURRICULUM EVALUATION: ARTS EDUCATION

Awareness of historical perspective of curriculum evaluation; critically analyse dilemmas in contemporary modes of curriculum evaluation; evaluate an existing curriculum project.

**Credit Points:** 12 **Contact Hours:** 2 per week

#### ■ CU4020 CURRICULUM FOUNDATIONS OF MUSIC EDUCATION

Conceptual frameworks for understanding educational practice and curriculum theory; analysis of existing curriculum theories through socio-political, socio-cultural, socio-historical, ideological constraints.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ CU4021 ISSUES IN MUSIC EDUCATION

Developments in arts education in Queensland within P-10 framework; role of arts/music education; develop a process of learning that is critical in nature; contributions made by history, sociology, psychology and philosophy to arts education.

**Credit Points:** 12 **Contact Hours:** 3 per week

#### ■ CU4022 APPLIED STUDIES (PRACTICAL)

Study of movement, voice and classroom instruments and associated literature; write and arrange music for classroom use; develop teaching strategies for voice, movement and instrumental music, rehearsal and conducting techniques.

**Credit Points:** 12

#### ■ CU4023 APPLIED STUDIES (CURRICULUM)

Portrayal of the context within which a curriculum design process can occur; design of a curriculum in music in local context; rationalisation of such a design using principles of curriculum design and evaluation.

**Credit Points:** 12 **Contact Hours:** 2 per week

#### ■ DA1100 CLASSICAL MAIN STUDY 1

Principles of the classic techniques; practical work includes barre work, adagio, pirouettes, allegro, pointe work and pas de deux.

**Credit Points:** 12 **Contact Hours:** 8 per week

■ **DA1101 CONTEMPORARY BASIC STUDY 1**  
Principles of the contemporary technique; practical work includes floor and centre work, combinations, dance vocabulary, analysis of dance sequences.  
**Credit Points:** 8     **Contact Hours:** 3 per week

■ **DA1104 REPERTOIRE 1**  
Study of selected repertoire pieces; rehearsal of individual aspects of the repertoire work; performance of all or part of the selected repertoire.  
**Credit Points:** 5     **Contact Hours:** 2 per week

■ **DA1105 DANCE COMPOSITION 1**  
Discussion and theoretical understanding of dance composition; practical exploration of skills essential for dance composition including: establishment of approach or theme, style of movement, patterning of movement, phrasing of steps, selection and structuring of completed dance segments.  
**Credit Points:** 5     **Contact Hours:** 2 per week

■ **DA1106 MUSIC 1**  
Introduction through the Kodaly concept of music; reading, writing and signing of simple musical examples.  
**Credit Points:** 5     **Contact Hours:** 3 per week

■ **DA1107 APPLIED ANATOMY 1**  
Skeletal structure with emphasis on the vertebral column, pelvic girdles, and upper and lower appendages; types of joints; structure and stabilising factors of joints; principal muscle groups responsible for joint movement.  
**Credit Points:** 5     **Contact Hours:** 2 per week

■ **DA1108 DANCE STYLES 1**  
Study of both the folk dance and tap dance styles. Practical work includes: folk steps and dances from selected parts of the world; basic tap dance combinations and routines for performance.  
**Credit Points:** 5     **Contact Hours:** 2 per week

■ **DA1109 BODY ALIGNMENT**  
Body and self image; basic working positions; posture as a dynamic concept; body scanning; alignment.  
**Credit Points:** 5     **Contact Hours:** 1.5 per week

■ **DA1114 REPERTOIRE 2**  
Study of selected repertoire pieces; rehearsal of individual aspects of the repertoire work; rehearsal of corps aspects of the repertoire; performance of all or part of the selected repertoire.  
**Prerequisite:** DA1104  
**Credit Points:** 5     **Contact Hours:** 3 per week

■ **DA1115 DANCE COMPOSITION 2**  
Discussion and understanding of approaches to choreography; practical experimentation with choreographic themes in class; arrangement of steps and gestures to give both form and purpose to dance; graded compositional studies for both children and adults.  
**Prerequisite:** DA1105  
**Credit Points:** 5     **Contact Hours:** 2 per week

■ **DA1116 MUSIC 2**  
Continuation of DA1106.  
**Prerequisite:** DA1106  
**Credit Points:** 5     **Contact Hours:** 3 per week

■ **DA1117 APPLIED ANATOMY 2**  
Principles which govern human stability and motion; the ways in which muscles work to produce movement; simple machines of the body; movement and injury; dance injuries.  
**Prerequisite:** DA1107  
**Credit Points:** 5     **Contact Hours:** 1.5 per week

■ **DA1119 PRACTICE PERIOD 1**  
Daily technique classes; structure of rehearsals; individual tutorial work for compositions and featured roles; personal preparation for rehearsals and performance; technique and dress rehearsals; critical evaluation during season and post-performance evaluation.  
**Credit Points:** 20

■ **DA1121 CONTEMPORARY DANCE 1**  
Consolidation of contemporary dance technique.  
**Prerequisites:** DA1101 and DA1142  
**Credit Points:** 10     **Contact Hours:** 7.5 per week

■ **DA1122 REPERTOIRE 3**  
Study of selected repertoire pieces; refinement of required technique; interpretation and style; adaptation of works as necessary for variable venues; performances of all or part of the selected repertoire studied.  
**Prerequisite:** DA1114  
**Credit Points:** 5     **Contact Hours:** 3 per week

■ **DA1123 DANCE COMPOSITION 3**  
Discussion and investigation of dance forms; preparation and presentation of short solo and group sequences; practical experience in group dance through improvisation and set compositional studies; discussion and criticism of presented dance works, discussion of criteria for evaluation and assessment of dance works.  
**Prerequisite:** DA1115  
**Credit Points:** 5     **Contact Hours:** 2 per week

■ **DA1124 DANCE STYLES 3**  
Study of both the character and jazz dance styles; practical work includes basic technique, step combinations, solo and group choreographic work.  
**Prerequisite:** DA1134  
**Credit Points:** 5     **Contact Hours:** 3 per week

■ **DA1125 HISTORY OF DANCE**  
Early development of dance technique: social and religious functions of dance; development of dance throughout the Renaissance period; the European and Russian contribution to classical ballet; the rise of modern dance in Europe and America; the development of dance in Australia.  
**Credit Points:** 5     **Contact Hours:** 2 per week

■ **DA1126 CLASSICAL BALLET 2**  
Consolidation of classical ballet technique.  
**Prerequisite:** DA1135  
**Credit Points:** 10     **Contact Hours:** 7.5 per week

■ **DA1128 REPERTOIRE 4**  
Study of selected repertoire work of different styles; refinement of required technique, interpretation and style; adaptation of works as necessary for variable venues; performance of all or part of the selected repertoire studied.  
**Prerequisite:** DA1122  
**Credit Points:** 5     **Contact Hours:** 3 per week

■ **DA1129 DANCE COMPOSITION 4**  
Preparation of short solo pieces for another dancer; preparation of group works with emphasis on particular elements of composition; investigation of costuming, lighting and sound accompaniment for group composition; choreography of a work for public performance.  
**Prerequisite:** DA1123  
**Credit Points:** 5     **Contact Hours:** 2 per week

■ **DA1130 DANCE STYLES 4**

Continuation of DA1124.

**Prerequisite:** DA1124

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DA1131 PROFESSIONAL AWARENESS STUDIES**

Studies in the latest developments in all areas of the dance community.

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DA1133 PRACTICE PERIOD 2**

Daily technique class; structured rehearsals; individual tutorial work for compositions and featured roles; personal preparation for rehearsals and performances; technical and dress rehearsals; critical evaluation during season and post-performance evaluation.

**Prerequisite:** DA1119

**Credit Points:** 20

■ **DA1134 DANCE STYLES 2**

Development of dancing and singing skills; composition of dance routines for chorus; dramatic aspects of music comedy; tap dance combinations and routines.

**Prerequisite:** DA1108

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **DA1135 CLASSICAL BALLET 1**

Consolidation of the classical ballet technique.

**Prerequisites:** DA1100 and DA1143

**Credit Points:** 15      **Contact Hours:** 9 per week

■ **DA1136 STAGECRAFT 1**

Basic principles of stage production including make-up, stage lighting design and operation; sound recording and operation.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **DA1137 CONTEMPORARY DANCE 2**

The origins and dramatic impulses which are the source of movement in various types of falls, jumps and travelling steps; interpretation of short choreographic sequence.

**Prerequisite:** DA1121

**Credit Points:** 15      **Contact Hours:** 8 per week

■ **DA1138 STAGECRAFT 2**

Basic principles of costuming for dance including properties of fabric design and construction.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **DA1142 CONTEMPORARY MAIN STUDY 2**

Practical work includes floor work, centre work and basic combinations; combinations to develop flexibility, strength and coordination; wider vocabulary of contemporary dance techniques; 'off balance' technique.

**Credit Points:** 12      **Contact Hours:** 6 per week

■ **DA1143 CLASSICAL BASIC STUDY 2**

Practical work includes barre work, adagio, pirouettes, allegro, batterie, pointe work and pas de deux.

**Prerequisite:** DA1100

**Credit Points:** 8      **Contact Hours:** 5 per week

■ **DA2801 HISTORICAL & ETHNIC DANCE**

Dances from Medieval and Renaissance periods of Europe and their influence on and relationship to the ethnic and modern dances of the twentieth century; examination of the music, dance and culture of peoples from various parts of the world.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **DA2802 CREATIVE DANCE**

Elements of dance and the nature of rhythm; the nature of creativity and movement and expression in dance; movement phrases in dance-like form; music and dance; space and dance; relationships and form; drama, movement, music and dance; assessment.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **DA2804 DANCE TECHNIQUES 1**

Development of jazz techniques, through response to rhythmic structure of jazz movement, correct alignment of the body as required by the technique, understanding and experience of expression through jazz dance combinations in informal presentation; construction and development of jazz sequences.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **DA2809 NATIONAL & FOLK DANCE**

Development of steps and style of selected National and Folk Dances. Understanding of cultural background of selected populations, investigation of costumes appropriate to selected populations. Demonstration of selected National and Folk dances.

**Credit Points:** 10      **Contact Hours:** 3 per week

■ **DA2810 MOVEMENT FOR YOUNG CHILDREN**

Examines the predisposition of young children towards rhythm in movement and sound; seeks to identify how this might be used to enhance their early education; play element in relation to the above; situations in which creative learning experiences might emerge; workshops.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **DA2811 JAZZ FOR FITNESS**

Appreciating the body as a functional instrument and tool for expression through physical skills; understanding and using movement concepts in a variety of contexts; demonstrating spatial and rhythmic awareness; application of anatomical knowledge.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **DA3000 CONTEMPORARY TECHNIQUE 1**

The basic contemporary dance vocabulary (contraction, release); study of Graham Technique with particular reference to development of strength, flexibility and placement of spine and limbs.

**Credit Points:** 10      **Contact Hours:** 7 per week

■ **DA3001 CONTEMPORARY TECHNIQUE 2**

Continuation of DA3000. Basic combinations of movements; analysis of dance sequences.

**Prerequisite:** DA3000

**Credit Points:** 10      **Contact Hours:** 7 per week

■ **DA3037 ADVANCED PERFORMANCE 1**

Study of highly technical dance styles. Exploration of the life context of the dancer as an artist.

**Prerequisite:** Audition

**Credit Points:** 20      **Contact Hours:** 7 per week

■ **DA3038 ADVANCED PERFORMANCE 2**

Continuation of highly technical dance styles. Exploration of the rehearsal and performance work ethic.

**Prerequisite:** DA3037

**Credit Points:** 20      **Contact Hours:** 7 per week

■ **DA3039 ADVANCED PERFORMANCE 3**

Synthesis of all elements of study culminating in public performance.

**Prerequisite:** DA3038

**Credit Points:** 20      **Contact Hours:** 7 per week

■ **DA3050 COMPOSITION 1**

Introduction to the domain of composition, providing a sound grounding in contemporary approaches to dance making including: developing a personal movement language and an investigation of how dance presents/creates meaning.  
**Credit Points:** 10    **Contact Hours:** 4 per week

■ **DA3051 DANCE ANALYSIS & HISTORY**

Introduction to the analysis of dances through a concentration on the dance as text; a study of various historical contexts of dance as art.  
**Credit Points:** 20    **Contact Hours:** 3 per week

■ **DA3052 ANATOMY & ALIGNMENT**

The anatomical structure and alignment techniques, their function and application to increase movement range and lessen dance injuries.  
**Credit Points:** 15    **Contact Hours:** 3 per week

■ **DA3053 CONTEMPORARY TECHNIQUE 1**

The basic contemporary dance vocabulary; study of Graham, Cunningham or Limon Technique with particular reference to development of strength, flexibility and placement of spine and limbs. Basic combinations of movements; analysis of dance sequences.  
**Credit Points:** 20    **Contact Hours:** 7.5 per week

■ **DA3054 CLASSICAL TECHNIQUE 1**

Review and consolidation of the fundamental technique and its application designed to reinforce and develop an appropriate range of technical skills within the four tier practical level system.  
**Credit Points:** 10    **Contact Hours:** 4.5 per week

■ **DA3055 MUSIC 1**

Elements of music: concepts of beat, accent, rhythm and phrasing. Introduction to keyboard skills: study of style in the nineteenth century. Notation, history, literature, score reading and aural skills.  
**Credit Points:** 5    **Contact Hours:** 3 per week

■ **DA3056 CONTEMPORARY TECHNIQUE 2**

Technical work including off-balance turns and rapid changes of weight, level and direction; exploration of rhythm. Continued emphasis on performance of sequence work.  
**Prerequisite:** DA3053  
**Credit Points:** 20    **Contact Hours:** 7.5 per week

■ **DA3057 CLASSICAL TECHNIQUE 2**

Consolidation of technique; study of a variety of selected approaches to classical ballet and develop an appropriate range of technical skills within the four tier practical level system.  
**Prerequisite:** DA3054  
**Credit Points:** 10    **Contact Hours:** 4.5 per week

■ **DA3058 COMPOSITION 2**

The conceptual base of the medium and of the heuristic principles governing the making of dance; exploration of more formal dynamic, temporal and spatial structures, deemed historically appropriate as a means of structuring movement and conveying a choreographer's intention. The power and responsibility of the artist; the finite possibilities for the interpretation of a work; ownership of choreographic works once they enter the public domain.  
**Prerequisite:** DA3050  
**Credit Points:** 10    **Contact Hours:** 4 per week

■ **DA3059 HISTORY OF AUSTRALIAN THEATRE DANCE**

A study of the development of dance as an art form in Australia in the twentieth century.  
**Prerequisite:** DA3051  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DA3060 MUSIC 2**

Continuation of DA3055. More complicated keyboard skills; study of the twentieth century musical style; vocal and improvisation studies.  
**Prerequisite:** DA3055  
**Credit Points:** 5    **Contact Hours:** 3 per week

■ **DA3061 PRACTICUM**

Consolidation of the student's knowledge and skills in direct artistic experience in real contexts.  
**Credit Points:** 20

■ **DA3062 DANCE IN THE COMMUNITY**

Introductory studies of dance in the community; exploring the role of the dance in the community; procedures for establishing a dance project; basic program planning and teaching approaches for community dance.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **DA3064 DANCE RESEARCH**

Practical training in scholarly methods and professional skills.  
**Credit Points:** 5    **Contact Hours:** 2 per week

■ **DA3065 WRITINGS ON DANCE**

Strategies for reading, and writing exposition and argument, with emphasis on clarity of expression and presentation of thought.  
**Prerequisites:** AR3006, DA3064 and DA3066  
**Credit Points:** 5    **Contact Hours:** 2 per week

■ **DA3066 DANCE IN AUSTRALIAN SOCIETY**

The ritual, artistic and social functions of dance in contemporary Australian society.  
**Co-requisite:** DA3064  
**Prerequisite:** AR3005  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DA3067 PROFESSIONAL DEVELOPMENT STUDIES**

Preparation for the dance industry; preparation of curriculum vitae and funding applications; auditions; contracts; press relations and management.  
**Credit Points:** 5    **Contact Hours:** 2 per week

■ **DA3068 DANCE INDEPENDENT STUDY**

Students are required to design and carry through a major program on their own initiative after negotiation and consultation with lecturing staff.  
**Prerequisites:** DA3064 and DA3065  
**Credit Points:** 20

■ **DA3069 PRODUCTION TECHNIQUES**

Study and practice in elements of theatre production; lighting, sound and costume.  
**Credit Points:** 10    **Contact Hours:** 6 per week

■ **DA3070 ENQUIRIES INTO THE PHILOSOPHY OF DANCE**

Study into theories of dance from Noverre to Rainer; reading, discussion and analysis of philosophical writings on issues in art and dance.  
**Credit Points:** 30    **Contact Hours:** 3 per week

■ **DA3071 RESEARCH PROJECT**

Students undertake a substantial piece of supervised research after academic advisement. In some cases

this might include practical work and associated seminars.

**Prerequisite:** DA3064

**Credit Points:** 60

■ **DA3072 ADVANCED ANALYSIS 1: BALLET**

The skills involved in the aesthetic appreciation and analysis of the masterworks of ballet.

**Co-requisites:** DA3064 and DA3066

**Prerequisites:** A grade of 5 or above in DA3051 and DA3059

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DA3073 ADVANCED ANALYSIS 2: MODERN DANCE**

The aesthetic appreciation and analysis of the masterworks of modern dance.

**Co-requisite:** DA3065

**Prerequisites:** A grade of 5 or above in DA3051 and DA3059

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DA3074 ADVANCED ANALYSIS 3: COMPARATIVE STUDY**

The skills involved in the aesthetic appreciation and analysis of the masterworks of ballet or modern dance used to engage in a comparison of various features of specific dances chosen for detailed study.

**Prerequisites:** A grade of 5 or above in DA3051, DA3072 or DA3073

**Credit Points:** 10    **Contact Hours:** 1 per week

■ **DA3075 ADVANCED COMPOSITION 1**

Exploration of how dance creates meaning; the aesthetic questions that have emerged out of the last major choreographic movement; an exploration of possible future directions.

**Co/Prerequisite:** DA3056

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **DA3076 ADVANCED COMPOSITION 2**

'Contact Improvisation' and its use as a basis for the development of partner work; the range of traditional and non-traditional forms available to the choreographer when working with groups of varying sizes.

**Co/Prerequisites:** DA3072 and DA3075

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **DA3077 ADVANCED COMPOSITION 3**

The links between technology and dance in the areas of light and sound – the principal elements of dance design; a major individual project that involves the application and integration of a range of technological devices/processes.

**Co/Prerequisites:** DA3073 and DA3076

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **DA3078 DANCE IN THE COMMUNITY 1**

Indepth studies in teaching for dance; program planning and teaching approaches for specific dance groups.

**Prerequisite:** DA3062

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DA3079 DANCE IN THE COMMUNITY 2**

Students are required as a group to initiate, devise, develop and produce a dance within the community with the emphasis on management skills.

**Prerequisite:** DA3078

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DA3080 DANCE IN THE COMMUNITY 3**

Students are required to individually initiate, devise, develop and produce a dance project within the com-

munity with the emphasis on the creativity and production of the project.

**Prerequisite:** DA3079

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DA3081 ANALYSIS & HISTORY – ELECTIVE**

Introduction to the analysis of dances through a concentration on the dance as text; a study of various historical contexts of dance as art.

**Credit Points:** 20    **Contact Hours:** 3 per week

■ **DA3082 COMPOSITION 1 – ELECTIVE**

Introduction to the domain of composition, providing a sound grounding in contemporary approaches to dance making including developing a personal movement language and an investigation of how dance presents/creates meaning.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **DA3083 COMPOSITION 2 – ELECTIVE**

The conceptual base of the medium and of the heuristic principles governing the making of dance; exploration of formal dynamic, temporal and spatial structures, deemed historically appropriate as a means of structuring movement and conveying a choreographer's intention. The power and responsibility of the artist; the finite possibilities for the interpretation of a work and ownership of choreographic works once they enter the public domain.

**Prerequisite:** DA3082

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **DA3084 TECHNIQUE, ANATOMY & ALIGNMENT – ELECTIVE**

The basic contemporary dance vocabulary; study of Graham, Cunningham or Limon Technique with particular reference to development of strength, flexibility and placement of spine and limbs; basic combinations of movements; analysis of dance sequences; the anatomical structure and alignment techniques, their function and application to increase movement range and lessen dance injuries.

**Credit Points:** 20    **Contact Hours:** 7.5 per week

■ **DA3085 DANCE IN EDUCATION**

Study of philosophy of the arts in education and of dance in particular; role and profile of an arts educator; investigation of domains involved in arts learning.

**Credit Points:** 15    **Contact Hours:** 4 per week

■ **DA3086 FOLK DANCE**

A study of folk dances – their historical and cultural contexts; incorporating both practical and academic work.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **DA3087 JAZZ & POPULAR DANCE**

A study of the history and sociology of jazz and popular dance; examination of jazz and popular dance in the media; practical study of jazz and popular dance styles.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **DP2800 PAINTING & DRAWING**

Pictorial exercises based on colour, form, mass and space; drawing from the live model; appreciation; criticism.

**Credit Points:** 5    **Contact Hours:** 2 per week

### ■ DP2808 DRAWING

Practical studies in space and form, involving extensive studio work, history of drawing, gallery visits and analytical criticism of drawings, experimental graphic processes.

**Credit Points:** 5      **Contact Hours:** 4 per week

### ■ DP2809 DRAWING, PAINTING & PRINTMAKING 1

Drawing and painting as a means of exploring and developing images; exploration of printing technique, colour, surface scale and content; relief printmaking (lino cuts); planographic printing (monotype and paperprint); silkscreen printing (drawn and photographic images).

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ DP2810 DRAWING, PAINTING & PRINTMAKING 2

Continuation of DP2809 with exploration of at least one process approach or technique to an advanced level.

**Prerequisite:** DP2809

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ DP3001 DRAWING 1

Exploration of the nature of perception and the forming of concepts; analysis of modes of drawing; exploration of the nature and function of the mark in drawing.

**Credit Points:** 5      **Contact Hours:** 4 per week

### ■ DP3002 DRAWING 2

Continuation of DP3001 with emphasis on drawing as an art activity in its own right: the place of drawing in the contemporary context; interpretation of space, mass and volume; the mark as a symbol or referent; analysis of cartoons, comic strips, advertisements and visual illustrations to establish the relationship these forms of drawing have with each other, with art as a whole and with contemporary Australian society; comparison of 'high' art and 'popular' art; means by which the occupation of space and the passage of time are represented in contemporary drawing.

**Prerequisite:** DP3001

**Credit Points:** 5      **Contact Hours:** 4 per week

### ■ DP3003 DRAWING 3

Development of a comparative knowledge of drawing periods and styles; 'primitive' drawing; 'unsophisticated' drawings; refinement and adaptation of traditional forms in drawing; the impact of different cultural idioms in drawing upon each other; motives behind drawing; work involving other media.

**Prerequisite:** DP3002

**Credit Points:** 5      **Contact Hours:** 4 per week

### ■ DP3004 DRAWING 4

In consultation with lecturing staff students undertake a program of activities related to their progress as artist/advocate.

**Prerequisite:** DP3003

**Credit Points:** 5      **Contact Hours:** 4 per week

### ■ DP3005 DRAWING 5

Continuation of DP3004.

**Prerequisite:** DP3004

**Credit Points:** 5      **Contact Hours:** 4 per week

### ■ DP3006 DRAWING 6

Continuation of DP3005.

**Prerequisite:** DP3005

**Credit Points:** 5      **Contact Hours:** 4 per week

### ■ DP3701 ADVANCED PAINTING STUDIES

Exploratory work in space, form, colour and mass; foundations and implications of contemporary directions in painting; criticism and analysis.

**Prerequisite:** Artistic ability demonstrated in folio of work

**Credit Points:** 12      **Contact Hours:** 3 per week

### ■ DP3801 DRAWING

Examination of established systems of drawing by historical reference and exploration of materials; methods by which shape and volume can be determined by drawing techniques; the line as a means of expression and communication; methods and techniques for creating solid form by the use of various media; perspective; rendering; perceptual organisation and expressive effects; use of drawing for teachers who require visual expression and delineation within their areas. Incompatible with Art major at Diploma of Teaching (Secondary Art) level.

**Credit Points:** 12      **Contact Hours:** 3 per week

### ■ DP4002 PAINTING & DRAWING 1

Introducing and developing an active awareness of both historical and contemporary issues in painting and drawing through studio practice and tutorials; the knowledge and skills appropriate to the range of available media will be pursued in both studio classes and professional practice.

**Credit Points:** 12      **Contact Hours:** 3 per week

### ■ DP4003 PAINTING & DRAWING 2

Further development of traditional and experimental imagery through studio workshops, discussions and professional practice.

**Credit Points:** 12      **Contact Hours:** 3 per week

### ■ DR2801 CURRENT THEATRE

Visits covering the major Brisbane theatre companies involving discussions with actors or directors; visits to the major theatre company workshops in Brisbane; study of the plays concerned including the period and the playwright; introduction to relevant aspects of acting, directing and design; reviews.

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ DR2806 THEATRE GAMES

Study of a wide variety of theatre and drama games for their intrinsic interest and to demonstrate the ways in which a leader may choose and run games with a group; game theory; game leadership style; group dynamics; game sequencing.

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ DR2807 WORKSHOP THEATRE

Selection, rehearsal and performance of a short scripted play at workshop standard.

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ DR2808 DRAMA PROCESS & THEATRE

Individual, pair and group work in workshop sessions dealing with the drama process (role play, storytelling, movement, mime, improvisation, drama). Theatre styles: seminar presentations on realism and naturalism, the absurd, Brechtian theatre, theatre of cruelty, children's theatre.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ DR2809 DRAMA PROCESS & CHILDREN'S THEATRE

The drama process and methodology: role play, storytelling, movement, mime, improvisation, drama.

Children's theatre: script, staging, child involvement and participation.

**Prerequisite:** DR2808

**Credit Points:** 8      **Contact Hours:** 3 per week

#### ■ DR2814 COMMUNICATION THROUGH DRAMA

Voice and speech development; creative and developmental drama; interpretation of literature; group discussion techniques; oral skills of the classroom.

**Credit Points:** 5      **Contact Hours:** 3 per week

#### ■ DR2816 PLAY PRODUCTION

Self-discovery at students' own level through drama; developing a character through textual study; preparation and presentation of a play as a group effort, including technical theatre aspects of a public performance.

**Credit Points:** 10      **Contact Hours:** 5 per week

#### ■ DR2817 CHILDREN'S THEATRE

Analysis of children's theatre, its techniques, aims and values; preparation and presentation of a production for children; organisation of a school's tour.

**Prerequisite:** DR2814

**Credit Points:** 10      **Contact Hours:** 5 per week

#### ■ DR2821 DEFINING DRAMA

The multivariate nature of drama; drama as an art form; relationships and role; early role taking abilities of children; the elements of drama; theatre study.

**Credit Points:** 10      **Contact Hours:** 3 per week

#### ■ DR3004 ACTING 1

Stanislavski: exercise work in realistic acting in order to eliminate bad habits and theatrical dishonesty. Realism: acting classes involving selected extracts from a modern realistic play, finding the playwright's truth, development of appropriate interpretive acting skills; Brecht: lectures and practice on distancing techniques.

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ DR3005 ACTING 2

Focus on Shakespeare; work on verse, small scenes and soliloquies.

**Prerequisite:** DR3004

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ DR3006 VOICE & MOVEMENT 1

Body awareness; sense of space; breathing; expression and articulation; text and context; research.

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ DR3007 VOICE & MOVEMENT 2

Awareness through movement; freeing the natural voice; development of holistic response to text; exploration of physical and emotional levels in characterisation; review of research relative to the study of voice and movement; alternative teaching styles; comparative analysis and personal synthesis.

**Prerequisite:** DR3006

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ DR3008 STAGECRAFT 1

Scenery construction; stage properties (budget and purchase procedures, hiring and borrowing, categorisation, storage and use); stage lighting (electricity, rigging and focusing of lanterns, maintenance and repairs, operating principles); stage costumes (hire of costumes, principles of pattern styling, use of sewing machine, fabric construction, the use of fabrics to create costumes).

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ DR3009 STAGECRAFT 2

Theatre sound: the need for sound effects, use of live and recorded effects, use of stage sound equipment. Stage management: the range of stage management tasks, the role of the stage manager in coordinating and enhancing theatre production. Basic lighting design: use of colour and lighting angles, 'painting' with light, computer controlled equipment, stage lighting organisation and documentation. Theatre administration: funding applications; front-of-house organisation, systems of ordering, purchasing, petty cash.

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ DR3012 DEVELOPMENT OF THEATRE 1

What theatre does and how it affects its audience; dramatic illusion; theatrical conventions; origins of theatre; Greek drama/theatre; medieval theatres in Europe; theatre in the Orient; theatre of the English Renaissance; theatre of the Italian Renaissance; royal theatre of France and England; England's popular theatre of the nineteenth century.

**Credit Points:** 10      **Contact Hours:** 3 per week

#### ■ DR3013 DEVELOPMENT OF THEATRE 2

Realism; naturalism; symbolism/expressionism; epic theatre; absurd; current theatre; South East Asian theatre; Australian theatre to World War 2; post-war Australian theatre; community theatre.

**Prerequisite:** DR3012

**Credit Points:** 10      **Contact Hours:** 3 per week

#### ■ DR3014 ELEMENTS OF DRAMA

Minimal drama (fiction plus tension); the three dimensions of expression (light/dark, movement/stillness, sound/silence); the three elements of dramatic form (space, time, communication); symbols and meaning; distance from the action; from ideas to communication.

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ DR3015 INTRODUCTORY THEATRE STUDIES

An introduction to shaping the theatrical event as director, designer, playwright.

**Credit Points:** 10      **Contact Hours:** 4 per week

#### ■ DR3017 PLAYWRITING

Dramatic structure (tension, climax and resolution; focus and audience distance); fitting an appropriate style to a dramatic theme; the relationship between action, theme and character; developing a scenario; imagery (the relationship between the visual and the linguistic); dramatic writing, dialogue and staging.

**Prerequisite:** DR3015

**Credit Points:** 10      **Contact Hours:** 3 per week

#### ■ DR3018 DIRECTING

Functions of the director from casting to rehearsal to performance; organisational procedures and relationship to other production staff; the director's role as intermediary between text, actor and audience; differing definitions of that role; personal style; project.

**Prerequisite:** DR3015

**Credit Points:** 10      **Contact Hours:** 3 per week

#### ■ DR3019 DRAMA PROCESS

Workshops involving individual, face-to-face and group role-play; participant enrolment, leader-in-role and intervention; identification with role; negotiation, devising and consequent decision making; the operation and management of dramatic tension and resolution; structuring for the theme and for the

dramatic moment; distancing devices; reflection, re-enactment and re-making.

**Prerequisite:** DR3014

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DR3022 DESIGN**

Establishing the scene; staging alternatives; lighting and scenery; costume design; scale models and drawings.

**Prerequisite:** DR3008

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DR3023 THEATRE STUDIES OPTION**

Specialised work in one of the theatre studies areas: directing, design, playwriting or theatre in education.

**Prerequisites:** DR3017, DR3018 and DR3022

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **DR3025 PRACTICUM 1**

Students are provided with an opportunity to practise as artists within a specific community and to participate in an artistic/advocacy project in the community. Elective studies influence the emphasis of the practicum, which will involve one of the three main communities identified: artistic, public, institutional.

**Credit Points:** 15

■ **DR3026 PRACTICUM 2**

See DR3025.

**Prerequisite:** DR3025

**Credit Points:** 15

■ **DR3027 PRACTICUM 3**

See DR3025.

**Prerequisite:** DR3026

**Credit Points:** 15

■ **DR3028 ADVANCED DESIGN 1**

Research project on the origins and development of design and theatre; practical design involvement in a Departmental production.

**Prerequisite:** DR3022

**Credit Points:** 10

■ **DR3029 ADVANCED DESIGN 2**

Analysis of the philosophy and practice of a specific designer; assignment to a major production as assistant designer.

**Prerequisite:** DR3028

**Credit Points:** 10

■ **DR3031 DRAMA ACROSS THE CURRICULUM**

Processed models of curriculum applied to drama method; drama methods for the classroom; dramatic contexts and power in the classroom; content analysis and planning; implementation of a lesson sequence based on dramatic action; preparation of curriculum materials. Compulsory study school for external students.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **DR3035 ADVANCED DESIGN 3**

Secondment as designer or associate designer to a professional, amateur or community theatre project (approximately 7 weeks).

**Prerequisite:** DR3029

**Credit Points:** 20

■ **DR3036 ADVANCED DIRECTING 1**

Research project on the origins and development of the role of the director; practical work assisting the director of a production.

**Prerequisite:** DR3018

**Credit Points:** 10

■ **DR3037 ADVANCED DIRECTING 2**

Analysis of the philosophy and practice of a major director; assignment to a major production as assistant director.

**Prerequisite:** DR3036

**Credit Points:** 10

■ **DR3038 ADVANCED DIRECTING 3**

Directing for film and television; secondment as director or associate director to a professional, amateur or community theatre project (approximately 7 weeks).

**Prerequisite:** DR3037

**Credit Points:** 20

■ **DR3039 ADVANCED PLAYWRITING 1**

Secondment to a major production within or outside the University as Dramaturg (researcher and interpretative consultant). Scriptwriting project.

**Prerequisite:** DR3017

**Credit Points:** 10

■ **DR3040 ADVANCED PLAYWRITING 2**

Study of a selected scriptwriting style. A major playwriting project in any dramatic medium.

**Prerequisite:** DR3039

**Credit Points:** 10

■ **DR3041 INDEPENDENT STUDY: DRAMA**

Students are required to devise an outline of study and/or action after negotiation and consultation with lecturing staff and carry out the approved program with regular tutorial consultation.

**Credit Points:** 20

■ **DR3044 THEATRE PRODUCTION**

Specific major tasks of acting or management duties for two or more productions by the Drama Department, requiring a high level of personal responsibility.

**Credit Points:** 40

■ **DR3046 VOICE 2**

The structure of blank verse; the development of English; importance of individual words and sounds in written and spoken texts; the use of performance space; development of voice and speech.

**Prerequisite:** DR3075

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **DR3047 VOICE 3**

The structure of contemporary texts, including poetry, drama and narrative prose; radio technique and recording effective voice-overs; continued development of voice.

**Prerequisite:** DR3046

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **DR3051 ELEMENTS OF DANCE**

Physical skills including: elongation of the spine; movement from the centre; alignment; articulation; opposition; lift and placement; basic combinations of locomotor movements; elements of dance; style; performance skills.

**Credit Points:** 5    **Contact Hours:** 2 per week

### ■ DR3052 DANCE STYLES

A range of dance styles and their corresponding conceptual and historical bases; performance skills; performance abilities.

**Prerequisite:** DR3051

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ DR3053 MUSICIANSHIP 1

Aural comprehension and notation of rhythm and pitch; vocal technique; principles of style.

**Credit Points:** 5      **Contact Hours:** 3 per week

### ■ DR3054 MUSICIANSHIP 2

Advanced study of the aural perception and notation of rhythm and pitch; introduction to the principles of harmony. Chord structure and chord progression; consolidation of personal vocal technique; style in vocal music performance.

**Prerequisite:** DR3053

**Credit Points:** 5      **Contact Hours:** 3 per week

### ■ DR3069 THEATRE GRAPHICS

The principles and practices of accurate research, including the design of questionnaires and surveys; use of appropriate software in the analysis of statistical information; report writing.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3071 ARTS RESEARCH & EVALUATION 1

Accessing and collation of pertinent resources, critical observation techniques; case study methods.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3072 PROFESSIONAL STUDIES

Theatre and Australian society; funding and status of Australian theatre; different manifestations (professional, amateur, community); historical patterns; models of initiatives in theatre; designing for a community need; preparing a curriculum vitae; job applications, meeting procedures.

**Prerequisite:** DR3013

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3073 ARTS RESEARCH & EVALUATION 2

Study of a major play in production (or other project involving performance) from one particular frame of reference.

**Prerequisites:** DR3071 and DR3072

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3074 PRACTICUM 3

See DR3025.

**Prerequisite:** DR3026

**Credit Points:** 10

### ■ DR3075 VOICE 1

The psychological and physiological underpinning of the voice; structure of texts; development of voice and speech; development of an introductory training program.

**Prerequisite:** DR3007

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ DR3076 MOVEMENT

Physical Theatre genres: Asian forms including Kabuki, Noh, Kalthakali; European forms including Greek, Commedia, Restoration. Movement arts: stage combat, T'ai Ch'i; acrobatics and tumbling.

**Prerequisite:** DR3007

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ DR3077 ACTING 3

Study of differing philosophies of theatre and their relation to performance; exercises and practical work on selected texts by Chekhov, and the Absurd or Theatre of Cruelty.

**Prerequisite:** DR3005

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ DR3078 ACTING 4

Introduction to the different techniques of acting for the camera; research, rehearsal and performance in one play.

**Prerequisite:** DR3077

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ DR3079 VOICE 4

Development of a research program in advanced vocal techniques; diagnosis of individual needs; analysis of the vocal technique of a number of professional actors and/or speakers in a range of settings; development of audition materials suitable for a variety of venues.

**Prerequisite:** DR3047

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ DR3081 THE PERFORMING ARTS ENVIRONMENT

Introduction to the context for performing arts management; economics of the arts; formation of national and state arts policy; interplay amongst arts organisations and related fields of endeavour like the media, the education system business and recreation.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3082 MARKETING THE PERFORMING ARTS

General principles of marketing; applications in performing arts situations; planning, targeting, costing and implementation up to the point of sale contact in the front of house.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3083 FINANCIAL MANAGEMENT IN THE PERFORMING ARTS

Planning and monitoring the use of money in the performing arts, including the preparation of funding submissions in not-for-profit situations.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3084 ISSUES IN PERFORMING ARTS MANAGEMENT

Community arts development; legal matters; safety issues and selected current issues, eg, multiculturalism, tourism.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3085 PRODUCTION PLANNING

Opportunity for students to apply the theory and practice learnt in other subjects to production situations; the planning and initial preparations for productions being undertaken in theatre production.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ DR3086 TECHNICAL ASPECTS OF DESIGN

Analysis of text for design purposes – set, costumes and props; adapting to space; the influence of particular staging systems on design choices; scale drawings and models; lighting and the set.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **DR3087 LIGHTING 1**

Design theory; lighting control; communication in the production team.

**Prerequisite:** DR3009

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **DR3088 SOUND 1**

Design theory; sound control; communication in the production team.

**Prerequisite:** DR3009

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DR3089 STAGE MANAGEMENT**

Coordination; pre-production planning; rehearsals; the bump in; technical rehearsal.

**Prerequisite:** DR3009

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DR3090 LIGHTING 2**

Advanced theory; procedures and planning; current practice.

**Prerequisite:** DR3087

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DR3091 SOUND 2**

Advanced design theory; procedures and planning; current practice.

**Prerequisite:** DR3088

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DR3092 THE STAGE SET 1**

Working drawings; costing and materials selection; safety procedures; construction.

**Prerequisite:** DR3009

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DR3093 WARDROBE COORDINATION**

Period costume; the psychology of dress; introductory design.

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DR3094 THE STAGE SET 2**

Advanced construction techniques; flying; stage mechanics.

**Prerequisite:** DR3092

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **DR3095 STAGE PROPERTY COORDINATION**

Construction techniques; working drawings; elements of design.

**Prerequisite:** DR3009

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **DR3096 CHILDREN'S PLAY TO PERFORMANCE**

The function of children's dramatic play, role taking and fantasy in social development from ages 1 to 18.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **DR3097 THEATRE IN EDUCATION**

The defining characteristics of theatre-in-education and participatory theatre forms; skills in group leadership, negotiation of ideas and forms, planning and conducting drama events; dynamics of leadership including management of space, time, energy levels and group rhythms. Fieldwork project, developing leadership skills as part of an existing piece of theatre-in-education.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **DR3098 FORMING KNOWLEDGE**

The approaches to art taken by major aestheticians; the characteristics and significance of the aesthetic field; the way the arts contribute to the development of mind and knowledge; various modes of knowing,

including propositional knowledge and tacit understandings.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **DR3099 ADVANCED DRAMA PROCESS**

The nature of experiential drama; pace and time; shape and externals; reflection and refraction; evaluation; devising process drama.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **DR3100 RESEARCH PROJECT**

Students undertake a substantial piece of supervised research after academic advisement. In some cases this might include practical work and associated seminars.

**Credit Points:** 40

■ **DR3101 DRAMATURGY**

Students investigate the roles of dramaturgy in western theatre. Major practical exercise as production dramaturg on a current production.

**Prerequisites:** DR3071 and DR3072

**Credit Points:** 10      **Contact Hours:** 2 per week

■ **DR3102 CONTEMPORARY AUSTRALIAN PLAYWRIGHTS**

Students study a number of current Australian playwrights; seminar papers focus on each writer, with input from directors, actors and writers.

**Prerequisites:** DR3071 and DR3072

**Credit Points:** 10      **Contact Hours:** 2 per week

■ **DR3103 TEXTUAL ANALYSIS**

Students extend the analytical framework undertaken in AR3006 in the application to dramatic texts. This includes consideration of interaction of various codes within a dramatic text, historical and cultural factors, additional codes operating in a film version of a play text, and the semiotic codes operating in dramatic performance.

**Prerequisites:** AR3006, DR3071 and DR3072

**Credit Points:** 10      **Contact Hours:** 2 per week

■ **DR3104 GRADUATE SEMINAR**

Students have a weekly seminar during their final semester where staff discuss current research interests, and students report on issues arising in their own thesis work.

**Prerequisites:** DR3071 and DR3072

**Credit Points:** 10      **Contact Hours:** 2 per week

■ **DR3108 THEATRE PROJECT**

Identification and practice of appropriate research, analytical and imaginative skills; rehearsal procedures; identification and practice of ensemble skills; personal expression; development of confidence and skill; roles and methodology inherent in designated stagecraft areas; articulation of the performance process.

**Credit Points:** 20      **Contact Hours:** 8 per week

■ **DR3802 EDUCATIONAL DRAMA**

Practical introduction to educational drama techniques available to all teachers (teacher-in-role, enrolment of students, dramatic exercises, analogies, simulations); fieldwork project: planning, teaching and evaluating a simple program. Incompatible with tertiary studies in drama or substantial experience in teaching drama.

**Prerequisite:** Relevant studies at Diploma of Teaching level or equivalent. All students must have access to a class of children.

**Credit Points:** 12      **Contact Hours:** 3 per week

■ **DR5000 ARTS RESEARCH METHODS 1**

The role and processes of research in the arts; defining the research tradition; qualitative research; emerging

arts research processes; reporting of research findings.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **DR5001 ARTS RESEARCH METHODS 2**

Focuses on the artist as researcher/teacher; the critic as assessor; and on the audience and community in which the art work is produced. An interpretive analysis of a major performance exhibition of art work.

**Prerequisite:** DR5000

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **DS2800 LETTERING & LAYOUT**

Use of lettering pens and brushes in a variety of lettering styles; consideration of good lettering as it relates to graphic design and the visual environment; production of lettering charts; teaching charts; overhead transparencies; posters.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **DS2801 PRINTMAKING 1**

Exploration of a wide range of printmaking devices; (a) relief: preparation of a surface by addition (collage), and by subtraction (linoleum); (b) intaglio: acetate, engraving, paper drypoint.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **DS2805 PRINTMAKING 2**

Further development of technical skills introduced in DS2801, including collagraphs, relief and intaglio.

**Prerequisite:** DS2801

**Credit Points:** 10    **Contact Hours:** 2 per week

■ **DS3025 DESIGN STUDIES**

Art elements and principles; qualities of natural and non-natural materials; design process; design presentation; effects of changing technology on form and construction; ergonomics.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **DS4007 PRINTMAKING 1**

Relief printmaking – raised and incised blocks in lino; wood and glued materials; intaglio printmaking – etching, engraving, dry point and aquatint; planographic printmaking – lithography, monoprints and transfer prints; stencil printmaking – silk screening with cut, draw and photographic stencils; presentation of prints.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **DS4008 PRINTMAKING 2**

Continuation of DS4007. Motivational sources; creation and external applications of techniques and media related to printmaking; exploration of related art areas.

**Prerequisite:** DS4007

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **DY3031 ADULT DEVELOPMENT & LEARNING**

Foundations of adult learning; the nature of the learning process; the context of adult learning; curriculum construction and program development.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **EC1003 MACROECONOMIC ANALYSIS**

The structure of the Australian economy; determination of income, employment and the price level; government policy in relation to aggregate labour market variables.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **EC1004 ELEMENTS OF LABOUR ECONOMICS**

Price theory and its application to the Australian labour market – demand and supply of labour; determination of wages and employment; factors influencing the relative wage structure.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **EC1006 POLITICAL ECONOMY OF AUSTRALIA**

An overview of Australia's political economy; the processes and interest groups which affect the formulation and implementation of government policy; an introduction to important contemporary issues in the political economy of Australia.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **EC3025 ECONOMICS**

The role of the economic system in promoting economic growth and in allocating resources; economic growth and social well-being; the market system and market failure; the public sector and public finance; the macroeconomy; money and the economy.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **EC3028 ECONOMICS 1**

Basic economic principles and concepts; introduction to microeconomics: demand curves and demand functions; elasticity of demand; supply curves and supply functions; elasticity of supply; pricing under competition and monopoly; introduction to macroeconomics: national accounting concepts; aggregate supply and aggregate demand; inflationary and deflationary gaps; the multiplier.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **EC3029 ECONOMICS 2**

Macroeconomics: cardinal and ordinal utility theory; the theory of production and costs in the short-run and the long-run; short-run and long-run adjustment under perfect competition and monopoly; regulation of monopolies; macroeconomics: the theory of income determination in a three and four sector economy, international trade and the balance of payments; IS-LM curve analysis.

**Prerequisite:** EC3028

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **EC3030 INTERNATIONAL ECONOMICS**

Concepts of international trade; price theory of international trade; systems of adjustment of balance of payments; theory of foreign exchange; future of Australia's trade relations with Japan, China and South East Asia.

**Prerequisite:** EC3029

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **EC3040 INTRODUCTION TO ECONOMICS**

Fundamental economic concepts; application of concepts, principles and models to economic problems; interpretation and application of economic statistics and graphs; analysis and evaluation of current issues, problems and policies in economics.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3041 MICROECONOMICS**

Key analytical concepts of microeconomics; application of microeconomic models in the examination and analysis of the activities of consumers, business, trade unions and government agencies in the Australian economy; analysis and evaluation of current

microeconomic issues and policies; private and public sector utilisation; utilisation of principles.

**Prerequisite:** EC3040

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3042 MACROECONOMICS**

Macroeconomic study defined in terms of problems, content and methods; application of appropriate principles and models to macroeconomic problems; interpretation, design and application of diagrammatic and econometric models; current issues and policies of the Australian macroeconomy; differentiation of schools of thought on policy choice of the Australian macroeconomy.

**Prerequisite:** EC3040

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3043 INTERNATIONAL ECONOMICS**

Introduction to international trade and finance; identification, explication and application of appropriate concepts in the study of international economics; interpretation and analysis of events in international economies, especially as they relate to the Australian context; theories of trade and protection; economic integration; balance of payments; foreign exchange markets; international monetary system; and international economics education.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3044 ECONOMIC DEVELOPMENT**

Evolution of development and global education; meanings and measures of economic development; schools of economic development thought; human resources and development; economic and social dualism; resource systems and development; international trade, finance and development; global interdependency and dependency; development policies and planning; economic development studies and international understanding.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3045 COMPARATIVE ECONOMIC SYSTEMS**

Comparative study as an educational tool; methods of comparing economic systems; systemic factors and economic performance; cross culture transfer of economic systems; socialist planning; socialist and economic reforms; planning in a market economy; structural change and economic development; comparative economic systems and international education.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3046 AUSTRALIAN POLITICAL ECONOMY**

Political economy; definition; theories; World Systems Theory; Dependency Theory; Theories of Development; Australia and historical development; 'settler' democracy, core/periphery model of British Empire; structural re-adjustment of financial and industrial world capital/labour markets in twentieth century (Jiro Tokuyama, E. Mandel, Trilateral Commission, K. Hopkins/L. Wallerstein); free trade monetarian and import replacement Protectionism; the effect on Australian political economy of the present four bloc world system – EEC, USA/Canada, Japan 'Yen' block, USSR.

**Prerequisite:** EC3040

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3047 RESOURCES PLANNING & DEVELOPMENT**

The social, economic and political implications of the distribution, management and consumption of resour-

ces; evaluation of the impact of resources development on social and economic well-being and environmental quality; clarification of the concept of a just society in terms of resources development.

**Prerequisite:** EC3040

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3048 ASIAN ECONOMIES**

Asian economies and Australia's links with them; economics of China, Japan, Korea, ASEAN; foreign aid; trade relationships.

**Prerequisite:** EC3040

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EC3050 CONSUMER STUDIES**

The nature of the consumer society in the Australian economy; the interdependent roles of the consumer, business and the government; consumer behaviour; consumer products and services; marketing and advertising; managing consumer finances and the wise use of credit; consumer protection; current consumer issues; and educating the consumer.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED2094 CLASS PROGRAM DEVELOPMENT**

Curriculum design and models; curriculum concepts; the primary curriculum; curriculum components (objectives, content, methodology, evaluation); curriculum development; school and classroom curriculum processes.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2334 UNDERSTANDING CHILDREN: DEVELOPMENT**

Perspectives on development and learning; understanding children; fundamental issues in child development; contexts of human development; aspects of development (physical, language, cognitive, personality, social, moral); motivation and development; abnormal development; research literature.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED2335 UNDERSTANDING CHILDREN: LEARNING**

Contemporary explanatory of the nature of learning; the importance of learning theory in the development of teaching methods; motivation and learning; personality and learning; self-concept and learning; assessment of learning; intelligence; creativity; exceptionality; social behaviour; the research process.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED2336 SOCIAL, SCHOOL & POLITICAL CONTEXTS**

The social context: role of the school in promoting society's educational goals; nature of society and its structures; the social processes that operate in schools. The school context: society's educational expectations of schools; organisational aspects of the school as a basis for considering teacher expectations, pupils' experiences, and control; models of schooling, functions and characteristics of schools. The political context: political decision making and its effects on schools; ideologies underlying educational practices; operation of power in various educational settings.

**Prerequisites:** ED2334 and ED2335

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED2337 CULTURAL, LEARNING & FUTURE CONTEXTS**

The cultural context: Australia as a multicultural society, culture and education; schools as agents of cultural reproduction; school responses to cultural groups. The learning context: views of learning,

teaching and learning, education and learning; learning processes and environments, freedom; models of teaching and learning, learning contexts. The future context: the contribution of the school in an era of change; diversity in education, work and non-work, lifestyles; learning in the future; computers in education; learning to cope with change.

**Prerequisites:** ED2334 and ED2335

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **ED2338 ISSUES OF KNOWLEDGE, POWER & QUALITY/EQUALITY**

The nature and place of knowledge in education; power as an initiating, organising and maintaining influence in education; equality seen as equality of educational opportunity; poverty and the schools; rural education; groups and sexism and interacting with quality as a primary criterion in education.

**Prerequisites:** ED2334, ED2335, ED2336 and ED2337

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **ED2339 ISSUES OF VALUES, COMPETITION & CHANGE**

Values: bases of moral and religious values, conflicting moral and cultural values, pluralism of values and professional considerations for teachers, aesthetic values in the school, taboos; moral and affective education, religious education, sex education, political education, pressure groups. Competition: the relative merits of competition, cooperation and individualisation as teaching/learning strategies; rational bases for synthesising; preferences of values. Change: nature and reality of change; understanding its dynamic: responses to mastery of change in self, others, workplace and community.

**Prerequisites:** ED2334, ED2335, ED2336 and ED2337

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **ED2345 EDUCATION & THE FAMILY**

The family as the primary socialising agent where children are concerned; various family patterns as they relate to social class, geographical location, and the multicultural nature of Australian society; the influence of changing social conditions on the modern family.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **ED2352 EDUCATION & SCHOOLING**

The school within the community and the school as a community; transition from home to school; school-community interaction; alternative schooling; overt and hidden curricula; educational measurement; the difference between education and schooling.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **ED2357 EDUCATION & SOCIETY 1**

Relationships between the school and the wider society; Australian education systems: societal, system and intra-school pressures on school administrators; social class and attitudes (particularly racial attitudes) and their relationship to the concept of equality of educational opportunity.

**Prerequisite:** ED2352

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **ED2358 EDUCATION & SOCIETY 2**

Specific concerns within education today; the effect of social change (particularly in technology and the nature of work) on education; the effect of mass media on education; teachers and the law.

**Prerequisite:** ED2357

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **ED2365 FAMILIES IN CRISIS**

The differing crisis situations which confront families in modern, industrialised societies; facets of children's lives which affect behaviour in the early years; meeting appropriately the needs of children from families in crisis situations.

**Prerequisite:** ED2345

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **ED2366 PHILOSOPHY & YOUNG CHILDREN**

Children as philosophers; children with the capacity to philosophise; implications for the early childhood 'curriculum', and the nature of the learning environment provided.

**Prerequisite:** ED2345

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **ED2367 THE IMAGE OF CHILDHOOD**

The nature and image of childhood and how it has changed over the centuries; the nature of the child and education theory; implications for teachers at all levels of education, but especially early childhood teachers.

**Prerequisite:** ED2345

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **ED2368 SOCIOLOGY OF PARENTHOOD**

The notion of parenting in general and the parental role in particular; the changes that have occurred in child rearing practices, patterns of socialisation and aspects of social legislation pertinent to the family as a social unit.

**Prerequisite:** ED2345

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **ED2369 ALTERNATIVE EDUCATION**

Problems confronting conventional schooling; various modes of alternative education; alternative modes of education which are available in early childhood education.

**Prerequisite:** ED2352

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **ED2370 GENDER, SCHOOL & SOCIETY**

The nature of sex roles in Australian society and the ways in which these are reinforced and perpetuated in the family, the media, and in particular the school; strategies for combatting discrimination in the school; the work-life patterns of teachers.

**Prerequisite:** ED2352

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **ED2371 SCHOOLS & COMMUNITIES**

The range of interrelationships between schools and their communities; skills and techniques for analysing school-community relationships; case studies; student involvement in fieldwork and the development of appropriate practical skills.

**Prerequisite:** ED2352

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **ED2372 SOCIALISATION THROUGH PLAY**

The socialisation of a child in both the home and the school; socialisation through play, both individual and in the form of a game; study of socialisation through the medium of play.

**Prerequisite:** ED2352

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **ED2373 LEGAL ISSUES & THE TEACHER**

The nature of 'education law' as it affects the teaching of children in the early and lower school; analysis of legal rights and obligations as these affect teachers,

children and parents; custody and access; discrimination, school discipline, supervision and administrative practices.

**Credit Points:** 10    **Contact Hours:** 2 per week

■ **ED2600 ANALYSIS OF TEACHING & LEARNING**

Constructional objectives; the planning of learning episodes; evaluation of pupil progress; organisational decisions affecting children; the decision-making process in primary classrooms; personal and professional qualities considered desirable for teachers; preparation, implementation and analysis of teaching; teaching sequences and teaching skills.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2601 COMMUNICATION PROCESSES IN THE CLASSROOM**

Theories of communication; verbal and non-verbal behaviour; interpersonal interaction; the expository/discovery continuum; application of communication skills to the teaching/learning process.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2602 EDUCATIONAL TECHNOLOGY & THE CLASSROOM**

Applications and innovations in educational technology; instructional design; educational problems; context of classroom; teachers as users of educational media; print and non-print resources; computers; future development.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2603 CONTEXTS FOR TEACHING & LEARNING**

The concept of teaching the individual learner; learning groups; the open classroom; the autonomous learner.

**Prerequisites:** ED2600, ED2601 and ED2602

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2604 DEVELOPING CHILDREN'S POTENTIAL**

Identifying the high-potential learner; individual program planning; major issues in current literature; creativity; the parent/teacher partnership; interpersonal communication skills; information sharing.

**Prerequisites:** ED2600, ED2601 and ED2602

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2605 CHILDREN WITH LEARNING PROBLEMS**

Rationale for intervention programs; categories and causes of learning problems; principles of diagnosis and remediation; strategies and programs for children with learning problems; socio-emotional problems influencing learning; the concept of the professional team.

**Prerequisites:** ED2600, ED2601 and ED2602

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2700 CONTEXTS FOR TEACHING & LEARNING (E.E.)**

Teaching and learning in early childhood education; the concept of early teaching; the individual learner; grouping techniques; techniques for the management and control of groups; the open classroom; approaches for delimiting the learner.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2703 ISSUES IN EDUCATION**

The question of quantity in early education: age for beginning formal education; accelerated teaching programs; human development and curriculum development; premature emphasis on basic learning

skills; intellectual stimulation or emotional security. The goals of early education: philosophical, sociological and psychological influences on goals; cognitive, affective and psychomotor goals; the selection of goals; translation of goals into classroom experiences; the curriculum (integrated or undifferentiated).

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED2704 INTEGRATED CURRICULUM DEVELOPMENT**

Sources of early curricula; curriculum models; integrated curriculum development for early education; developing curricula for children with special needs.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2705 EARLY EDUCATION CLASSROOM PROCESSES**

The functions of the teacher of young children; creating a challenging and healthy learning environment; enhancing development through play; enhancing language and thinking; enhancing affective development; enhancing aesthetic development; extension of the teacher's professional development.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED2706 EARLY EDUCATION: HUMAN DEVELOPMENT**

Early doctrines of child development; the ecology of human development; personality development; physical and social development; the development of cognition and perception; language development; moral development; aesthetic development; the child's world; methods of studying children.

**Credit Points:** 4    **Contact Hours:** 1 per week

■ **ED2707 ADMINISTRATION PROCESS IN EARLY EDUCATION**

The leadership role in the planning, implementation and evaluation of early education programs; the diverse roles of the early childhood educator; the leadership role and the administration of early childhood centres; review and refine the philosophy, policy and practice of early education.

**Credit Points:** 4    **Contact Hours:** 1 per week

■ **ED2800 MOTOR SKILL ACQUISITION IN TAFE**

Teaching models used in trades; development of refined techniques to improve existing practices; safety aspects related to bending, lifting etc. in specific work areas; perceptual motor concepts of adolescence; application of concepts to assessment criteria and remediation; fine motor development.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED3028 INDEPENDENT STUDY**

Self-initiated and self-directed academic study in an area of interest which allows study either to a depth not possible in electives, or in an area not covered by the current Bachelor of Education program. An independent study can be taken by any student who has completed, or will have completed, 4 subjects of the course, and meeting certain requirements laid down in the 'Independent Study Guide'.

**Credit Points:** 12

■ **ED3031 CRITICAL ANALYSIS OF SCHOOLING**

Application of sociological theories to the analysis of selected developments in Australian education during nineteenth and twentieth centuries; the traditional and revisionist explanations for state involvement in education, exploration of links with contemporary issues such as meritocratic versus reproduction views

of schooling; sociology of the curriculum; inequality of educational opportunities.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3032 ISSUES IN ABORIGINAL EDUCATION

Educational implications of the historic, economic and political factors relating to the position of Aborigines in Australian society; theoretical approaches to culture, language and learning; classroom strategies; curriculum issues; Aboriginal studies; policies and programs in Aboriginal education including separate schooling; Aboriginal participation and meeting community needs.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3033 CRITICAL PERSPECTIVES ON SCHOOL KNOWLEDGE

Selection of classroom knowledge; the epistemological aspects; sociology of knowledge; historical perspectives on the curriculum; teachers and texts; curriculum debates; politics of school knowledge; academic freedom and 'dangerous knowledge'.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3037 TEACHING & CLASSROOM CONTEXTS

The culture of the school, the culture of the classroom, teachers' culture and students' subcultures; ethnographic approaches and other strategies to assist understanding of classroom dynamics; the social organisation of schools and critical reflection about the teaching process; practical implications for teaching.

**Prerequisites:** SY3013, SY3014 and ED3053

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3038 EMPOWERING TEACHERS FOR SCHOOL-BASED CHANGE

Theoretical and practical study of the various contexts in which school-based change occurs; the role of research. Teachers as researchers and developers to engage in school-based change and development of school programs; reflective practitioners in a decision-making partnership with students, parents, community members and administrators.

**Prerequisites:** SY3013, SY3014 and ED3053

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3040 GENDER & CURRICULUM

The impact of Federal, State and local curriculum policy on girls and women; implications of current curriculum theory for future policy development; implementation of programs modelling principles of gender equity and personal empowerment.

**Prerequisites:** SY3013 and SY3014

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3041 TEACHERS, CAREER & GENDER

The historical development of the perception of teaching as women's work; the concept of reproduction among others and its application to the sexual division of labour in teaching; women's career paths, and the concept of career. Careers, cultures and strategies; are 'career changes' structurally imposed or individually chosen? The tasks, skills and qualities of coordinators

are investigated as a process of 'situational adjustment'. Performance appraisals, sponsors and school micropolitics are critically examined in an attempt to raise consciousness and empower women. Women's own views and experiences are highlighted.

**Prerequisites:** SY3013 and SY3014

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3042 RADICAL EDUCATION

Examination of educational modernists like Dewey and Montessori and their influence on conventional schooling; beginnings of the libertarian tradition (Tolstoy) and the development of the free school (Neill, Dora Russell); the emergence of an organic form of teaching and learning (Sylvia Ashton-Warner) and the subsequent development of critical pedagogy; the work of the deschoolers (Ivan Illich) and early liberatory learning theory (Freire); examination of contemporary critical pedagogy (Giroux, Shor) and its application in working class schooling in Australia and the USA.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3043 TACKLING EDUCATIONAL PROBLEMS: INTERNATIONAL PERSPECTIVE

Uses of comparative studies in education; how selected countries in capitalist and socialist, developed and developing economic systems experience and perceive the connection between education, socio-economic problems and national development. Area studies may be selected from the following groups: England, Australia and Canada; France, West Germany and the German Democratic Republic; the U.S.A. and the Soviet Union; Cuba, Jamaica, Papua New Guinea and Singapore; China and India; South Africa and Tanzania or Zimbabwe.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3044 EDUCATORS & THE LAW

Legal institutions in Australia, basic legal terminology as it applies to teachers; legislation and decided cases in common law particularly as they relate to negligence issues; links to teacher practice; appropriate management and teaching strategies consequent upon statute and common law.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3045 SCHOOL-COMMUNITY RELATIONSHIPS

The issue of community empowerment and individual empowerment; developments in community involvement in Queensland and elsewhere in Australia; school-community issues: school-based budgeting, the role of school advisory councils, the Education Acts; regionalisation and devolution; the role of the Principal and of teachers; community relations skills.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

#### ■ ED3046 PERSONAL PHILOSOPHY OF EDUCATION

The modes and methods of philosophy as these relate to the philosophy of education; traditional and modern concepts of education in their social and cultural context; challenges students to critically examine the assumptions underlying their current approach to

teaching; development of a personal philosophy of education.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3047 TEACHERS AS LEADERS**

Approaches to leadership which are based on perspectives of cultural analysis and critical theory; examination of practices involving consultation and cooperation; practical applications of approaches.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3048 POWERFUL TEACHING 2**

The notion of the professional empowerment of the secondary school teacher through the use of analytical tools that draw on critical pedagogy; examination of practical classroom problems such as discipline, assessment, equity, literacy; teaching role in raising consciousness of social contexts and possibilities; empowerment through collaborative learning and social awareness.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3049 TEACHERS & STUDENTS: FROM ALIENATION TO EMPOWERMENT**

The philosophical and sociological background to the state of 'learned helplessness' and consequent sense of alienation apparent in areas of the student population; 'educational' structures and processes which generate such alienation in students; alternative models which empower rather than disempower.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3050 TECHNOLOGY & EDUCATION FUTURES**

The phenomenon of under-education; post-industrial economies and modern educational needs; implications of satellite technology in distance education; exploration of alternative education futures creatively utilising computer and media technologies in achieving aims of peace, social justice and balanced progress in the humanities, sciences and art.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3053 EDUCATION & SOCIETY**

The social context of education; the role of education in society; 'making sense' of the world.

**Prerequisites:** SY3013 and SY3014

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3054 EDUCATION FOR TRANSFORMATION**

The concept of holism; holistic teaching as a transformative model; the holistic alternative.

**Prerequisites:** SY3013, SY3014 and ED3053

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3055 TEACHERS AS MEDIATORS OF CHANGE**

The teacher as an agent of change in the classroom; learning experiences which meet the needs of a changing world.

**Prerequisites:** SY3013, SY3014 and ED3053

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3056 POWERFUL TEACHING 1**

Integration of socially critical educational theory with professional practice; distinguishing between authoritative and authoritarian teacher behaviour in the classroom; power relations in the school and the classroom.

**Prerequisites:** SY3013, SY3014 and ED3053

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3057 APPROACHES TO TEACHING**

Preparation of students for their first extended period of school teaching experience; consideration of the variety of approaches to teaching.

**Prerequisites:** SY3013, SY3014 and ED3053

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3058 DEVELOPMENTS IN AUSTRALIAN EDUCATION**

The development of Australian education particularly from the time of European settlement; the conflict between church and State; the rise of free and compulsory elementary education; the movement of the State into secondary schooling and eventually the establishment of universal junior secondary education.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3059 WHO'S INTELLIGENT: HOW SCHOOLING DECIDES**

The origins of the ideology of intelligence; its development in the public mind; and its manifestation through schooling practices.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3060 ASSESSMENT THEORY & PRACTICE**

Analysis of assumptions underlying norm-referenced and criterion-referenced assessment; the purposes for which assessment may be used; tertiary entrance; modern developments in assessment and implications for teaching; disadvantages and pitfalls of various assessment techniques.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED3303 CONTEMPORARY ISSUES IN EDUCATION**

Society, schools and teaching in an age of change studied from the perspectives of educational psychology, philosophy of education and sociology of education; critical evaluation of educational policy; application of principles of social justice to participation and equity; pluralism and social cohesion including education for a multicultural Australia and the education of exceptional children; evaluation of changing roles and responsibilities of teachers.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3304 STUDENTS, TEACHERS & KNOWLEDGE**

Contemporary theories of knowledge (empiricism, rationalism, intuition, indoctrination, logic, reason, deduction, commonsense, scientific method); knowledge, ideology and schooling; schooling and its outcomes.

**Co/Prerequisite:** ED3303 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3305 SECONDARY EDUCATION TODAY**

Consequences of universal secondary schooling; school and work; transition initiatives, career education, link courses, work experience programs. Alternatives in secondary schooling; recent developments in secondary school discipline areas.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3705 SCHOOL ORGANISATION & DEVELOPMENT**

Overview of educational administration; educational leadership; organisational development; organisational communication; issues and problems for educational administrators.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3706 THE COMMUNITY & SCHOOL ADMINISTRATION**

The context of the community and the school; the practice of community education at various educational levels; community education, strategies for teachers (content analysis, public relations, delphi, force-field analysis etc.).

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3707 EDUCATIONAL RESEARCH & PRACTICE**

Introduction to educational research and practice; preparing for research; data collection techniques applicable to either quantitative or qualitative research methodologies; analysis and interpretation of evidence; reporting.

**Prerequisite:** Studies in applied curriculum

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3809 COMPARATIVE EDUCATION**

The relationship between development and education in developing countries: case studies, for example, of Singapore, P.N.G., China; comparisons with and implications for Australia.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3810 HISTORY OF AUSTRALIAN EDUCATION**

The growing involvement of the state in education during the nineteenth century; factors which led to the state accepting responsibility for elementary education; growth of educational bureaucracies; state involvement in secondary education; establishment of tertiary education in Australia; the influence of particular reports on Australian education.

**Prerequisite:** Relevant studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3811 INTERNATIONAL EDUCATION FIELD STUDY**

Purposes and uses of comparative studies; comparative method; education and social development; observation of the cultural factors which influence the kind of education which another society has evolved; analysis and interpretation of observations; comparison with the Australian situation. (Overseas field study of two weeks duration during June or September vacation.)

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3812 EDUCATION FOR A MULTICULTURAL SOCIETY**

Theoretical issues (pluralism, ethnicity); majority and minority cultures in Australia; immigration; social attitudes and educational policies; evaluation of effects of discrimination, prejudice and ethnocentrism

in schools; schools and multiculturalism; the role of the teacher in multicultural education.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED3813 ISSUES IN ABORIGINAL EDUCATION**

Factors influencing the position of Aborigines in Australian society; government policies; Aboriginal culture and education; current initiatives in Aboriginal education; participation of Aborigines in policies and programs.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED4080 CLASS PROGRAM DEVELOPMENT**

Curriculum design and models; curriculum concepts (the primary curriculum, curriculum components); curriculum development; school and classroom curriculum processes.

**Credit Points:** 4    **Contact Hours:** 1 per week

■ **ED4096 CURRICULUM FOR YOUTH WITH SPECIAL NEEDS**

Introduction to curriculum development and situational/self analysis; innovative program approaches; changing ourselves and school environments; evaluation of curriculum development; resource teacher support for school-based curriculum development, student assessment, participation and equity programs; communicating information about improved programs.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED4097 SOCIO-CULTURAL ISSUES IN EDUCATION**

Examination of structural and organisation aspects of the school arising in the hidden curriculum; impact of the local community on school/college life, including multiculturalism, community relations, responses to family crises; innovation and change arising in schools in response to the above factors.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ED4310 HUMAN DEVELOPMENT & LEARNING**

Theoretical orientation to contemporary educational issues and concepts: the basic assumptions underlying educational practices and theories, the relationship between the educational system and the broader society, the future directions that education may take, and the psychological and sociological aspects of child development.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED4311 CONTEMPORARY EDUCATIONAL ISSUES & PRACTICES**

Teaching programs and resources: teachers and the instructional program; the teacher and resources (computers, teaching kits, learning centres, community participation). The teacher and pupils (pre-primary, primary and early adolescence): the normal pupil; the exceptional pupil. Community and the professional dimensions of teaching: the teacher and the community; the teacher as a professional.

**Credit Points:** 8    **Contact Hours:** 2 per week

■ **ED4312 INTRODUCING MOVEMENT EDUCATION**

The content of physical education in primary schools; identification of approaches to physical education; consideration of structural models and syllabuses in use; the relationship of movement education to total curriculum program planning.

**Credit Points:** 4    **Contact Hours:** 1 per week

■ **ED4600 ANALYSIS OF TEACHING & LEARNING**

The teaching process (planning, implementation and evaluation); models of communication (verbal and non-verbal behaviour); decisions in the teaching/learning process; skills involved in the teaching/learning process.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **ED4601 DEVELOPING CHILDREN'S POTENTIAL**

Development of individualised programs to foster the abilities of each child and develop parental participation in education: learning style and learning performance, socio-emotional problems influencing learning and their management, interpersonal communication, parent-teacher partnership and the professional team.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **ED4602 CONTEXTS FOR TEACHING & LEARNING**

The concept of teaching; learning groups; teaching styles; the open classroom; the autonomous learner; print and non-print resources; selection, production and utilisation of resources.

**Credit Points:** 8    **Contact Hours:** 2 per week

■ **ED4604 ANALYSIS OF TEACHING & LEARNING**

Personal theories of teaching; the teaching-learning process; basic teaching skills; educational software, lesson preparation and lesson plans; professional attitudes.

**Credit Points:** 8    **Contact Hours:** 2 per week

■ **ED5006 STUDY DESIGN**

Introduction to the design of advanced educational studies and investigations; examination of those research and/or study paradigms appropriate to their specialised interest area; development of rationale that will lead to the development of their practicum program.

**Prerequisites:** ED5019 and ED5020

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED5007 STUDY METHODOLOGY**

Definition of a study model from the rationale developed in ED5006; further reading related to the implementation of the study; development of a comprehensive methodology that will enable them to move directly into the practicum subjects.

**Prerequisite:** ED5006

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED5008 PREPARATION FOR APPLIED STUDY**

Building upon the relevant study design and methodology to establish the materials for the applied study; the appropriate refinement of the indepth study so that it is ready for use in the most suitable educational setting; may include a pilot study that will involve the initial development and trial of the strategy, materials, instrument or activity to be implemented in the indepth study.

**Prerequisite:** ED5007

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED5009 APPLIED STUDY**

The refinement and implementation of the developed strategy/instrument/activity/materials in the carefully selected, appropriate education setting; collection of adequate data which when analysed will provide sufficient evidence of the usefulness or otherwise of the

selected strategy/instrument/activity/materials for promoting change in some aspect of education.

**Prerequisite:** ED5008

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED5010 SUMMARY OF APPLIED STUDY**

A comprehensive evaluation report of the applied study; a synthesis of the work carried out in the individualised specialisation studies of the course as they relate specifically to the indepth study; a demonstration of the basis for the indepth study, an analysis of its implementation and its potential for promoting change in education.

**Prerequisite:** ED5009

**Credit Points:** 48    **Contact Hours:** 12 per week

■ **ED5015 THE SOCIO-CULTURAL CONTEXT OF EDUCATION**

Historical, philosophical and socio-cultural perspectives to understand the context in which education occurs in contemporary Australia; interrelationships of individuals to society, with particular regard to class, race, ethnicity and gender, and to the cultural processes through which social inequalities are reproduced and transformed; the political, ideological and economic context of relevant policy development, implementation and evaluation.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED5016 LEARNING & LEADERSHIP**

Understanding of learning; the factors which influence learning and individual behaviour; dynamics of human interaction in learning environments; cognition and learning across the lifespan.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED5017 LEADERS IN CHANGING CONTEXTS**

Understanding of leadership in the 1990s; the differing approaches to the study of leadership, at the present time, eg, organisation theory, cultural analysis, critical theory; the dilemma from an increasing concern with democratic, participative and facilitative styles, the political and economic environment is progressively more market-oriented, with a stress on tighter funding, privatisation, accountability and its challenging of long accepted notions of public sector security.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED5018 APPLIED RESEARCH METHODS IN EDUCATION**

Development of an awareness and understanding of the research process from an historical, socio-cultural, ethical and theoretical perspective; the validity, applicability and suitability of various research strategies for specific educational endeavours; comprehension and evaluation of research findings drawn from a variety of perspectives, paradigms and methodologies; development of skills to conduct research appropriate to answer questions critical to particular fields of interest.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **ED5019 READING 1**

A general survey of the chosen area of study to identify major educational trends; identifying the broad parameters within which the individual specialised study will develop; identifying and analysing trends in the literature related to a selected area of study; isolating specific aspects worthy of more detailed investigation.

**Prerequisite:** At least one Stage 1 subject

**Credit Points:** 24    **Contact Hours:** 6 per week

■ **ED5020 READING SUBJECT 2**

Focused reading in specific aspects, identified in ED5019 as being worthy of more detailed investigation; summary of current thinking within the selected area of study, in order to identify an area for potential investigation in the remaining subjects of the specialisation.

**Prerequisite:** ED5019

**Credit Points:** 24    **Contact Hours:** 6 per week

■ **ED5021 STAGE 1: PREPARATION**

Preparation of a brief preliminary outline for the research in consultation with the supervisory team; acquisition of knowledge of a range of appropriate research methods; commencement of a comprehensive literature search.

**Credit Points:** 48

■ **ED5022 STAGE 2: PROPOSAL**

Adoption of an appropriate research design for the proposed research; preparation of a comprehensive proposal for the research including a draft review of the literature; presentation and justification of the proposal to a seminar or seminars of other students in the strand and appropriate academic staff; trial research procedures.

**Credit Points:** 48

■ **ED5023 STAGE 3: IMPLEMENTATION**

Implementation of the research for the thesis; completion of the literature review; provision of a progress report.

**Credit Points:** 48

■ **ED5024 STAGE 4: SUBMISSION**

Completion and presentation of a thesis or alternative to supervisory team for approval; production of thesis in a suitable form for examination.

**Credit Points:** 48

■ **EE2053 INTRODUCTION TO CURRICULUM**

The concept of curriculum as a framework for teacher decision making; past and present approaches to early childhood curriculum development; the role of teachers in curriculum decision making; the role and relation of various persons involved in the curriculum process.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2054 CURRICULUM FOR EARLY LEARNING: 0-5 YEARS**

The significance of early learning in the home and group care; the role of the early childhood teacher in relating curriculum to the learner, cultural values and society; applying knowledge of development and learning to curriculum for the young child on a formal and informal basis.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2055 THE CHILD AS INVESTIGATOR**

Integrated with EE2056 and EE2057; study of curriculum decision making and teaching strategies which are responsive to patterns in development as children investigate their world, acquiring knowledge, skills and dispositions foundational to mathematics, the physical sciences and the social sciences.

**Prerequisite:** EE2054

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2056 CHILDREN COMMUNICATING**

Integrated with EE2055 and EE2057; study of curriculum decision making and teaching strategies which are responsive to patterns in development as

children acquire the dispositions and competencies necessary for understanding their social world, expressing self and communicating effectively.

**Prerequisite:** EE2054

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2057 THE CHILD AS CREATOR**

Integrated with EE2055 and EE2056; study of curriculum decision making and teaching strategies which are responsive to patterns in development as children respond creatively through visual, aural and bodily-kinesthetic means.

**Prerequisite:** EE2054

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2058 ENVIRONMENTS DEVELOPING COMMUNICATION**

Integrated with EE2059 and EE2060; designing and working in learning environments which enable the development of self-esteem, language use and culture understandings, foundational and effective communication in settings familiar to the child under eight years of age.

**Prerequisites:** EE2055 and EE2056

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2059 ENVIRONMENTS PROMOTING THE SCIENCES**

Integrated with EE2058 and EE2060; designing and working in learning environments which enable optimum development of dispositions and competencies foundational to mathematics, the physical sciences and the social sciences.

**Prerequisites:** EE2055 and EE2056

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2060 ENVIRONMENTS FOSTERING ARTISTRY**

Integrated with EE2058 and EE2059; designing and working in learning environments which enable optimum development of the young child's artistic, creative and expressive abilities.

**Prerequisites:** EE2055 and EE2056

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2064 INTRODUCTION TO CURRICULUM 1**

Basic elements in curriculum design; environmental factors affecting curriculum; processes of curriculum development.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **EE2065 INTRODUCTION TO CURRICULUM 2**

Contemporary issues affecting curriculum; analysis of curriculum models; the teacher and decision making in the curriculum process.

**Prerequisite:** EE2064

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **EE2067 EXCEPTIONALITY & YOUNG CHILDREN**

Forms and ranges of exceptionality, intellectual and orthopaedic handicaps, impairment of sight and hearing, learning disabilities and giftedness; initial screening and identification procedures; early intervention programs; integration in regular classrooms; support and referral services.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2068 LITERACY & NUMERACY: THE EARLY YEARS**

Identification of contemporary issues in literacy and numeracy; analysis of approaches to literacy and numeracy in terms of young children; diagnostic and

assessment procedures; planning, implementation and evaluation of learning experiences for children including those with special needs; examination of learning environments and materials appropriate to literacy and numeracy teaching.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2069 CHILD CARE**

Social and program issues relating to child care; provision of child care in Australia and overseas; examination of research on group care for young children.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2070 RESEARCH IN EARLY CHILDHOOD EDUCATION**

Introduction to research techniques; identification of emerging issues in early education through a review of current literature; perceptions of community and professional organisations and seminar/conference topics; evaluation of provisions for postgraduate professional development.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2071 PROGRAMS FOR CHILDREN UNDER THREE**

Examination of social and historical factors relating to the provision of care and education for very young children; analysis of the characteristics and effects, as demonstrated in research studies, of a variety of parent/infant, early intervention and day care programs for under threes, both in Australia and overseas.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2074 SPECIAL PROGRAMS FOR YOUNG CHILDREN**

Meeting particular needs of young children through special programs; procedures for setting up, obtaining funding, assessing needs, formulating objectives, devising programs, and evaluating outcomes of programs including those for isolated children, socially disadvantaged children and culturally different children.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2075 CHILDREN'S LITERATURE (0-8 YEARS)**

The significance of children's literature as it increasingly influences the content of literacy and language programs; origins and antecedents of stories as they reflect society; critical evaluation of books being produced nationally and internationally and the acquisition of skills of selection; planning quality long-term literature programs.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2077 DRAMA WITH SPECIAL CHILDREN**

Drama as a method of facilitating learning through available resource materials; observing, planning for and teaching children with special needs; matching activities to positive abilities; evaluation of outcomes.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2078 SPECIAL PHYSICAL EDUCATION**

Disability: cause, etiology and motor or intellectual limitations. Evaluating procedures: use of existing test batteries; designing test batteries for specific purposes. Teaching strategies and skills: designing and implementing programs; using appropriate techniques for specific disability groups.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2080 INTRODUCTION TO CURRICULUM**

Settings and frameworks for curriculum decision making; establishing curriculum policies and effective evaluation strategies; establishing environments for learning; issues in curriculum decision making; implications for various home-based and centre-based care settings.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **EE2081 TEACHING & CARING STRATEGIES 1**

Exploration of planning, implementing and evaluating developmentally appropriate programs for children from birth to twelve years of age; health, safety and nutrition aspects of such programs for children; strategies necessary for providing quality education and care for individual children's development.

**Credit Points:** 5    **Contact Hours:** 3 per week

■ **EE2082 INTERPERSONAL RELATIONSHIPS**

Fundamentals of interpersonal communication, the self in interpersonal communication; verbal and non-verbal behaviour; listening and feedback in interpersonal communication; interpersonal relationships with particular reference to children, families and occupational settings.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2083 PHYSICAL, PERCEPTUAL & MOTOR DEVELOPMENT & LEARNING**

Physical and motor development, growth patterns and changes in body systems, effects of maturation, phylogenetic and ontogenetic aspects and individual differences; development and capacities in sensory processing in infancy and childhood; introduction to and application of observational techniques to the study of infants and young children's physical, perceptual and motor development.

**Prerequisite:** EE2300

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2084 CURRICULUM FOR EXPLORATION & PROBLEM SOLVING 1**

Theory and practice in designing home-based and centre-based care environments; child-teacher interactions within the environment with emphasis on under-three-year-old children's exploratory and problem-solving behaviours; investigation of the planning-evaluation framework; curriculum decision making and identification of policies and evaluation strategies for various early childhood settings.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2085 TEACHING & CARING STRATEGIES 2**

Introduction to the practical aspects of designing, implementing and evaluating developmentally appropriate programs for children under three years of age in a range of child care and education settings; physical care and education; safety and nutrition.

**Credit Points:** 5    **Contact Hours:** 3 per week

■ **EE2086 GROUP PROCESSES**

Group processes; roles and functions in groups; leadership styles and characteristics; group task achievement, communication skills in groups.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2087 LANGUAGE & COGNITIVE DEVELOPMENT & LEARNING**

Theories of language and cognitive development; relationship between language and thought; early syn-

tax and the development of speech and morphology; functions of children's language and communication; facilitation of children's language and literacy skills; teachers' and parents' roles.

**Prerequisite:** EE2300

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2088 CURRICULUM FOR COMMUNICATION I**

Curriculum for self-expression and communication; exploration of planning implications for a variety of childhood care and education contexts; the contribution of varied interaction opportunities to the development of children's communication skills; learning environments which accept and support children under three years of age.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **EE2089 CURRICULUM FOR EXPLORATION & PROBLEM SOLVING 2**

The child as an active learner utilising cognitive and motor skills in exploration and problem solving; the child-centred curriculum and its role in the development of children's social competencies and cognitive skills; design of developmentally appropriate curriculum for investigating, socialising and problem solving, focusing on children under three years old.

**Prerequisite:** EE2084

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2090 TEACHING & CARING STRATEGIES 3**

Effective strategies for teaching/caring for children in small group and larger group contexts; designing, implementing and evaluating programs with particular emphasis on the birth to three year age range; promoting communication creativity and self-expression in child care and education programs.

**Credit Points:** 5    **Contact Hours:** 3 per week

■ **EE2091 CONTEMPORARY AUSTRALIA**

Utilisation of historical and social perspectives to examine the development of contemporary Australian society, with particular emphasis on attitudes and values, class, race, ethnicity and gender.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2092 SOCIAL & EMOTIONAL DEVELOPMENT & LEARNING**

Theories of social-emotional development and learning; individuality and self-knowledge; socialisation processes in the family, the centre and the wider cultural contexts; development of pro-social behaviours and social competencies.

**Prerequisite:** EE2300

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2093 CURRICULUM FOR COMMUNICATION 2**

Theory and practice in designing developmentally appropriate curriculum for communication for three- to six-year-olds; exploration of the socio-cultural contexts of communication; children's literature; the child and the media; the role of communication processes in children's learning emphasising the links between oral and written language learning in the home and early childhood group care settings.

**Prerequisite:** EE2088

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **EE2094 CURRICULUM FOR SELF-EXPRESSION & CREATIVITY**

Children's development of self-expression and creativity and the factors which may contribute to this development; curriculum approaches which foster a

positive self-concept, creativity and artistic growth in individual children, focusing on three- to six-year-old children.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **EE2095 TEACHING & CARING STRATEGIES 4**

The teacher's caring and educating roles in home-based and centre-based early childhood care settings; designing, implementing and evaluating programs for three- to six-year-olds.

**Credit Points:** 5    **Contact Hours:** 3 per week

■ **EE2097 LEARNING & TEACHING**

Models of memory, knowledge and information processing; perspectives on and implications of theoretical explanations of thought; current theories and measurement of intelligence; the teacher's role and environmental management techniques in facilitating learning in children.

**Prerequisite:** EE2300 (not applicable to students in the Upgrading Program)

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2098 ADMINISTRATION & PROGRAM PLANNING FOR E.C.**

The range of, and relationships between, child care and education services; management theory and practice; leadership styles and approaches; administration of child care services; examination of historic and current influences on Australian care and education services; exploration of the international perspective; decision making in relation to interpersonal relationships, building and outdoor design, budgeting, government funding and regulations, planning comprehensive programs reflecting specific community needs; parent and community education.

**Credit Points:** 20

■ **EE2099 FAMILY & COMMUNITY PROCESS, POLICIES & SOCIAL NETWORKING**

Trends and patterns in the contemporary family, with particular reference to women's changing role, family diversity; family stress; the ideological context of family and welfare policy in Australia with particular reference to education, health and welfare policies; application and implications of policy decisions for child care and education services, community services and resources; social systems and networks in service delivery; roles and expertise of professionals including child care and education personnel within and across systems.

**Credit Points:** 20

■ **EE2100 PROGRAM PLANNING**

Decision making in relation to such factors as interpersonal relationships, building and outdoor design, budgeting, government funding and regulations; planning comprehensive programs in response to developmental and special multicultural, social and economic needs of children, families and community; parent and community education.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2101 SOCIAL NETWORKING**

Characteristics and functions of social systems and social networks; analysis of social support systems and implications for children and families; social systems and networks in service delivery; roles and expertise of professionals including child care and education personnel within and across systems.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2102 CHILD DEVELOPMENT & LEARNING**

Theoretical perspectives on development and learning of children 0-12 years; investigation of aspects of development, developmental sequences and patterns; factors influencing development and learning; observation measurement and research methods in development and learning.

**Credit Points:** 20

■ **EE2103 CURRICULUM, THEORY & DESIGN FOR CHILD CARE**

Frameworks for curriculum decision making; establishing curriculum policies and evaluation strategies; characteristics of learning environments which foster communicative competence, creativity and problem solving; levels of decision making, federal and state governments, employing authorities, particular child care and education services.

**Credit Points:** 10

■ **EE2104 TEACHING & CARING STRATEGIES**

The teaching/caring role in the facilitation of learning; supportive and stimulating environments for learning; strategies for planning, providing and evaluating learning experiences for children 0-12 years.

**Credit Points:** 10

■ **EE2105 CONTEMPORARY AUSTRALIAN FAMILY & COMMUNITY**

Review and analysis of current literature; formulation, implementation and analysis of a community project to examine a selected issue.

**Credit Points:** 20

■ **EE2106 STUDY SKILLS & COMMUNICATION 1**

Enhancement of students' reading, writing, note-taking and organisational skills.

**Credit Points:** 30

■ **EE2107 STUDY SKILLS & COMMUNICATION 2**

Enhancement of students' reading, writing, note-taking and organisational skills.

**Credit Points:** 15

■ **EE2108 STUDY SKILLS & COMMUNICATION 3**

Enhancement of students' reading, writing, note-taking and organisational skills.

**Credit Points:** 10

■ **EE2109 ADMINISTRATION OF EARLY CHILDHOOD CARE SERVICES**

The range of, and relationships between, child care and education services; management theory and practice; leadership styles and approaches; administration of child care services; examination of historic and current influences on Australian care and education services; exploration of the international perspective.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **EE2110 FAMILY & COMMUNITY PROCESS & POLICIES**

Trends and patterns in the contemporary family, with particular reference to women's changing role, family diversity; family stress; the ideological context of family and welfare policy in Australia with particular reference to education, health and welfare policies; application and implications of policy decisions for child care and education services, community services and resources.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2111 CULTURAL INCLUSIVITY IN AN E.C. CONTEXT**

The development of cultural exclusion; cultural and societal influences which determine the diversity of patterns of cultural development and learning; the role of education as it applies to cultural transmission and the influences of curricula and resources.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2300 DEVELOPMENT & LEARNING: LIFE SPAN**

Continuity and change in development and learning from conception to death; multidisciplinary overview of life cycle; theoretical perspectives; major features of physical, cognitive and socio-emotional development and learning over the life span.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2301 PHYSICAL, PERCEPTUAL & MOTOR DEVELOPMENT & LEARNING**

Physical and motor development, growth patterns and changes in body systems, effects of maturation, phylogenetic and ontogenetic aspects and individual differences; perceptual capacities of infants and young children; implications for programming and instruction; the techniques of observation, recording and analysis of children's physical, perceptual and motor development.

**Prerequisite:** EE2300

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2302 LANGUAGE & COGNITIVE DEVELOPMENT & LEARNING**

Theories of language and cognitive development; study of relationship between language and thought; emergence and socialisation of the symbolic function; early syntax and the development of speech and morphology; functions of children's language and communication; facilitation of children's self-expression, communication and creative skills; cognitive processing in academic tasks.

**Prerequisite:** EE2301

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2303 SOCIAL, EMOTIONAL & CREATIVE DEVELOPMENT & LEARNING**

Theoretical perspectives on social, emotional and creative development; temperament and personality dimensions, continuity and change; socialisation within the family, peer and classroom contexts; components of social competence; affective development; creativity and self-expression.

**Prerequisite:** EE2302

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2307 DEVELOPMENT & LEARNING: LIFE SPAN I**

Development and learning as a life-long process; a multi-disciplinary overview with particular emphasis on the effect of different cultural and social environments on the cognitive, social and physical development of young children; techniques of observation, recording and analysis of child behaviour.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **EE2308 DEVELOPMENT & LEARNING: LIFE SPAN 2**

Significance of theoretical frameworks in understanding human development and learning throughout the life span; assessment of own stage in the developmental process; continuity and change in human development and learning from conception to

death; consideration of cultural and social influences upon development.

**Prerequisite:** EE2307

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **EE2600 TEACHING STRATEGIES 1**

Understanding and practising effective interpersonal communication skills in practical situations; the application of knowledge and skills acquired to the teaching situation in early childhood settings; acquisition of skills of observing and recording ongoing behaviour in practical situations.

**Credit Points:** 5    **Contact Hours:** 3 per week

■ **EE2601 TEACHING STRATEGIES 2**

Relating to children 0-5 years, parents and caregivers in family and community settings; using media effectively in the pre-school setting; using play as a teaching strategy; acquiring the art of storytelling; developing basic competencies in planning learning experiences and organising the learning environment in kindergarten/pre-school settings.

**Prerequisite:** EE2600

**Credit Points:** 5    **Contact Hours:** 3 per week

■ **EE2604 THE EARLY CHILDHOOD TEACHER 1**

The early childhood teacher; analysis of the role of the early childhood teacher with particular emphasis on the lower primary setting; development of an integrated curriculum plan relevant for children in contemporary society; professional behaviour and ethics; formulation of a personal philosophy of teaching for early childhood education.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2605 THE EARLY CHILDHOOD TEACHER 2**

The early childhood teacher; further analysis of the role of the early childhood teacher with particular emphasis on the pre-school setting; development of an integrated curriculum for pre-school children; administrative, organisational and coordinating responsibilities of the early childhood teacher; working with parents; current issues in child welfare.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2606 MICROCOMPUTERS IN EARLY EDUCATION**

Computer consciousness; programming and languages, particularly LOGO; relevance and significance of computers in education; techniques for using computers with young children.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2607 MEDIA FOR EARLY CHILDHOOD TEACHERS**

Examination of considerations relevant to media selection, use and evaluation; integration of learning through media; planning and production in areas of graphics, audio, projected and photographic media, and television; development of media for early childhood teaching situations.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2608 WORKING WITH PARENTS**

Practical demonstration of understanding parental role in early childhood education; devising and implementing a variety of innovative programs.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE2609 TEACHING ENGLISH AS A SECOND LANGUAGE**

The nature and functions of language; the grammar of English from a teaching/learning perspective, par-

ticularly in relation to English learners; fundamental principles and procedures underlying a communicative approach to teaching English as a second language; teaching specific language skills; evaluation and assessment.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EE3033 EARLY EDUCATION: CURRICULUM DEVELOPMENT**

Perspectives on the undifferentiated curriculum; early educational curriculum design and implementation; analysis of representative models of early education; curriculum evaluation and innovation in early education.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **EE3034 EARLY EDUCATION: READING**

Reading as a natural language-learning and communicative process; the complementary roles of parents and teachers in literacy development 0-8 years; implications for the planning and implementation of pre-school and infant school literacy programs; implications for selecting instructional materials; organisation and management of a set of cohesive and developmental literacy experiences.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **EE3035 MATHEMATICS: EARLY CHILDHOOD**

Theoretical background and research; logical sequence of mathematics and children's cognitive development; mathematics content and learning experiences for early childhood; integration and application of mathematics in early childhood settings.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **EE3702 WORKING WITH PARENTS & COMMUNITY**

Parental roles in childhood; review of research on child rearing; the use of interpersonal skills in relating to parents; planning for parent involvement; parent involvement approaches; resources for parents; meeting the needs of parents and programs; future trends.

**Prerequisite:** Relevant studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **EE3703 EARLY EDUCATION DEVELOPMENT & LEARNING**

Ecological orientation of child development; forces shaping the development of children 0-8 years; ecological analysis of the psychosocial and cultural perspectives of infant and early childhood learning; ecological analysis of the major early childhood settings; social policy.

**Prerequisite:** Studies in human development at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **EE4029 SOCIAL, EMOTIONAL & PHYSICAL DEVELOPMENT (0-9 Years)**

Introduction to the major theories, processes and features of development and learning of children 0-9 years in the physical, perceptual, motor and social-emotional domains; application of this knowledge to planning for children's needs, interests and abilities.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4030 COGNITION & LANGUAGE (0-9 Years)**

Review and analysis of current knowledge of the processes and features of cognitive and language development and learning of children 0-9 years; analysis of observational data on children's behaviours in terms of current theoretical understanding and using such analyses for planning to meet children's needs, interests and abilities.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4031 CREATIVITY & LANGUAGE 1**

Developmental processes in the expressive and language arts; principles of learning; the development of personal identity in children; creative and expressive processes; teaching-learning approaches and strategies.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4032 CREATIVITY & LANGUAGE 2**

Discipline-based processes; the interrelated and unique contribution of each of the arts; the teacher's role as a curriculum decision maker.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4033 THINKING & PROBLEM SOLVING 1**

The processes of interest in active learning, inquiry and problem solving; environments and strategies which promote the development of active learning and inquiry by young children; monitoring individual progress.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4034 THINKING & PROBLEM SOLVING 2**

The child as explorer, problem solver and meaning maker; organising for active learning, inquiry and problem solving; linking home and school environments.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4035 PROGRAM PLANNING STRATEGIES & MICRO-SKILLS 1**

Overview of the role of the early childhood teacher; the human communication process in relation to teaching in different early childhood settings; decision making; guidelines for short-term planning to meet individual and group needs; teaching and learning styles and strategies; theories of motivation, management and guidance relating to the physical, intellectual and socio-emotional aspects of the development of young children; effective use of time, space and resources.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4036 PROGRAM PLANNING STRATEGIES & MICRO-SKILLS 2**

Continuation of EE4035.

**Prerequisite:** EE4035

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4040 DEVELOPMENT & LEARNING (3-8 YEARS)**

Examination of techniques for observing and analysing child behaviour; overview of major theories of development and learning; cognitive, social/emotional, language and physical development and learning in children 2-9 years.

**Credit Points:** 9    **Contact Hours:** 2.5 per week

■ **EE4041 RESEARCH IN DEVELOPMENT & LEARNING**

Examination of the research literature in development and learning; research techniques in early childhood;

application of research techniques in early childhood; application of research techniques to research proposals; experimental research in one aspect of development and learning of children aged 3-8 years; contributions to early childhood research from other fields.

**Prerequisite:** EE4040

**Credit Points:** 9    **Contact Hours:** 2.5 per week

■ **EE4042 CURRICULUM & TEACHING STRATEGIES 1**

Examination of the development of problem solving, explanation, investigation, self-expression, originality, divergent thinking, and risk-taking in young children in relation to communication, movement and the expressive arts; analysis of teaching strategies.

**Credit Points:** 9    **Contact Hours:** 2.5 per week

■ **EE4043 CURRICULUM & TEACHING STRATEGIES 2**

Examination of teaching strategies, incorporating problem solving through exploration and investigation, for studying mathematics, science, social studies and health curriculum. The emphasis will be on approaches and suitable materials for these curriculum areas within various early childhood settings.

**Credit Points:** 9    **Contact Hours:** 2.5 per week

■ **EE4044 CURRICULUM & TEACHING STRATEGIES 3**

Critical evaluation of current approaches to the teaching of literacy and numeracy in the early years; diagnosis and assessment in early literacy and numeracy; the expressive arts and the sciences as modes of learning and teaching in the early years; the use of microcomputers and educational software with young children; planning and teaching for individual and group needs.

**Credit Points:** 9    **Contact Hours:** 2.5 per week

■ **EE4045 PROGRAM PLANNING**

Planning and evaluating early childhood programs for children 3 to 8 years; organisation and administration of programs for young children; examination of approaches to teaching; early intervention programs; inter-disciplinary teamwork and support services; strategies for working with parents and community agencies; professional behaviour and ethics.

**Credit Points:** 9    **Contact Hours:** 2.5 per week

■ **EE4309 SOCIO-CULTURAL CONTEXTS OF EDUCATION**

The social context of education; social interrelationships which define this context; the impact of diversity in family structures; child rearing patterns; alterations to family roles; educational practices which respond to socio-cultural contexts.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4310 TEACHING IN CONTEMPORARY SOCIETY**

The implications of social change for early childhood programs; historical, philosophical and sociological perspectives on change in contemporary society; technological developments; demographic changes in urban and rural settings; ethical and legal issues affecting teachers.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **EE4311 THE CONTEXT OF EARLY CHILDHOOD EDUCATION**

Examination of the bases and scope of education in early childhood, the role of psychological theories,

curriculum models, policies and programs; case studies of early childhood programs.

**Credit Points:** 9      **Contact Hours:** 2.5 per week

■ **EE4312 TRANSACTIONS IN EARLY CHILDHOOD EDUCATION**

Examination of the implication of social, cultural and geographical factors for early childhood education; consideration of the effects of technology and media, and ethical and legal obligations; analysis of procedures and techniques for case studies; formulating a personal philosophical statement.

**Prerequisite:** EE4311

**Credit Points:** 9      **Contact Hours:** 2.5 per week

■ **EE4902 PRACTICE TEACHING 1**

Observation; planning, implementation and evaluation of curriculum for children in the early childhood age range; communication with children, parents and colleagues and the demonstration of organisational and administrative skills in an early childhood setting or equivalent.

**Credit Points:** 12

■ **EE4903 PRACTICE TEACHING 2**

Observation; design, implementation and evaluation of programs for children in the early childhood age range; communication with children, parents and colleagues; increased responsibility for control and management in the early childhood setting; catering for children in the early childhood age range.

**Prerequisite:** EE4902

**Credit Points:** 12

■ **EN2000 STORYTELLING IN VARIOUS MEDIA**

The adult short story; writing techniques and criteria for evaluation; novels, short-stories and films for children who can read for themselves, viewed from a literary and entertainment point of view.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **EN2044 CONTRASTS IN AUSTRALIAN LITERATURE**

Consideration of a variety of literature dealing with significant aspects of the Australian ethos/character: anti-authoritarianism, aggression and violence, female oppression, aggressive nationalism, racism; ways in which writers have viewed and used aspects of the Australian landscape; the literature of protest: the Vietnam war, feminism, civil rights, Aboriginal land rights; the new Australian drama.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **EN2050 FANTASY & SCIENCE FICTION**

Nature, scope and function of science fiction. Fantasy: struggle between good and evil, horror and frisson, traditional and 'art' fairytales, children's and adult fantasy; utopian literature and alternative worlds; allegorical fantasy; traditional wisdom and fantasy. Science fiction: history of the genre, beginnings of modern science fiction, nature of today's science fiction and criteria for evaluating it, differentiation and expansion of the sciences now appearing in science fiction, effects of scientific and technological discovery.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **EN2058 THE MASS MEDIA IN AUSTRALIA**

The mass media in Australia; advertising and the media; critical examination of television programs; the mass media in the classroom.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **EN2071 COMMUNICATION: FOCUS ON LITERACY**

Oral language as the beginning of a set to literacy; the emergent reader/writer; beyond initial literacy; environmental literacy.

**Prerequisites:** LA2042 and SS2053

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **EN2072 COMMUNICATION: FOCUS ON INTEGRATION**

Principles underlying communication program development; resource identification, selection and development; strategies for fostering language/communication development; communication program development; critical issues in communication.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **EN2801 INTERPERSONAL COMMUNICATION**

The function of self-concept in the communication process; the process of personal change; consideration of the Johari model as a theoretical framework for developing skills of disclosure and feedback; the development and maintenance of trust; communication skills (listening, attending, encouraging, paraphrasing, clarifying, perception checking, reflecting, summarising).

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **EN2802 COMMUNICATION IN GROUPS**

Experiential work in group skills such as communication, decision making, problem solving, use of power, resolving conflicts, formulating group goals, developing norms, adapting leadership to process; consideration of group behaviour in the light of group development models (Bennis, Beon, Bradford, Cohen and Smith, Miles, Rogers and Schutz); consideration of own behaviour in group settings with respect to communication style.

**Prerequisite:** EN2801

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **EN2803 LANGUAGE & COMMUNICATION**

The nature and functions of language and communication; characteristics of the English language; language variation and English; the role of language in social control and persuasion; communication in a multicultural society; discourse analysis.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **EN3026 COMMUNICATION**

The nature of communication; non-verbal communication; interpersonal communication; written communication in organisations; aspects of information technology.

**Credit Points:** 9      **Contact Hours:** 3 per week

■ **EN3031 ENGLISH LANGUAGE CURRICULUM ISSUES**

Concepts of the English/language arts curriculum; concepts of oracy and literacy; recent research findings; emerging issues in English/language arts teaching; evaluation of language growth in students; issues and innovations in primary school language areas; issues and innovations in the secondary English curriculum.

**Prerequisite:** CU3040 or equivalent plus relevant teaching experience and studies at Diploma of Teaching level

**Credit Points:** 12      **Contact Hours:** 3 per week

■ **EN3035 APPROACHES TO CULTURAL STUDIES**

Critical evaluation of traditional approaches to literary texts; understanding of major terms and concepts of semiotics, structuralism, post-structuralism; application of concepts in analysis of texts; knowledge of significant writings and cultural theorists.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3036 STUDIES IN LANGUAGE**

The language basis in current approaches to the teaching of English; nature and function of language; dynamics involved in interactive situations; appropriateness of language forms used in various social contexts; educational implications of linguistic diversity within the community; recognition of the developmental features of adolescent language.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3037 THE MEDIA & SOCIETY**

The importance of history, organisational control, forms, functions, and audiences of the mass media; role of the mass media in recording and shaping 'reality'; identification of the effects mass media can have on society.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **EN3038 AUSTRALIAN LITERARY STUDIES**

Critical appreciation of various texts from Australia's literary tradition; impact of social values, political and artistic movements upon literature production and genres; dichotomy of mainstream and marginalised writing in various groups and periods of Australia's cultural traditions.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3039 LITERATURE IN TEACHING**

How new areas of knowledge are affecting the selection of literary texts for teaching at various developmental stages and the processes of readers' responses to those texts; how to relate such information to the context of teaching literature in schools; the influence of such factors as systems of evaluation, the operation of school libraries, the policies of book publishers in relation to resources for teaching literature, State syllabuses and school programs on the design of English curriculum.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3040 MODERN BRITISH LITERATURE**

The novel, poetry and drama from the time of Hardy to the present day; the development of modernism; the influence of T.S. Eliot; changes in the nature of drama with the birth of realism and the conflict created by the anti-novel in any traditional view of a body of literature.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3041 NINETEENTH CENTURY LITERATURE**

The importance of context to critical appreciation of the literature of any age; the varying kinds of relationship that exist between writers and their society in a time of profound social, economic and political change.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3042 AMERICAN LITERATURE**

The literature of America in the twentieth century within its cultural context; significant developments in American literature since the 1920s, with reference to major preoccupations and issues; changes and influences in literary style; the impact of socio-political changes on American writing.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3043 YOUNG ADULT FICTION**

The scope and nature of young adult literature; strategies for evaluation and selection; recent research into adolescents' reading needs, interests and responses; methods for promoting and using young adult books in the curriculum.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3044 SHAKESPEARE IN THE ELIZABETHAN WORLD**

The literary and intellectual culture of Elizabethan England as a backdrop for the special study of a selection of the dramatic and poetic works of William Shakespeare and, more briefly, the work of some of his contemporaries.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3045 WOMEN IN LITERATURE & THE MEDIA**

Literary texts and films written by women; relevant aspects of their socio-cultural experience; marginalisation from 'mainstream' culture.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3046 AUSTRALIAN CULTURE & TELEVISION**

How the Australian culture is being constructed on television particularly in the mini-series; key myths and legends; how these myths and legends are handled; the Anzac myth; 'The Australian way of life'; Australian nationalism and the USA, British and Japanese connections.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3047 CHILDREN'S LITERATURE**

Children's literature in the literacy development of children and young adults and the importance of children's literature in shaping the child's view of the world.

**Prerequisite:** EN3036

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3048 ABORIGINAL WRITING**

The contribution of Aboriginal writing to the field of Australian literature; the major issues and themes that concern Aboriginal authors; the peculiar problems confronting Aboriginal writers in relation to both their socio-political context and the established conventions of literary criticism.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3049 CLASSICAL & MEDIAEVAL**

Great works from ancient Greece with reference to Greek art, architecture, religion and philosophy; the development of Latin literature from Ennius to the Silver Age in its historical context; the authorised version of the Bible; Anglo-Saxon literature, old French literature, Dante, Petrarch, Boccaccio, Chaucer, Malory and the Arthurian tradition.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **EN3050 TEACHING ENGLISH AS A SECOND LANGUAGE**

The history of migration to Australia, considering the needs of the bilingual learners in our schools and examining curriculum documents from a multicultural perspective.

**Prerequisite:** EN3036

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **EN3051 STORYTELLING**

Story structure; selection of suitable stories to tell which match needs and interests of the audience; integration of storytelling across the curriculum.

**Prerequisite:** EN3036

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **EN3052 CONTEMPORARY APPROACHES TO LITERACY**

The issue of literacy within the wider community cultural context and in the specific immediate context of the tertiary institution; conceptions of what represents literacy in the culture; the cognitive and linguistic aspects of what constitutes literacy; the surface features of language in use; the strategies by which meaning is made and communicated.

**Prerequisite:** EN3036

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **EN3053 MODERNISM & POST-MODERNISM**

The concepts of modernism and post-modernism and how they are related to social, technological and philosophical developments in this century; the movement away from the commitment of modernism to post-modernism abandonment of the transcendental values.

**Prerequisite:** EN3035

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **EN3054 WRITING WORKSHOP**

This subject is based on contemporary understanding of writing. The student, as writer, uses all the language modes in social contexts (either genuine or simulated) to lead to writing in a range of situations. Engagement in these writing situations is designed to bring about personal understanding of the following: the nature of the writing process; the influence of audience and purpose on the final written product; the range of genres (or forms) that fall within the activity of writing. The act of writing is also examined for the contribution it makes to learning and critical thinking, both in the content areas across the curriculum and in the development of creativity and understanding about oneself as an individual.

**Prerequisite:** EN3036

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **EN3701 THE TEACHER & THE WRITING PROCESS**

The writing workshop; the writing process and language growth; writing in the school; the sociology of writing; helping the writer; evaluation and assessment of writing.

**Prerequisite:** English/language arts curriculum studies at Diploma of Teaching level

**Credit Points:** 12 **Contact Hours:** 3 per week

■ **EN4009 COMMUNICATION: FOCUS ON LITERACY**

A set towards literacy: oral language, appropriate environments for the development of a set, a concept of print. The emergent reader/writer: the reading and writing processes, children's behaviour at the emergent literacy stage, monitoring reading and writing

development, resources and strategies for developing reading and writing, program development for the lower primary school; beyond initial literacy.

**Credit Points:** 8 **Contact Hours:** 2 per week

■ **EN4012 COMMUNICATION: FOCUS ON LANGUAGE**

Principles underlying language program development; resource identification, selection and development; strategies for fostering language development; language arts; program development.

**Credit Points:** 4 **Contact Hours:** 2 per week

■ **ER3002 DYNAMIC EARTH**

The nature of our planet and its dynamic systems; materials of the earth; the ocean's structure; dynamic nature of the earth; the earth through time; field studies.

**Co-requisite:** ER3003

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **ER3003 EXPLORATION OF THE UNIVERSE**

The nature of stars; planetary systems and galaxies; the theories of the origin and nature of the solar systems; the role and function of satellites and spacecraft; planetary atmospheres; the greenhouse effect and its causes; practical activities and field observation.

**Co-requisite:** ER3002

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **ER3004 AUSTRALIAN GEOLOGY**

Igneous and metamorphic associations, fold mountain belts, sedimentary basins, and major ore deposits within the context of the plate tectonics model and especially with regard to the Australian setting; comparisons with older geosynclinal theories; study of rocks and minerals in thin section; field studies, with representative locations chosen for the examination and illustration of at least some of the following (i) a significant sedimentary basin, (ii) a major fold belt, (iii) a major ore deposit, (iv) a calc-alkaline volcanic-plutonic association.

**Prerequisite:** ER3002

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **ER3005 GEOLOGICAL ENVIRONMENTS**

The geological evolution of Queensland; ancient organisms and their environments as based on fossil evidence; modern Queensland environments and environmental issues; climate and geology; soils and land erosion; groundwater use and management; geological hazards; engineering applications; mining and the environment; the influence of human developments and movement on Queensland's landscape, shoreline, and continental shelf; the role of geology in recreational pursuits on National Parks, the Great Barrier Reef, geological monuments, local geology.

**Prerequisite:** ER3002

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **ER3701 EARTH SCIENCE**

Mineralogy; petrology; economic geology; the solar system and space exploration; stellar evolution and cosmology; diastrophism; geomorphology. Incompatible with tertiary studies in earth science, or earth science as major in Diploma of Teaching.

**Prerequisite:** Science studies at Diploma of Teaching level

**Credit Points:** 12 **Contact Hours:** 3 per week

■ **FD3025 FOOD STUDIES**

The behaviour of foods; nature, properties and behaviour of major nutrients in food; interaction

between major ingredients in certain foods; individual research.

**Prerequisite:** CH3025

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **FD3026 FOOD SCIENCE & TECHNOLOGY**

The role of the food industry in modern society; issues and problems facing consumers and the food industry; food preservation principles; unit processes in the food industry; commercially available food; product development; food technology workshop.

**Prerequisite:** MB3025

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **FD3030 FOOD & NUTRITION I**

Issues related to choosing a diet which will promote health; nutritional needs for humans; translating these to food selection and preparation.

**Prerequisite:** SC3015

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **FD3031 FOOD & NUTRITION 2**

Nutrition, food science and technology; food studies and food preparation; the nature, properties and behaviour of the major nutrients in food and their nutritional and dietary roles; food composition tables; analysis of experimental work; choosing appropriate practical applications for use in schools.

**Prerequisite:** FD3030

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **FD3032 FOOD SCIENCE & TECHNOLOGY**

The role of the food industry in relation to lifestyles in modern societies; the scientific principles and operations involved in the preservation and manufacture of foods; the composition, the ingredients, the labelling and marketing methods of a representative range of commercial foods; current consumer issues such as the safety of food additives, food irradiation, consumer protection, new product development, food regulations and future trends in our food supply.

**Prerequisite:** Any Level 1 Science subject

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **FD3033 FOOD PREPARATION & PRESENTATION**

Mastery of advanced techniques and more complex skills in food preparation and presentation with concomitant integration of sound nutrition principles, management, consumerism and skills of communication.

**Prerequisites:** FD3030, HS3015 and SC3015

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **FD3034 FOOD MANAGEMENT FOR FAMILIES**

Food habits and attitudes; social and cultural influences; role of the family in developing food habits; nutritional requirements of different age groups; principles of meal management and meal planning; adaptation of meals to special groups.

**Prerequisites:** FD3025 and NU3025

**Credit Points:** 8    **Contact Hours:** 5 per week

■ **FD3035 FOOD PRODUCTION & PRESENTATION**

Advanced techniques and complex skills of food production and presentation; commercial production and presentation of food; production and presentation of food for photography or display purposes; food demonstrations; special occasion cookery.

**Prerequisites:** FD3025 and NU3025

**Credit Points:** 8    **Contact Hours:** 6 per week

■ **FI2802 VIDEO PRODUCTION & ANALYSIS**

Visual language; use of basic video cameras; shooting and editing on video; documentary and fiction production techniques; use of lighting, camera angle and movement; framing and sound recording; analysis of television programs.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **FI3000 FILM LANGUAGE**

How film communicates; development of visual literacy through examination of the nature and function of film language; awareness of 'form' in narrative and non-narrative film; different film structures; basic ideas and terminology of semiotics and structuralism and application to film texts.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **FI3001 FILM, SOCIETY & CULTURE**

Examination of a number of popular American films made between the 1930s and the 1980s and the significant political and social movements which they reflect; the films include King Kong, Meet Me in St Louis, On the Waterfront, Rebel Without a Cause, Bonnie and Clyde, and Norma Rae.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **FI3002 AUSTRALIAN FILM**

The products of the revival of the Australian film industry in the 1970s and 1980s; how films have attempted to define a national identity; the relationship between films, the film industry and the wider social context; major discourses in Australian culture such as gender representation, nationalism, class, the family, contemporary adolescent culture, race and ethnicity, corruption, urban development and unemployment; the debate between popular and higher culture in the Australian film industry.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **FI3003 ASIAN CINEMA**

Recent readings of Asian films, exploring the problems set up by their evaluation within Western critical discourse; study of two of the following national cinemas: China, Japan, India.

**Prerequisite:** EN3035

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **FI3004 EUROPEAN CINEMA**

How European cinemas have responded to social and technological change. Students concentrate on the cinema of two of the following countries: Italy, Germany, France.

**Prerequisite:** Any first year subject in Foreign Languages, Film and Media or English

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **FI3005 MEDIA PRAXIS I**

Operation of 35 mm single lens reflex cameras and use of appropriate lenses, film stocks and exposure settings; production of photographic prints in a photographic darkroom; operation of basic audio mixing equipment; planning and production of a short audiovisual program using photographic slides and audio cassette tape; operation of basic video recording and editing equipment; planning and production of a short audiovisual program using VHS video equipment; application of visual and audiovisual production codes to the construction of visual and audiovisual texts.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **FI3006 MEDIA PRAXIS 2**

Extension of FI3005.

**Prerequisite:** FI3005

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **FI3007 DOCUMENTARY FILM**

The history and development of the documentary film from the pioneering efforts of Flaherty and Grierson to the work of contemporary film makers such as Berger and Bradbury; how the film makers construct a reality and how the great social issues of the day are reflected in their work.

**Prerequisite:** EN3035

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **FI3008 FILM GENRES**

The notion of genre in films; specification of the conventions and iconography of particular genres; the connection between genre and history/ideology and between genre and industry; the challenge of genre criticism to the notion of personal authorship.

**Prerequisite:** EN3035

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **FI3009 MEDIA PRAXIS 3**

Experimentation with a greater variety of production codes in three areas: still photography, video production and film production.

**Prerequisite:** FI3006

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **FI3010 MEDIA INSTITUTIONS**

The production and distribution of media texts within mass media institutions; evolution of consensus definitions of what the media are and can do, and how alternative definitions are marginalised; issues of the relationship between language, knowledge and power; media policies; how the industry works; production and distribution networks; media ownership and control; the political economy of media institutions in Australia and overseas; the impact of social change and new technologies on media institutions; the media and education.

**Prerequisite:** EN3035

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **FI3011 FILM HISTORY**

The development of the Hollywood continuity style; the Russian montage style; German expressionism and its influence on film noir; modernism; Italian neo-realism and allied movements; 'new waves' in France, Brazil and elsewhere; the influence of new technologies on contemporary film styles.

**Prerequisite:** EN3035

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **GE2021 LIVING IN CITIES**

The cultural basis of human settlement and the factors that contribute to the nature of modern cities (human perception, economic and political processes, the natural environment); the problems caused by over-crowding, urban decay and the unjust distribution of urban services and facilities in Australian, other Western and Third World cities; principles of town planning; field study.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **GE2800 LIVING BETTER WITH LESS**

The 'lucky country' debate focusing on the problems caused by environmental exploitation; contemporary and alternative views on the use of physical and human resources in Australia; the ecology and

economics of agriculture in Australia; the energy problem; living better with less.

**Credit Points:** 5 **Contact Hours:** 2 per week

■ **GE2801 THE BUILT ENVIRONMENT**

The architectural heritage of the street-scapes of Queensland country towns; the architectural form of residential buildings in Queensland towns and cities; the process of change in the central areas of large cities; the planning consequences of demographic and social changes in urban areas.

**Credit Points:** 5 **Contact Hours:** 2 per week

■ **GE2805 THEMES IN HUMAN GEOGRAPHY**

Demographic aspects of world population; origins of agriculture; the effects of the urban revolution on people; distribution of wealth and difference in living standards; the nature and methods of medical geography; warfare; culture; recreation.

**Credit Points:** 8 **Contact Hours:** 3 per week

■ **GE3005 INTRODUCTION TO CULTURAL GEOGRAPHY**

The spatial organisation of world societies, their demographic characteristics, their means of livelihood and interactions with each other; geography viewpoint; cultural diversity; cultural universals; social well-being; perception; diffusion; contemporary affairs.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **GE3006 PEOPLE & THE NATURAL ENVIRONMENT 1**

The geomorphological systems which are creating the surface of the earth and with which human systems interact; the probable effects of the interaction of human and physical systems.

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **GE3007 INTRODUCTION TO GEOGRAPHY**

The nature and purpose of geography in terms of its conceptual structure and enquiry approaches; technologies, methods, skills commonly used by geographers.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **GE3008 PEOPLE & THE NATURAL ENVIRONMENT 2**

Global systems; regional patterns of climate, soils, flora and fauna; human influences on global systems, potential effects and mitigation strategies.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **GE3009 AUSTRALIAN GEOGRAPHICAL STUDIES**

Consumer versus conserver values; resources development in Australia; distribution and structure of the Australian population; prospects for sustainable agriculture; energy resources, user patterns, future scenarios; industrialisation in Australia, the benefits and costs of technological changes on resources development.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **GE3010 LIVING IN CITIES**

The cultural basis of human settlement and the factors that contribute to the nature of modern cities (human perception, economic and political processes, the natural environment); the problems caused by over-crowding, urban decay and the unjust distribution of urban services and facilities in Australian, other

Western and Third World cities; principles of town planning; field study.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **GE3011 ADVANCED GEOGRAPHICAL TECHNIQUES**

User-oriented mapping; geographical information systems and the structuring of geographical information; computer-assisted mapping; uses of remote sensing; advanced aerial photography; field skills in geography.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **GE3012 ENVIRONMENTAL HAZARDS**

The nature of hazard, risk and disaster; origins of hazards; nature of disaster; influences on the perception of risk; disaster prediction, preparation, response and recovery strategies.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **GE3013 ASIAN GEOGRAPHICAL STUDIES**

Physical and cultural aspects of Asia; transition from traditional societies; the effect of colonialism; the independence movements; alternative approaches to development; traditional and modern agriculture; trends in manufacturing; tourism; urbanisation; cultural conflict and economic power; alternative approaches to development; trade cooperation and dependency.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **GE3014 RESOURCES PLANNING & DEVELOPMENT**

The social, economic and political implications of the distribution, management and consumption of resources; evaluation of the impact of resources development on social and economic well-being and environmental quality; clarification of the concept of a just society in terms of resources development.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **GE3015 ADVANCED URBAN GEOGRAPHY**

Analysis of socio-political and philosophical perspectives of the urban environment; social stratification; residential differentiation; housing supply and demand; spatial organisation and demand in urban areas; social interaction; environmental planning, power and status; demographic and technological change.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **GR3801 STUDIES IN GRAPHIC PRINTMAKING**

Exploration of the three areas of printmaking: relief, intaglio and planographic; practice and research relative to the aesthetic, technical and design values of printmaking.

**Prerequisite:** Studies in graphics at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **HE2015 SCHOOL HEALTH EDUCATION**

Responsibility of the primary school in health promotion; school-based curriculum development; consideration of the following areas from the Health Education Curriculum Guide: maintenance and promotion of health standards, changes in the environmental lifestyle, consumerism, self-concept, mood and behaviour modifiers.

**Prerequisite:** PE2085

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **HE2800 HEALTH ISSUES IN AUSTRALIAN SOCIETY**

Terminology and research basis of societal health; environmental conditions; technology and change; current health problems; special community groups; the Australian health care system.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **HE2801 PERSONAL HEALTH**

Health and optimal well-being; essential components of good health: emotional, spiritual, physical and socio-cultural well-being, life-cycle concerns.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **HE2802 CHILD HEALTH**

Genetic and environmental factors which affect the health of the child; physical growth and development; vision; hearing; postural patterns of a growing child; development and care of teeth; importance of sound nutrition; communicable diseases of childhood; children with non-communicable diseases; trauma in childhood; emotional disorders; health services for children.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **HE2900 COMMUNITY STUDIES: FIRST AID**

Principles and practice of first aid; cardio-respiratory system; resuscitation; nervous system; haemorrhage and burns; strains, sprains and fractures; poisons, bites and stings; function and care of eyes and ears.

**Credit Points:** 2    **Contact Hours:** 1 per week

■ **HE3002 HEALTH IN THE AUSTRALIAN SOCIETY**

Major health concerns of Australians; the multi-dimensional nature of health; initiatives undertaken to address health problems at individual, community, and national levels; prevention as a pivotal concept in health status.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HE3031 HEALTH EDUCATION CURRICULUM PLANNING**

The nature of curriculum; philosophical orientations to health and health education curriculum planning; the school's responsibility in health education; models of curriculum design in health education; case studies in curriculum design; developing and implementing the health education curriculum; curriculum evaluation.

**Prerequisite:** CU3040 and health studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **HE4007 EPIDEMIOLOGY & ENVIRONMENTAL HEALTH**

The interrelationships between disease patterns and the environment; geography, climate, transmission and the susceptible population; distribution of disease in Queensland; factors affecting such distribution.

**Prerequisite:** HE4010

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HE4010 HEALTH & LIFESTYLE IN AUSTRALIA**

Explanation of a broad range of factors which together define the parameters of the health educator's role in the maintenance of healthy lifestyles in a rapidly changing world; discussion and analysis of health public policy.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HE4011 COMMUNICATION THEORY & SKILLS**

Analysis and practical experience in the development of communication skills and techniques applicable to individual, small group, community and societal levels in health education.

**Prerequisite:** HE4010

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **HE4012 RESEARCH & EVALUATION**

Introduction to the role of research and evaluation in health education; health promotion; evaluation of health education programs; development of research skills to interpret and analyse current literature in the field; basic statistical methods.

**Prerequisite:** HE4007

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **HE4013 HEALTH EDUCATION & THE CHANGE PROCESS**

Analysis of the process of change as it relates to individual, group and organisational contexts; the role of the health educator as a change agent; the nature of change; how change can be achieved and factors that undermine or negate change.

**Prerequisites:** HE4010 and HE4011

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **HE4014 SCHOOL HEALTH EDUCATION**

Introduction to the field of health education and the roles, functions and areas of responsibility of the health educator; specific focus on nature, scope and place of health education in the total school environment.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **HE4015 SCHOOL HEALTH PROGRAM PLANNING**

Planning, implementation and evaluation of school health programs. Analysis of a range of planning models in health education and health promotion.

**Prerequisite:** HE4014

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **HE4016 COMMUNITY HEALTH EDUCATION**

Introduction to the field of health education with a specific focus on the nature of community health education; environmental, social, political and educational elements supporting and encouraging behaviours conducive to health.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **HE4017 COMMUNITY HEALTH PROGRAM PLANNING**

Planning and implementation of intervention strategies in community health; culminating subject requiring application of knowledge and skills developed over preceding terms of course. Analysis of a range of planning models in health education and health promotion.

**Prerequisite:** HE4016

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **HE4018 CURRICULUM DESIGN**

Theory of curriculum design, development and evaluation; concepts, principles and processes in health curricula design.

**Prerequisite:** HE4014

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **HE4019 HEALTH BEHAVIOUR CHANGE**

Analysis of health-related behaviours which can be modified and identification of the range of behavioural programs; development and

implementation of behaviour change programs for selected health-related behaviours.

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **HE4020 EDUCATION TECHNIQUES FOR HEALTH PROMOTION**

Selection and implementation of appropriate educational approaches for health education and health promotion programs.

**Prerequisite:** HE4016

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **HE4021 HEALTH SERVICES**

Community health resources and their operation and service; response of health services to changing community needs.

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **HE4022 COMMUNITY NUTRITION**

Analysis of balanced nutrient intake; food consumption in Australia; dietary factors contributing to diseases of affluence; promotion and prevention techniques.

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **HE4023 DRUGS & ALCOHOL**

Substance use and abuse; physical, social, emotional and environmental effects; models of drug education; the Australian context; international comparisons.

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **HE4024 HUMAN SEXUALITY**

Perspectives on human sexuality; human sexuality throughout the lifespan; laws, ethics and decision making in human sexuality.

**Credit Points:** 5 **Contact Hours:** 3 per week

■ **HE4025 INDEPENDENT STUDIES 1**

Work in an area of particular interest relating to specific concerns in health education or health promotion.

**Credit Points:** 5

■ **HE4026 INDEPENDENT STUDIES 2**

Work in an area of particular interest relating to specific concerns in health education or health promotion.

**Credit Points:** 5

■ **HE4027 INDEPENDENT STUDY**

Work in an area of particular interest relating to school or community health education or health promotion.

**Credit Points:** 10

■ **HI2800 THE AUSTRALIAN SOCIAL CHARACTER**

Contribution of migrants, large landowners, bush workers, the trade unions, radicals, women, the armed forces to the development of Australian society; the new Australian; urban Australia; the arts in Australia; sport.

**Credit Points:** 5 **Contact Hours:** 2 per week

■ **HI2801 WOMEN IN HISTORY**

The nature of history as a series of tentative interpretations; the 'forgotten people' of history of which women are one group; how to redress the imbalance and develop women's history; women's history as part of the predominant historical paradigm; women's history as social history; developing women's history.

**Credit Points:** 5 **Contact Hours:** 2 per week

■ **HI3010 UNDERSTANDING HISTORY**

The nature of history as a discipline; the work of historians; consideration of a specific historical work, using it as a focus for examining more general problems of historical writing and perceptions of history.

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ HI3011 MODERN POLITICAL IDEOLOGIES

Introduction to political values and the political spectrum; the problem with models; right wing ideologies: Nazism, fascism, conservatism; centrist ideologies: liberalism, social democracy; socialism; left wing ideologies: Marxist socialism, anarchism; emerging ideologies: feminism, environmentalism; residual ideologies: racism, imperialism.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3012 AUSTRALIAN STUDIES

Developments in nineteenth and twentieth century Australia; the Australian legend; Australian nationalism; race relations; federation; foreign policy; Australia's position in the world; the Australian political system.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3013 THE EMERGENCE OF CIVILISATION

The rediscovery of the ancient past; the growth of archaeology; selected case studies of Egypt, Sumer, early Indian and Chinese civilisations.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3014 THE CLASSICAL WORLD

Greek society; Greece after the dark age; the emergence of city states; the spread of Greek peoples across the eastern Mediterranean; the development of Athenian democracy; the Peloponnesian War and the decline of the Greek world; the cultural contribution of the Greek world. Roman society; the beginnings of Rome; the early republican government; the struggle for Italy and the western Mediterranean; the breakdown of the republic and the growth of the principate; Rome as master of the Mediterranean; the spread of Christianity; the decline of the empire.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3015 MODERN CHINA & JAPAN

Historical developments in China and Japan during the nineteenth and twentieth centuries; use of historical evidence to examine commonly held stereotypes of Chinese and Japanese society and to evaluate a variety of explanations relating to the recent history of the area.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3016 MODERN INDIA & SOUTH EAST ASIA

Inquiry-based study of the struggles for independence in India and Vietnam; ways in which historians bring different analytical frameworks to bear on historical questions.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3017 EUROPEAN STUDIES 1

European history: developments and relevance; sixteenth century Europe: the renaissance, the reformation and Martin Luther; England in the sixteenth and seventeenth centuries: the English Reformation and the English revolution; the French revolution: Napoleon and the Napoleonic legend; nationalism in the nineteenth century: Italian and German unification; the Third Republic of France and the Dreyfus affair; Bismarkian Germany; Europe in 1900.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3018 EUROPEAN STUDIES 2

Europe before 1912; the origins of World War I; Europe between the wars – the rise of Fascism; Russia and the USSR – the Revolution of 1917 and its con-

solidation to 1921; World War II – a people's war; the origins of the Cold War; Western Europe – the European Economic Community; Eastern Europe – the USSR – Stalin, Khrushchev, Brezhnev, Gorbachev – Glasnost and Perestroika; Europe in 1992.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3019 AMERICAN STUDIES

The formative decades; the emergence of the United States and the revolutions of Central and South America; the Monroe Doctrine; expansion across the continent – Canadian and American experiences; the emergence of the United States as a world power; gunboat and dollar diplomacy; American economic imperialism and reactions north and south; the limits to American power.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3020 WOMEN IN AUSTRALIAN HISTORY

The nature of history as a series of tentative interpretations; the 'forgotten people' of history of which women are one group; how to redress the imbalance and develop women's history; women's history as part of the predominant historical paradigm; women's history as social history; developing women's history.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3021 HISTORY SEMINAR 1

The following are examples of topics which could form the study focus of this subject: the impact of war on Athenian society; comparisons of the French and Russian revolutions; the west in American history; the impact of colonialism in east Asia; nationalism and leadership in modern Indian history.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3022 HISTORY SEMINAR 2

The following are examples of topics which could form the study focus of this subject: the impact of war on Athenian society; comparisons of the French and Russian revolutions; the west in American history; the impact of colonialism in east Asia; nationalism and leadership in modern Indian history.

Credit Points: 10 Contact Hours: 3 per week

### ■ HI3702 THE STUDY OF HISTORY

Justification for the teaching and study of history; theories of history; the extent to which history contributes to the acquisition of societal values, beliefs and attitudes; new emphases in the writing of history and their implications for history teaching.

Prerequisite: History studies at Diploma of Teaching level or equivalent

Credit Points: 12 Contact Hours: 3 per week

### ■ HI3703 ASIAN STUDIES

Cultural frameworks of China and Japan; religion, stratification and social modernisation in India; landscapes of Japan and Hong Kong; perceptions of contemporary China; continuity/discontinuity in Japan's social patterns; implications for modern industrial Japan; Asian models of economic development.

Prerequisite: Relevant studies at Diploma of Teaching level

Credit Points: 12 Contact Hours: 3 per week

### ■ HI3803 AUSTRALIAN STUDIES

The background to settlement; attitudes and beliefs of early settlers and the extent to which these influenced the development of colonial society; European civilisation and the Aborigine; the origins of an Australian stereotype and development of an ethos;

nationalism and federation, Australia between the wars; Australia since World War II; urbanisation and the rights of the individual.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **HI3804 AUSTRALIA'S NEAR NEIGHBOUR INDONESIA**

Influence of the physical environment on population densities and land use systems; ethnic groups; historical survey from pre-European times to Independence; agricultural systems; religion; mining and manufacturing; politics since Independence; problems for the future; the nature and structure of the Indonesian language.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **HO3010 SHELTER**

The critical aspects of shelter as a fulfilment of people's basic needs; design, technology and relevant legislation linked to decisions affecting provision of shelter for the differing needs of individuals and families.

**Prerequisite:** HS3015

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **HO3011 SHELTER DESIGN**

The linking of human physical and psycho-social needs, environmental and technological issues and design aspects to the effective provision of shelter, with emphasis being placed on the development of advanced skills and knowledge; environmental and technological aspects which have implications on shelter design for the well-being of the individual and families; effective design to accommodate changing family structures; legislative updates.

**Prerequisite:** HO3010

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **HO3026 HOUSING STUDIES**

Housing tenure; advantages and disadvantages of ownership/tenancy; housing finance; housing for special groups; special needs in housing; interior environment; housing heritage.

**Credit Points:** 9    **Contact Hours:** 4 per week

■ **HS3015 HOME ECONOMICS: CONCEPTUAL FOUNDATIONS**

The researching of social issues and of the effects of social issues on individuals in their specific near environment; evaluation of the impact of social issues on physical and psycho-social needs; application of design processes to achieve optimum circumstances within the context of everyday life; the promotion of effective personal living.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **HS3033 PRACTICUM 1**

Experience in working in industry, commerce or government; placement at two different organisations each for two weeks.

**Credit Points:** 3

■ **HS3034 PRACTICUM 2**

Experience in working in industry, commerce or government; placement in one organisation for six weeks.

**Prerequisite:** HS3033

**Credit Points:** 4

■ **HS3035 RESEARCH METHODS**

Introduction to research; research in home economics; theoretical elements of research; research types or settings; sampling and measurement; methods of data collection; analysis and interpretation

of data; planning and design of a major research project.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **HS3036 THE HOME ECONOMIST AS COUNSELLOR**

The counselling process; major approaches to counselling; models of helping and the helping relationship; communication skills; the home economist as counsellor; moral, ethical and legal responsibility of the home economist as a helping professional.

**Prerequisites:** PY3048 and SS3025

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **HS3037 INDEPENDENT STUDY 1**

Self-initiated and self-directed academic study in an area of interest consistent with the overall aims of the course.

**Credit Points:** 8    **Contact Hours:** 1 per week

■ **HS3038 INDEPENDENT STUDY 2**

Self-initiated and self-directed academic study in an area of interest consistent with the overall-aims of the course.

**Credit Points:** 8    **Contact Hours:** 1 per week

■ **HS3039 RESEARCH PROJECT A**

An indepth investigation of a particular topic of relevance to home economics; field-based research in conjunction with business or community organisations.

**Credit Points:** 6    **Contact Hours:** 1 per week

■ **HS3040 RESEARCH PROJECT B**

Continuation of HS3039.

**Credit Points:** 6    **Contact Hours:** 1 per week

■ **HS3042 HOME ECONOMICS APPLIED CURRICULUM**

Issues and problems relating to home economics education; bases for curriculum decision making; nature and structure of home economics; syllabus implementation; student needs; innovation; assessment procedures.

**Prerequisite:** CU3040 or equivalent and curriculum implementation studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **HW3000 STUDIES IN AUSTRALIAN SOCIETY 1**

Introduction to sociology; analysis of selected sociological concepts; development of a sociological framework; describing Australian society using a variety of social, economic and demographic data; critical review of the influence of common beliefs on the social and economic development of Australian society; experiences of different segments of the population; application of sociological concepts to Australian social structure and institutions.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3001 HUMAN DEVELOPMENT 1**

Life events and transitions encountered from birth to the late teen years; theories of human development; theories of childhood and adolescence; childhood and adolescent lifestyles; values clarification regarding children and adolescents; disturbances in childhood and adolescence.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3002 HUMAN SERVICE PRINCIPLES 1**

The concepts of social justice, equity and human rights; service consumers and service values; examination of the following principles: Principle 1: consumer rights, Principle 2: individualism, Principle

3: least restrictive alternative, Principle 4: normalisation, Principle 5: self-determination; implications for the worker role.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **HW3003 STUDIES IN AUSTRALIAN SOCIETY 2**

Concepts of social structure and social institution; the development and current status of the major social structures and institutions in Australian society; the concept of ideology in sociology; the perspectives of disadvantage.

**Prerequisite:** HW3000

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3004 HUMAN DEVELOPMENT 2**

Adult life and transitions; theories of adulthood; models of ageing services; human empowerment.

**Prerequisite:** HW3001

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3005 HUMAN SERVICE PRINCIPLES 2**

Perceptions and definition of need; methods of determining need; levels of intervention; distinction between direct and indirect methods of intervention; human service roles and the ideologies of helping.

**Prerequisite:** HW3002

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **HW3006 GROUP WORK**

Types of groups and varieties of group experiences; the importance and uniqueness of group medium; understanding behaviour in the group context; theories and models of group development; leader and member behaviours; planning, implementing and evaluating group methods; establishing groups and planning group approaches; the group as a therapeutic community; evaluating group work; ethical issues.

**Prerequisite:** PY3016 and PY3017

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3007 ORGANISATIONAL SKILLS 1**

Organisational paradigms; organisational culture and norms; worker socialisation; qualities and attributes of effective workers; self-management skills; interpersonal skills; effective interpersonal relationships.

**Prerequisites:** PY3016 and PY3017

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3008 PROFESSIONAL RESOURCES 1**

The family as a resource; networks as resources; non-government systems; government systems; specific Commonwealth resources; issues of access to resources; evaluation of resource systems.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3009 FIELDWORK PRACTICE 1**

A twelve-week (360-hour) supervised vocational experience comprising observation of and participation in human service practice.

**Prerequisites:** HW3002 and HW3005

**Credit Points:** 30

■ **HW3010 STUDIES IN AUSTRALIAN SOCIETY 3**

The Federal and State government frameworks; essential features of the legal and judicial systems; the structure and decision-making processes of Australia's major political parties; the relationship between ideology and policy; the structures and function of Federal and State bureaucracies; structures and values inherent in Australia's capitalist free enterprise system; the application of a structural analysis

employing the dimensions of class, status, power, race and gender to these frameworks.

**Prerequisite:** HW3003

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3011 THE AUSTRALIAN WELFARE STATE**

The definition of the 'welfare state'; moral principles underpinning the 'welfare state'; the development of the 'welfare state' in Australia since colonialism up until the present time; impact of major public policies on the 'welfare state'; achievements and/or failures of the 'welfare state'.

**Prerequisite:** HW3003

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3012 COMMUNITY WORK**

Community work defined; community work in Australia; statutory/non-statutory perspectives; community work models; individual preferences; the skills and techniques of (i) entering a community, (ii) building community involvement; (iii) community action.

**Prerequisite:** HW3006

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3013 HUMAN SERVICE PRINCIPLES 3**

Intervention principles; interventions at the (i) individual, (ii) small group, (iii) family, (iv) community and (v) organisational level are explored.

**Prerequisite:** HW3009

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **HW3014 CONTEMPORARY SOCIAL POLICIES**

Major contemporary social policies within Australian society; policy formation and implementation process; interaction of the political, administrative, economic and legal systems in determining policy outcomes; role of electronic and print media.

**Prerequisite:** HW3011

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3015 PROFESSIONAL RESOURCES 2**

Basic statistical methodology; demographic statistics; social statistics; economic statistics; electronic data dissemination methods; statistics and service planning.

**Prerequisite:** HW3008

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **HW3016 FIELDWORK PRACTICE 2**

A ten-week (300-hour) supervised vocational experience comprising participation in and increasing responsibility for human service practice.

**Prerequisite:** HW3009

**Credit Points:** 20

■ **HW3017 SOCIAL POLICY & SOCIAL CHANGE**

Theories of social change; models of social change; social change in Australia; applying models of change; evaluating social change.

**Prerequisite:** HW3014

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW3018 ORGANISATIONAL SKILLS 2**

Tasks and functions of managers; managerial paradigms; managerial styles; teamwork in human service organisations; meetings; managing differences and conflicts, innovation and change.

**Prerequisite:** HW3007

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ HW3019 HUMAN SERVICES PRINCIPLES 4**

The practitioner's demands and expectations of human service work; legal requirements; the evaluation of practice; the personal demands of practice and the place of supervision.

**Prerequisite:** HW3016

**Credit Points:** 5      **Contact Hours:** 2 per week

**■ HW3020 CHILD & FAMILY SERVICES 1**

The family in Australia; developmental stages encountered in a family's progression from initiation to dispersal; family dynamics; the definition of dysfunction; development of child and family services; service specific issues.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3021 DISABILITY SERVICES 1**

The structure and function of the human body; attitudes towards disability; the effects of disability on consumers and families; human rights and disability; service provision principles; administrative and legislative structures; individual program planning.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3022 CORRECTIVE SERVICES 1**

Conception of crime; incidence of crime; causal explanations of crime; contemporary theories of crime; offender characteristics; correctional history, purpose and goals; the impact of imprisonment; the victim of crime.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3023 AGED SERVICES 1**

Common modes of adaption to ageing; retirement as continuity or change; assessing capacities for change and innovation in the aged; counselling approaches with the aged; ageing and community support.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3024 ETHNIC SERVICES 1**

The history of immigration to Australia since 1788; attitudes towards immigration and ethnic minorities; the meanings and interpretations of the concepts of multiculturalism, culture, ethnicity, race; Australian government policies of multiculturalism, access and equity; current demographic patterns; theories of racism, assimilation, acculturation, adaption and integration.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3025 CHILD & FAMILY SERVICES 2**

The service framework and the nature of family and youth work; professional self-management strategies; investigation and assessment; short- and long-term intervention strategies; approaches to and issues involved in the provision of services to homeless youth and juvenile offenders; refining interpersonal skills necessary to promote effective client-worker relationships.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3026 DISABILITY SERVICES 2**

Introduction to the major forms of disabilities: intellectual disability; physical disability; chronic medical conditions, sensory impairment and disorder of thinking, feeling and behaving; direct and indirect forms of assistance.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3027 CORRECTIVE SERVICES 2**

The corrective system; staff-inmate relationships; ethics and conduct; methods and approaches to maintaining discipline in a non-threatening manner; inmate views of staff; mob psychology and control.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3028 AGED SERVICES 2**

Home-based and family support systems; community-based support systems; planning and developing needs-based services; patterns of ageing specific to migrants, Aborigines, and the elderly poor.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3029 ETHNIC SERVICES 2**

Characteristics and circumstances of Australia's ethnic minorities including history, culture, familial patterns and religious traditions; cross-cultural application of intervention techniques; culturally specific intervention skills.

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3030 CHILD & FAMILY SERVICES 3**

The Commonwealth and State legislation underpinning family and youth services in Queensland; contemporary service philosophies and principles; the organisational types and administrative structures of the major service providers; interface between legislative power and facilitative helping; review, refinement and application of group skills to situations likely to be encountered in family and youth work.

**Prerequisites:** HW3020 and HW3025

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3031 DISABILITY SERVICES 3**

Need for advocacy for various consumer groups; forms of advocacy; self-help and self-advocacy; orientations and approaches to enable clients to become self-determining; design of intervention and support programs; case load management.

**Prerequisites:** HW3021 and HW3026

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3032 CORRECTIVE SERVICES 3**

The Queensland corrective services system; the social and political influences and the development of policy and services for corrective organisations within Queensland; trends and prospects; stratification within correctional service organisations; issues of communication and organisational change.

**Prerequisites:** HW3022 and HW3027

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3033 AGED SERVICES 3**

Assessment skills, client centred assessment and individual planning; major rationales and philosophy underlying specific aged care systems; administration and the creation of a humane environment; program design; the involvement of the consumer in planning; integration of aged service system and support networks in the wider environment of community welfare.

**Prerequisites:** HW3023 and HW3028

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3034 ETHNIC SERVICES 3**

Analysis of the principles of access, equity, cultural sensitivity; consultation and participation; the concepts of racism and discrimination and their expressions in Australian social institutions.

**Prerequisites:** HW3024 and HW3029

**Credit Points:** 10      **Contact Hours:** 3 per week

**■ HW3035 CHILD & FAMILY SERVICES 4**

Innovations in service delivery models; comparison of international and national trends with service delivery within Queensland; literature review; independent study-program design.

**Prerequisite:** HW3030

**Credit Points:** 15      **Contact Hours:** 3 per week

**■ HW3036 DISABILITY SERVICES 4**

National and international trends in the provision of disability services; disability service system and programs in Australia; application of organisational change strategies to disability service systems; independent study.

**Prerequisite:** HW3031

**Credit Points:** 15    **Contact Hours:** 3 per week

**■ HW3037 CORRECTIVE SERVICES 4**

Punishment vs rehabilitation; correctional options; traditional treatment programs; experimental treatment programs; traditional prison management; modern prison management; contemporary community issues; independent study.

**Prerequisite:** HW3032

**Credit Points:** 15    **Contact Hours:** 3 per week

**■ HW3038 AGED SERVICES 4**

National and international trends and innovations in services for aged persons; evaluation and appraisal of service and support systems; elementary accounting skills and budget control; independent study.

**Prerequisite:** HW3033

**Credit Points:** 15    **Contact Hours:** 3 per week

**■ HW3039 ETHNIC SERVICES 4**

Specific service provision systems targeted towards ethnic minorities; ethnic specific programs within general service provision systems; evaluation and appraisal of service delivery systems; application of organisational change strategies to ethnic related services.

**Prerequisite:** HW3034

**Credit Points:** 15    **Contact Hours:** 3 per week

**■ HW3040 YOUTH SERVICES 1**

The development and character of youth services in Australia; practical skills necessary for face to face youth work; minimum standards; professional ethics.

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ HW3041 YOUTH SERVICES 2**

A cultural perspective on the experience of young people in Australia; subculture and gender differences in the experience of young people; implications for practice and policy.

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ HW3042 YOUTH SERVICES 3**

Statutory and non-statutory areas of youth work, including supported accommodation, juvenile justice, labour market, living skills, health, community work and outdoor education. Development of service delivery and referral skills.

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ HW3043 YOUTH SERVICES 4**

Management and policy issues facing youth workers and agencies.

**Credit Points:** 15    **Contact Hours:** 3 per week

**■ HW4000 PERSONAL & INTERPERSONAL SKILLS**

An overview of the social context in which human services organisations operate; clarification of the essential qualities and skills of workers; an exploration of the influence of organisations on workers; skill development, including communication, assertive behaviour, personal organisation and time management, career development and job getting, coping with stress, relating to co-workers and managers, and the consultant role.

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ HW4001 MANAGEMENT PRACTICES 1**

An exploration of organisational and managerial paradigms, leadership styles, power and authority, organisational structure and design; identification of factors affecting management practice including industrial relations, changing attitudes to authority, trends in legislation, equal rights and financial constraints; development of personal managerial philosophy and style.

**Prerequisites:** HW4000 and HW4004

**Credit Points:** 15    **Contact Hours:** 5 per week

**■ HW4002 MANAGEMENT PRACTICES 2**

Development of knowledge and skills in regard to essential management tasks consistent with principles of participative management including: recruitment and selection of workers; induction of staff training, developing, supporting, appraising and disciplining workers; written and verbal communication; teamwork; meetings, decision making; resolving differences and managing conflict; managing worker stress; recruiting, selecting and deploying volunteers.

**Prerequisites:** HW4000, HW4001, HW4004 and HW4005

**Credit Points:** 15    **Contact Hours:** 5 per week

**■ HW4003 INNOVATION & CHANGE**

Identification of the need for change in human service organisations as a result of new service principles and methods of service delivery; models of change; approaches to the introduction of change; effective change strategies; resistance to change; exploration of successful and unsuccessful change programs in human service organisations.

**Prerequisites:** HW4000, HW4001, HW4002, HW4004 and HW4005

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ HW4004 SERVICE POLICIES & PRINCIPLES**

Introduction to the principles which underpin service delivery in human services organisations such as accessibility, equity, legitimacy, accountability, responsiveness, participation, efficiency, effectiveness, productivity. Introduction to the notion of framework to several human services organisations. Development of students' capacity to apply framework to selected organisations.

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ HW4005 PROGRAM PLANNING & EVALUATION**

The purpose of planning; the various contexts in which program planning may apply – similarities and uniqueness; who does the planning? Consistency with organisational philosophy and goals. Collaboration in planning. Program planning steps. The need for accountability; purposes for evaluation. Process evaluation – standards of performance, adequacy, provision of facilities, resources, funds. Impact evaluation – changes in knowledge, attitudes, behaviours. Outcome evaluation – macro changes, eg, health data, Social Security benefits. Designs for evaluation – record keeping to controlled experiment. Analysing and reporting results. How to make use of evaluation.

**Prerequisites:** HW4000 and HW4004

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ HW4006 MANAGEMENT IN THE COMMUNITY SECTOR**

An overview of community management as an alternative method of delivering human services. An analysis of the community sector – positive and nega-

live aspects. Development of appropriate management skills in community-based service programs.

**Prerequisites:** HW4000, HW4001, HW4004 and HW4005

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **HW4007 INDEPENDENT STUDY 1**

An indepth study of an organisational issue which has practical value for the organisation in which the student is employed or for another organisation, eg, the development of a staff appraisal system, review of client records.

**Prerequisites:** HW4000, HW4001, HW4004 and HW4005

**Credit Points:** 10    **Contact Hours:** 1 per week

■ **HW4008 INDEPENDENT STUDY 2**

An indepth study of an organisational issue which has practical value for the organisation in which the student is employed or for another organisation, eg, the development of a staff appraisal system, review of client records.

**Prerequisites:** HW4000, HW4001, HW4002, HW4004 and HW4005

**Credit Points:** 10    **Contact Hours:** 1 per week

■ **IA3801 TECHNOLOGY & CULTURE**

Social and psychological aspects of culture; historical perspectives; the age of mechanics; the electronic revolution; political and social aspects of technology; industrialisation and the Third World; educational implications of technical change.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **IR1017 INDUSTRIAL RELATIONS INSTITUTIONS**

An introductory analysis of the theory and practice of industrial relations in which major emphasis is placed upon the role of the parties and the bargaining context in Australia.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1018 SOCIOLOGY OF WORK**

Examination of major theories in the sociology of work; the relationship between the world of work and society; detailed examination of occupations; the labour process and alienation; Australian social structure.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1019 WORKPLACE ISSUES**

Analysis of policies dealing with current industrial relations issues in the workforce. Australian and overseas initiatives.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1020 INDUSTRIAL RELATIONS SKILLS 2**

Vocational skills associated with industrial relations practice; industrial information sources; collection, collation and utilisation of source material; handling industrial situations; meeting law and procedure.

**Prerequisite:** IR1024

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1021 INDUSTRIAL RELATIONS SKILLS 3**

Negotiation processes in industrial relations; duties, responsibilities and skills of negotiators; handling grievances at the workplace; award interpretation; local responsibilities.

**Prerequisite:** IR1020

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1022 INDUSTRIAL RELATIONS SKILLS 4**

Formal advocacy and negotiation; operations within the conciliation and arbitration tribunals; collective bargaining and common law agreements; award creation and variation.

**Prerequisite:** IR1021

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1023 INDUSTRIAL RELATIONS & MANAGEMENT**

Professionalism in industrial relations; pre-emptive bargaining; enterprise bargaining; alternative strategies; functional specialisations and the division of professional labour.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1024 INDUSTRIAL RELATIONS SKILLS 1**

Introduction to industrial relations research; written and oral skills necessary for industrial relations practitioners; research writing and presentation of industrial relations reports.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1025 AUSTRALIAN DEVELOPMENT**

An overview of Australia's industrial development; the development of the arbitration system; the growth of the trade union movement; Australia's changing industrial structure; changing employment trends, new technology, the nature of unemployment, social welfare, and the future of work.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1026 AUSTRALIAN EMPLOYMENT LAW**

Australian legal systems; the Constitution and Federal powers; State legal institutions; the contract of employment; hiring practices and the law; law relating to dismissal and discipline; workers compensation and occupational health and safety laws.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR1027 AUSTRALIAN INDUSTRIAL LAW**

Conciliation and arbitration laws; the Federal laws on dispute resolution, the Labour Court, special tribunals, State systems; functioning and regulation of industrial organisations and trade unions; laws relating to strikes and industrial disputation.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR4017 INDUSTRIAL RELATIONS THEORY**

Major theoretical approaches to resolution and regulation of conflict in work and employment; theories of collective organisation; bipartite and tripartite schema of labour market regulation and workplace processes.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR4018 COMPARATIVE INDUSTRIAL RELATIONS**

Approaches to comparative study; range of legal and institutional forms of industrial regulation, cross-national comparisons of industrial democracy and productivity; detailed study of national models of industrial relations especially Sweden, Japan and Britain.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR4019 EMPLOYMENT LAW**

Understanding of institutions, doctrines and methodology of general and industrial law. Analysis of employment relationship; common law contract of employment; worker's compensation; legal liability

for industrial action. Detailed study of the structure of Federal and Queensland industrial relations laws.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR4020 INDUSTRIAL RELATIONS PRACTICES**

Current industrial relations practices and policies; research techniques for industrial relations issues, case research, preparation and presentation; institutional framework of industrial relations practices in Australia.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR4021 INDUSTRIAL RELATIONS STRUCTURES**

The economic and political context pertinent to Australian industrial relations; development of Australian economy, industry structure, labour markets, wage fixation, current economic strategies and policies.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR4022 INDUSTRIAL LAW**

An introduction to industrial law; detailed study of law relating to trade unions and employer organisations; current developments in industrial law.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR4023 INDUSTRIAL RELATIONS POLICIES**

Examination of policy formation in industrial relations at national and local level in areas including wage policies, job security, job design, bargaining structure and union matters.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR4024 INDUSTRIAL RELATIONS PROCESSES**

Negotiation practices in industrial relations; negotiation and arbitration processes; analysis of structure and performance of institutions of arbitration; development of relevant skills including documentation, preparation of submissions and exhibits, examining witnesses.  
**Prerequisite:** IR4020

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR5004 INDUSTRIAL RELATIONS METHODOLOGY**

Basic computer skills; data bases and sources of information; a bibliographical exercise; design of a research program; introductory fieldwork.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR5005 ADVANCED THEORY & COMPARATIVISM**

Theoretical basis of industrial relations; international industrial relations and Australian comparisons; a theoretical and comparative issue or problem, eg, union or employer organisation, strikes, health and safety.  
**Prerequisites:** Comparative and Theory subjects in GDIR or equivalent

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR5006 INDUSTRIAL RELATIONS PLANNING**

The formal planning and framework of industrial relations policies and strategies; the content of industrial relations planning, eg, technology, training, superannuation; the relationship of planning to the political and economic environment, including industrial restructuring, capital formation and investment, employment and productivity.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR5007 ADVANCED INDUSTRIAL LAW**

Analysis of the legal aspects of a particular industrial relations problem from an Australian perspective; sociological approaches to law; the legislative context of the problem or issue in one or more countries; the international context eg, ILO conventions, EEC directives, European Court decisions from a legal viewpoint.  
**Prerequisites:** GDIR or BBus Industrial Law subjects or equivalent  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **IR5011 THESIS**

Synthesis and application of studies undertaken in the course. Topic may be taken from any aspect of industrial relations. Formulation of thesis undertaken in conjunction with supervisor and other academic staff.  
**Credit Points:** 120-168

■ **LA2042 LANGUAGE PROCESSES & PROGRAMS**

Approaches to language; the classroom environment; planning and implementing programs in language arts; oral language processes; drama in the classroom; reading processes; writing processes; learning about language; resources.  
**Prerequisite:** SS2053  
**Credit Points:** 6    **Contact Hours:** 3 per week

■ **LA2810 LOTE (INDONESIAN/JAPANESE/GERMAN) 1**

Acquisition of a Language Other Than English (LOTE): Students choose to specialise in one of the following: Indonesian, Japanese or German.  
**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LA2811 LOTE (INDONESIAN/JAPANESE/GERMAN) 2**

Continuation of LA2810. Further study and acquisition of a Language Other Than English (LOTE).  
**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LA3001 JAPANESE LANGUAGE 1**

Developing a proficiency and confidence in communicating in the macro skills of listening and speaking in standard Japanese; a critical understanding of some of the special characteristics of Japanese culture and society.  
**Prerequisite:** AS3004  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LA3002 JAPANESE LANGUAGE 2**

Listening and speaking skills at a more advanced level; read and write Japanese nature scripts (Hiragana and Katakana).  
**Prerequisite:** LA3001  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LA3003 JAPANESE LANGUAGE 3**

The development of the four skills of listening, speaking, reading and writing concurrently.  
**Prerequisite:** LA3002  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LA3004 JAPANESE LANGUAGE 4**

An extension of the four macro skills in a business environment.  
**Prerequisite:** LA3003  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LA3005 MANDARIN LANGUAGE I**

Development of oral and grammatical skills for speaking and writing in Mandarin language; simple speaking and writing exercises.  
**Prerequisite:** AS3004  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LA3006 MANDARIN LANGUAGE 2**

Development of oral and grammatical skills at a more advanced level; expansion of Mandarin characters.

**Prerequisite:** LA3005

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LA3007 MANDARIN LANGUAGE 3**

Development of speaking, reading and writing skills based on real life situations in China.

**Prerequisite:** LA3006

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LA3008 MANDARIN LANGUAGE 4**

Development of speaking, reading and writing skills based on business situations.

**Prerequisite:** LA3007

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LA3032 RECENT DEVELOPMENTS IN LANGUAGE/READING**

The nature of language; functions of language; language development; oracy and literacy and their interrelationships; planning and implementation of a language arts subject or program.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **LA4010 LANGUAGE IN USE**

Formal systems of language at the level of the sentence, including phonology, morphology, syntax and semantics; formal systems of language beyond the sentence, including discourse, cohesive, pragmatics and paralinguistic. Language in social-cultural contexts; standard and non-standard varieties of language, including dialects, sociolects and languages in contact.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **LA4011 LANGUAGE TEACHING IN PRACTICE**

Strategies for observation of second language lessons; analysis of the linguistic content of a variety of lessons; application of these principles.

**Co-requisite:** LA4010

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **LA4012 THE NATURE OF LANGUAGE LEARNING**

Behaviouristic, cognitive and psychosocial explanations of second language acquisition/learning; the effect of age on second language acquisition/learning; inter-language and fossilisation; errors and error analysis; personality factors, cultural differences and environmental factors and language acquisition/learning; language proficiency: its nature and assessment.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **LA4018 CURRICULUM DEVELOPMENT**

Implementation of a communicative syllabus response to the objective and subjective needs of particular learners; principles for the evaluation, selection and production of suitable teaching materials.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **LB4001 RESOURCE SERVICE ADMINISTRATION**

Study of the school as a social organisation, with the development of skills in the educational administration areas of organisational development; management of self, time, things and other people, and interpersonal relationships, so that individual leadership styles may be developed. Exercises enable teacher-librarian participants to apply the theory and techniques in their own work place.

**Prerequisites:** All Part A subjects

**Credit Points:** 10

■ **LB4008 BIBLIOGRAPHIC ORGANISATION**

The purpose and principles of bibliographic control in organising all types of library materials, including the development of an effective catalogue, descriptive cataloguing, subject cataloguing, filing and computer applications.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **LB4009 SCHOOL EXPERIENCE**

Participants are provided with opportunities to observe and practise the skills of teacher-librarians in ways which complement their theoretical studies. University staff, in close cooperation with supervising teacher-librarians, plan an appropriate range of activities and compile a report on participants' performance.

**Credit Points:** 3

■ **LB4010 THE SCHOOL LIBRARY IN MODERN EDUCATION**

Recent developments in Australian education and their implications for the school library; child development and principles of human relationships; the nature, planning and standards of organised resource services at the school level; the role of the teacher-librarian; resource management.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **LB4011 BOOKS & PUBLISHING**

The artistic and historical evolution of the book; judgement of book format through an understanding of modern processes; the complexities of the publishing business, past and present.

**Credit Points:** 9

■ **LB4012 DIRECTED STUDY SUBJECT 2**

An individually tailored subject which allows participants, under the supervision of a staff member, to increase their knowledge in a particular area of interest.

**Prerequisite:** All Part A subjects; consult the Course Coordinator before enrolment

**Credit Points:** 9

■ **LB4013 SPECIAL SEMINAR**

Study of a specific aspect of teacher-librarianship, the subject to be determined by the University according to special need and/or the availability of special expertise.

**Credit Points:** 9

■ **LI2800 CREATIVE WRITING 1**

Using our senses; keeping a journal; expression and communication; playing with words; free and formal verse; description; narration; plotting and characterisation.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LI2801 CREATIVE WRITING 2**

Use of resources (journals, libraries, newspapers, television, radio, one's self); considering the audience to which the writing is directed; parameters of various genres; editing and publishing.

**Prerequisite:** LI2800

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LI2802 CONTEMPORARY LITERATURE**

Growing up in society; literature for children as a literary form and as a means of exploring the world of children; women in society; unemployment; misunderstood people; relations with South-East Asia.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LI2808 LITERATURE & DRAMA 1**

Extension of the skills of oral interpretation and audience reading fluency introduced in SS2053; selection and adaptation of literary material suitable for audience reading; the development of expressive and communicative interpretation of literature to various listening groups; encouragement of self analysis and analysis of oral reading interpretation via video playback techniques.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LI2809 LITERATURE & DRAMA 2**

This is an extension of LI2808; techniques and skills of oral interpretation, advanced level; personal development through audience reading and performance literature; cultural enrichment through a broad literary spectrum; original selection, adaptation and orchestration of scripted material; literary performance within an appropriate multi-media setting.

**Prerequisite:** LI2808

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LI2810 LITERATURE & WRITING**

Explanation of a range of models of writing; the range of writing from picture books to adolescent fiction through different genres, eg, realistic/historical fiction, fantasy, science fiction. Detailed study in a choice of either children's literature or writing for children.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LI2811 LITERATURE**

A study of one of the following: recent fiction: contemporary novels, plays, poetry and the issues they explore, eg, multiculturalism, the environment; or fantasy and science fiction: a range of publications with emphasis on twentieth century science fiction/fantasy or women writers.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LI2812 WRITING**

Ranges of models for writing for adults; workshops on writing for adults.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LI3004 COMPARATIVE EUROPEAN LITERATURE**

Major works of European writers in translation; cross-cultural influences; the growth of Romanticism in Europe: Goethe, the French Romantic poets, Leopardi relative to developments to English literature; other periods in literary history; the nineteenth century novel.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **LI3701 CHILDREN'S LITERATURE**

Evaluative criteria in children's literature; the range of genre in children's literature; bases for planning a children's literature program; teaching strategies.

**Prerequisite:** Language arts and literature studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **LI3702 TUTORING PARENTS AS LITERACY TUTORS**

Increasing parent involvement in all areas of decision making in schools; developing communication skills to deal with parents of all educational and socio-economic backgrounds; use of parents as literacy tutors of their children in the home and classroom situation.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **LI3806 THE APPEAL OF LITERATURE**

An individual, personal view of the cultural and social context of literature; the reader and the reading process; the nature of literature; analysis of selected texts: contemporary popular fiction, science fiction,

contemporary women writers, contemporary drama and verse.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **LS2800 STUDIES IN AUSTRALIAN CULTURE**

Australian culture; organising processes applied to Australian culture; origins of Australian culture; the search for identity in Australian culture; confronting the future.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **LW1002 THE LEGAL PROCESS**

Law making process; judicial process; content of criminal, industrial and commercial law in the Australian Commonwealth and States; the Constitution and Federal laws; operation of courts.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LW3012 LEGAL STUDIES 1**

Australian legal and constitutional system; sources of law, including doctrines and methodology of the law; statutory interpretation; introduction to the Law of Torts with emphasis on the tort of negligence; aspects of consumer protection.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LW3013 LEGAL STUDIES 2**

Those aspects of law relevant to commercial transactions, with emphasis on the Law of Contract, and including aspects of sale of goods, hire purchase and the relationships of principal and agent; introduction to the Law of Bankruptcy.

**Prerequisite:** LW3012

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LW3014 COMPANY LAW**

Consideration of the law relating to companies with special emphasis on the requirements of companies.

**Prerequisite:** LW3012

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LW3015 TAXATION PRACTICE**

Law relating to income taxation covering the provisions of the Australian legislation as it applies to accounting practice; the non-statutory body of law; economic aspects of taxation.

**Prerequisite:** LW3012

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LW3016 ADMINISTRATIVE LAW**

Institutions and methodology involved in government decision making; constitutional issues affecting the structure of government in Australia; doctrine of repatriation of powers; Westminster style of government; mechanisms for judicial and non-judicial review of government decisions; Federal initiatives such as Administrative Appeals Tribunal and Freedom of Information Act.

**Prerequisite:** LW3012

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LW3017 CORPORATE LAW**

Legal and mandatory requirements relating to company officers; duties and responsibilities of company secretaries.

**Prerequisite:** LW3014

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **LW3018 BUSINESS LAW**

Aspects of the law relating to meetings; trade practices; insurance; finance and other related commercial transactions.

**Prerequisite:** LW3012

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ LW3019 LOCAL GOVERNMENT**

Local government administration, politics, and systems; analysis of laws, by-laws and regulations pertaining to local governments. (This subject prepares the student for a career as a local government clerk in Queensland.)

**Prerequisite:** LW3012

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ LW3020 THE LAW & LEGAL INSTITUTIONS**

Queensland and Federal legal institutions; appreciation of legal procedures; development of law and its evolution in the Australian context; law enforcement agencies and procedures; basic legal research in case and statute law; examination and critique of strengths and weaknesses of our legal system; active citizenship.

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3021 LAW OF CONTRACT**

The development of the law of contract; law governing the formation of contracts; application of the principles of contract law; matters affecting the validity of contracts; remedies for breach of contract; role of equity in modifying common law rules of contract; rational and objective methods in analysis sociolegal issues in contracts.

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3022 LAW OF TORTS**

The theoretical bases of Law of Tort in Australia; different types of tort and remedies; application of Law of Tort to case studies; examination of principles through specific decisions in Tort; Tortion remedies available within the social context.

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3023 CRIMINAL LAW & PROCEDURE**

The theoretical basis of Criminal Law in Queensland; application of the law to case studies; use of rational and objective methods when examining legal issues; how criminal law operates in practice within a legal and social context; analysis of the balance between the rights of citizens and police powers.

**Prerequisite:** LW3020

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3024 INDIVIDUAL LEGAL RESPONSIBILITIES**

The major statute law affecting an individual's legal responsibilities that are acquired when a person attains the age of 18; current legislation affecting family relationships; the renting and/or buying of a house; relationships between employer and employee.

**Prerequisites:** LW3020

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3025 LEGAL ENVIRONMENT OF BUSINESS**

The major statute law affecting both consumers and business people in the market place; current State and Federal legislation affecting sale of goods, trade practices, advertising, labelling and the general setting up of a business.

**Co/Prerequisites:** LW3021 and LW3022

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3026 COMMERCIAL LAW**

Major topics in commercial law: agency, bailment guarantees, cheques and other negotiable instruments, insurance and banking; aspects of partnerships and company law.

**Prerequisite:** LW3025

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3027 EDUCATORS & THE LAW**

Significant legal issues relevant to the various participants such as educators, teachers, parents and children within the Australian education system.

**Prerequisites:** LW3020 and LW3022

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3028 INTRODUCTION TO LAW & SOCIAL JUSTICE**

The tradition of law as it has evolved in a variety of socio-historical settings as well as the evolution of the specific British/Australian tradition of law; how different concepts of law have evolved; the impact of different views of human nature, political values, and philosophical values on the role of justice and society.

**Prerequisites:** LW3020 and LW3022

**Credit Points:** 10    **Contact Hours:** 3 per week

**■ LW3029 INTERNATIONAL BUSINESS LAW**

Nature of international business; international business contracts; foreign investment in Australia; taxation; dispute settlement; international transport of goods; the effects of international conflict.

**Prerequisite:** LW3012

**Credit Points:** 12    **Contact Hours:** 4 per week

**■ LW3801 EDUCATORS & THE LAW**

Law and its place in contemporary Australian society; sources of "education law"; rights and educators; student law and schools; parents, law and education; educators' rights and obligations; educators and accidents; educational administration and law.

**Credit Points:** 12    **Contact Hours:** 3 per week

**■ MA2089 STUDIES IN MATHEMATICS & SCIENCE**

The nature of science and mathematics; mathematics and science in the primary school; curriculum planning; pre-number ideas; early number; the numeration system; concepts of operation; strategies for basic facts; development of algorithms; safety; the Queensland Primary Science Syllabus; life, earth and space.

**Credit Points:** 12    **Contact Hours:** 6 per week

**■ MA2090 MATHEMATICS EDUCATION**

The development of space; investigations in space; formalising spatial ideas; fraction concepts and operations; problem solving with fractions; visual representation of information; developing mathematics curricula.

**Prerequisite:** MA2089

**Credit Points:** 6    **Contact Hours:** 3 per week

**■ MA2091 MATHEMATICS & TECHNOLOGY**

Measurement and the young learner; the measurement sequence; the role of technology in measurement; problem solving and the learner; teaching problem solving; applications; technology; curriculum planning.

**Credit Points:** 8    **Contact Hours:** 3 per week

**■ MA2803 EXCURSIONS IN NUMBER**

Principles of numeration (ancient methods, Hindu-Arabic system, decimals, bases other than ten); number patterns; divisibility (divisibility tests, Euclid's theorem, Fundamental Theorem of Arithmetic); linear and polynomial congruence (Fermat's and Euler's theorems, Law of Quadratic); reciprocity (Wilson's and Lagrange's theorems); diophantine problems.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MA2809 FOUNDATIONS OF MATHEMATICS**

Discovery of little things which surprise and entertain; mathematical talking, thinking and playing; mathematics today.

**Credit Points:** 5     **Contact Hours:** 3 per week

■ **MA2811 NUMBERS FOR ALL AGES**

Discovery and study of number patterns; classical puzzles from number theory; use of electronic calculators.

**Credit Points:** 5     **Contact Hours:** 3 per week

■ **MA2812 RECREATIONAL MATHEMATICS FOR ALL**

Examination, analysis and solution, from a mathematical point of view, of games, paradoxes and fallacies which are of a mathematical nature; mathematics associated with certain manipulatives; patterns that originate from arithmetical, algebraic, geometric and environmental aspects of the discipline.

**Credit Points:** 5     **Contact Hours:** 2 per week

■ **MA2815 MATHEMATICAL FOUNDATIONS**

The structures and processes of mathematics used by people of all ages; patterns; relationships; systems.

**Credit Points:** 8     **Contact Hours:** 3 per week

■ **MA2816 BUILDING MATHEMATICAL MODELS**

Applications of mathematics to solving real world problems using modelling; graphs including Euler and Hamiltonian paths; probability; statistics.

**Credit Points:** 8     **Contact Hours:** 3 per week

■ **MA2817 THINKING MATHEMATICALLY**

The nature of child and adult thinking and learning in the mathematical domain; developing thinking and learning programs through mathematics; applications in the classroom; self-evaluation of thinking and learning in mathematics.

**Credit Points:** 8     **Contact Hours:** 3 per week

■ **MA3010 MATHEMATICAL METHODS 1**

Solution models; construction of a model function to describe a given real-world data function; identification of axiomatic system components; application of deductive proof methodologies; identification of 'faulty reasoning'; identification, definition and performance of basic operations with rational, irrational and complex numbers.

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3011 MATHEMATICAL METHODS 2**

The generality of mathematics and its relevance to everyday life; identification and simplification of a range of real world problems using graph theory or linear programming; construction of appropriate models in the solution of problems; interpretation and evaluation of models; application of appropriate computer software to aid problem solving.

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3012 CALCULUS 1**

Identification and simplification of problems, either mathematical or capable of solution using calculus; determination of appropriate methods using differential or integral calculus for the solution of problems; use of technology in problem solution; interpretation and evaluation of solutions in terms of the original problem.

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3013 PROBABILITY & STATISTICS 1**

Fundamental principles of probability theory; application of principles; collection, presentation and interpretation of data; calculation of parameters to infer characteristics; selection, description and employment of appropriate inferential statistical procedures in problem solving.

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3014 APPLIED MATHEMATICS 1**

The nature of mathematical modelling; construction of mathematical models for specific physical situations; solution of problems associated with mathematical modelling; interpretation of and remodification of mathematical models.

**Prerequisite:** MA3012

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3015 NUMERICAL ANALYSIS**

Categorisation of mathematical problems; description of computational algorithms for numerical solution of problems; understanding of the mathematical development of numerical algorithms; errors in numerical algorithms and different types; effective use of calculators and computers in executing algorithms.

**Prerequisite:** MA3012

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3016 OPERATIONS RESEARCH**

The rationale and concepts of operation research; analysis of real world problems in terms of given concepts; selection of appropriate concepts and related techniques, based on analysis; formulation of adequate models of problems for solution analysis.

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3017 MODERN ALGEBRA**

The process and power of abstraction in mathematics; number systems, relations and equivalence classes; groups, rings and fields; applications of the major topics and theorems presented.

**Prerequisite:** 3 Level 1 subjects

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3018 LINEAR ALGEBRA**

The fundamental concepts of linear algebra and their use in a variety of disciplines; mathematical development and structure; matrices and vectors and their central role in solving systems of linear equations and linear transformations; vector spaces; eigenvalues and eigenvectors; and applications.

**Prerequisite:** MA3010

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3019 CALCULUS 2**

Sequences and series; convergence, divergence; absolute convergence and conditional convergence; approximation of functions using Taylor's theorem; Polar coordinates in describing conic section; application of derivatives and multiple integrals.

**Prerequisite:** MA3012

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3020 PROBABILITY & STATISTICS 2**

Extension of MA3013; Baye's Theorem, moment generating functions, multiple regression, analysis of variance and non-parametric statistics.

**Prerequisites:** MA3012 and MA3013

**Credit Points:** 10     **Contact Hours:** 3 per week

■ **MA3021 APPLIED MATHEMATICS 2**

Natural phenomena including motion in three dimensions, vibrating strings, unsteady heat conduction,

electromagnetism, electrostatics and magnetostatics; modelling of such phenomena mathematically; solution of problems using mathematical ideas including generalised coordinates and Lagrange's equations, generalised functions, scalar and vector fields and vector analysis.

**Prerequisite:** MA3014

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3022 DIFFERENTIAL EQUATIONS & APPLICATIONS

Modelling techniques and problem-solving methods; first and higher order differential equations, differential equations with variable coefficients, Laplace transformations, systems of linear differential equations, partial differential equations and numerical methods.

**Prerequisites:** MA3015 and MA3019

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3023 NUMBER THEORY

Prime numbers and their distribution; the Euclidean algorithm; the fundamental theorem of arithmetic; divisibility theory; congruence theory; diophantine problems; Pythagorean triples; convergent sequences for rational numbers and convergent approximations for irrational numbers; finite difference equations; recreational mathematics and number patterns and puzzles; and the contributions to number theory of Euler, Fermat, Wilson, Lagrange, Pascal and Fibonacci.

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3024 GEOMETRICS

Geometrical investigations, inductive activities and deductive exercises; foundation topics associated with geometry; Euclidean geometry, non-Euclidean, affine, finite, projective and topological, the geometry of the sphere, cartography and navigation.

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3025 REAL ANALYSIS

The concepts of limits and continuity and of sequences and series; general topology; integration; functional analysis; convex sets and duality of normed spaces; measure, topology and differentiation; Fourier analysis; convergence, divergence, absolute convergence and conditional convergence; Taylor's theorem; Power series representations of functions; Polar coordinates; functions of two and three variables; applications of derivatives and multiple integrals.

**Prerequisite:** MA3012

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3026 COMPLEX ANALYSIS

The basic concepts of complex numbers; complex variables, their limits and continuity and their differentiation and integration; Cauchy's integral formulas, Taylor's and Laurent series; the residue theorem; conformal mapping and other special topics involving complex functions.

**Prerequisite:** MA3019

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3027 DATA ANALYSIS & EXPERIMENTAL DESIGN

Understanding and evaluation of proper experimental and quasi-experimental designs; variables, control, reliability, hypothesis, models and statistical analysis; statistical models; randomised design, general linear model, randomised block design, latin squares, randomised factorial design, block factorial design,

hierarchical design, split-plot design and confounded factorial design; non-parametric tools.

**Prerequisites:** MA3013 and MA3020

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3028 ADVANCED APPLIED MATHEMATICS

Vector and tensor analysis; conservation equations and continuum mechanics; Navier-Stokes equations of viscous flow; finite deformations; the polar decomposition theorem; finite strain tensors; equations for isotropic linear elasticity.

**Prerequisites:** MA3019 and MA3021

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3032 CURRICULUM DEVELOPMENT IN MATHEMATICS

Influential factors on the development and content of mathematic curricula; how children and youths learn mathematical concepts; identification of efficient teaching strategies for classroom mathematics; research into an area of mathematics of personal interest to the student.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12 **Contact Hours:** 3 per week

### ■ MA3033 MODERN TOPICS IN TEACHING MATHEMATICS

Development of programs for teaching numeration; language in the mathematics program; memorisation strategies; teaching algorithms; measurement and spatial components; problem solving; the role of computers and calculators in the mathematics program. Study school attendance strongly recommended.

**Credit Points:** 12 **Contact Hours:** 3 per week

### ■ MA3035 ADVANCED NUMERICAL ANALYSIS

Numerical methods available for solving systems of linear equations; finding eigenvalues and eigenvectors of a matrix and solving partial differential equations.

**Prerequisite:** MA3015

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3036 ADVANCED OPERATIONS RESEARCH

Linear programming and integer programming; unconstrained and constrained nonlinear programming; multiple objective decision making and heuristic problem solving; application of each technique; computer applications.

**Prerequisites:** MA3012, MA3016 and MA3018

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3037 HISTORY OF MATHEMATICS

The nature of mathematics; numbers, geometry, logic and paradox; modern mathematical concepts such as undecidability, graph theory and catastrophe theory.

**Prerequisite:** 4 Level 1 subjects in Mathematics

**Credit Points:** 10 **Contact Hours:** 3 per week

### ■ MA3704 CORRECTIVE MATHEMATICS

Learning difficulties in mathematics; organising mathematical learning; formal and informal techniques for diagnosing learning difficulties; overview of the learning process and identification of areas of difficulty; identification of difficulties in problem solving; identifying and remediating specific error patterns; identifying and evaluating resources in the remedial program. Study school for external students strongly recommended.

**Prerequisite:** Studies in mathematics method at Diploma of Teaching level or equivalent experience

**Credit Points:** 12 **Contact Hours:** 3 per week

■ **MA3705 TEACHING PROBLEM SOLVING IN MATHEMATICS**

Definition and importance of problem solving; measures of problem-solving performance; problem-solving strategies; relevant research evidence; suggestions for teaching problem solving.

**Prerequisite:** Studies in mathematics curriculum or methodology at Diploma of Teaching level and relevant experience

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA3802 HISTORY OF MATHEMATICS**

Numbers and numeration; methods of calculation; extension of number systems to include rational numbers; the elevation of geometry; the renaissance of geometry; counting numerals and calculations; origins and development of the calculus. Incompatible with previous studies in history of mathematics.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA4015 DIAGNOSTIC ASSESSMENT IN MATHEMATICS**

Overview of numerical and conceptual learning difficulties in mathematics; learning experiences in various areas of mathematics; utility of mathematics in real life situations; examination of mathematics in other curriculum areas; learning experiences in the integration of mathematical topics; use of hand-held calculator and the computer as aids to conceptual development and as practical tools; geometric and algebraic concepts across the curriculum; error analysis and diagnostic inventories; remedial strategies.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **MA4019 STUDIES IN MATHEMATICS & TECHNOLOGY 1**

The nature of mathematics; number and numerations; operations, facts, algorithms and early algebra; calculators and computers; spatial concepts; visual representation of information; developing mathematics curricula.

**Credit Points:** 8    **Contact Hours:** 2 per week

■ **MA4023 STUDIES IN MATHEMATICS & TECHNOLOGY 2**

Fraction concepts and operations; measurement and the role of technology; problem solving; unit planning.

**Credit Points:** 4    **Contact Hours:** 2 per week

■ **MA5060 THESIS IN MATHEMATICS EDUCATION 1**

Application of coursework theory to a literature survey, a critical analysis, or the development of a curriculum package.

**Prerequisite:** MA5068

**Credit Points:** 48

■ **MA5061 THESIS IN MATHEMATICS EDUCATION 2**

Application of coursework theory to solution of a selected problem.

**Prerequisite:** MA5068

**Credit Points:** 96

■ **MA5062 THESIS IN MATHEMATICS EDUCATION 3**

Application of coursework theory to solution of a selected problem; the development of a major thesis.

**Prerequisite:** MA5068

**Credit Points:** 144

■ **MA5063 PERSPECTIVES IN MATHEMATICS EDUCATION**

Philosophical, sociological and historical influences on mathematics education; psychological underpinnings of the history of mathematics instruction; theories of instruction; socio-cultural factors in the formation of mathematics; issues in the learning of mathematics (eg, girls and mathematics, problem solving).

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5064 CURRICULUM STUDIES IN MATHEMATICS**

History of mathematics curriculum; curriculum models; curriculum design and evaluation; components of mathematics programs; curriculum change; modern curriculum developments in mathematics.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5065 PSYCHOLOGY OF MATHEMATICS EDUCATION**

The implications of psychological theory and research for teaching mathematics; modern theories of cognitive development, information processing and cognitive neurophysiology.

**Prerequisite:** MA5063

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5066 RESEARCH & EVALUATION TECHNIQUES**

Techniques of research and evaluation (eg, observation, protocol methods, tests, and surveys); theoretical and epistemological frameworks for research and evaluation; types of research; qualitative and quantitative methods (eg, case studies, clinical interviews, action research, teaching experiments, correlational studies, historical studies, and experimental designs); literature searches and surveys.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5067 RESEARCH & EVALUATION DESIGN**

Designing research and evaluation studies (applying theoretical aspects of research and evaluation to practical situations); basic experimental design and statistical analysis; evaluating research designs; scholarly writing of proposals and reports.

**Prerequisite:** MA5066

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5068 RESEARCH IN MATHEMATICS EDUCATION**

Research techniques appropriate to mathematics education; key areas of research investigations in mathematics; interpreting planning and critically assessing mathematics education research.

**Prerequisites:** MA5065 and MA5067

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5069 CURRICULUM SPECIALISATION IN MATHEMATICS**

Opportunity for indepth study of a curriculum topic or year level of own choice; planning, constructing, implementing and evaluating mathematics curricula and instructional programs.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5070 DIAGNOSIS & ASSESSMENT IN MATHEMATICS**

Techniques for diagnosing and remediating difficulties in mathematics; assessment models and their interrelationship with instruction; designing assessment instruments; modern developments in classroom evaluation; practical work with clients.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5071 TECHNOLOGY IN MATHEMATICS EDUCATION**

The role of technology, particularly microcomputers, in teaching mathematics; programming; integrating technology into the mathematics curricula; spreadsheets and other software; artificial intelligence and expert systems.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5072 SOCIAL CONTEXTS IN MATHEMATICS EDUCATION**

The social context of the mathematics classroom; the effect of gender, social class and cultural background on mathematics learning; power and politics in mathematics and schooling; student-teacher interactions and mathematical knowledge; mathematisation, the global village and the future of mathematics.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5073 LEADERSHIP IN MATHEMATICS EDUCATION**

Elements of supervision, including policy formulation, decision making, implementation, organisation, and evaluation as they relate to curriculum development; inservice education, and liaison with professional and community bodies; historical and current approaches in mathematics teacher education; contemporary recommendations regarding teaching and teacher education; examining and evaluating promising emerging models in mathematics teacher education.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5074 INDEPENDENT STUDY**

Opportunity to study an aspect of mathematics of particular interest; working on an individual basis with a lecturer.

**Credit Points:** 12

■ **MA5075 ADVANCED SEMINARS**

Opportunity to participate in a special subject organised around a particular interest, or a visiting expert.

**Credit Points:** 12

■ **MA5076 NUMBER THEORY**

Divisibility, Euclid's theorem, fundamental theorem of arithmetic, and distribution of primes; congruence theory; linear and non-linear diophantine problems and Pythagorean triples; continued fractions, convergent approximation for irrational numbers and Pell's equation; number theoretic functions and quadratic reciprocity; the mathematics of Euler, Fermat, Wilson, Lagrange, Pascal, Fibonacci, Lucas and Farey; algebraic number fields.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5077 DISCRETE MATHEMATICS & APPLICATIONS**

Markov chain models including regular, ergodic and absorbing chains; the theory of linear optimisation models; geometric and computational aspects of linear optimisation; models involving chance, choice and competition including zero-sum games and non zero games; growth models for epidemics, rumours and queues.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5078 COMPUTING & STATISTICAL METHODS**

Numerical methods for the solution of non-linear equations and systems of linear equations; interpolation and extrapolation; curve fitting; fundamental principles of the architecture and operation of digital computer systems; data structuring and abstraction,

knowledge representation and programming as problem solving; statistical concepts, procedures and computer applications.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5079 HISTORY & PHILOSOPHY OF MATHEMATICS**

The background of the natural origins of aspects of mathematics relevant for teaching in schools; philosophical aspects of the development of mathematics; analysis of the history of mathematics with special focus on issues in calculus, algebra and geometry; relationships of these to the teaching of mathematics in secondary schools.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MA5080 FUNDAMENTAL STRUCTURES IN MATHEMATICS**

Basic structures of mathematics (eg, groups, fields, ideals, and equivalence and order relations); fundamental theorems and their application as recurring themes in school mathematics.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **MB3025 MICROBIOLOGY**

Scope of microbiology; characteristics of major microbial types; microbial metabolism; water; food and micro-organisms; principles of food presentation; spoilage of food; food-borne disease; food hygiene; microbial fermentation of foods; environmental and industrial microbiology.

**Prerequisites:** BI3025 and CH3025

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **ME2800 UNDERSTANDING TELEVISION**

Introduction to visual analysis: tele-literacy; analysis of title sequences; narrative sequences; film shots; introductory genre; situation comedy; soap opera; crime shows; news.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **ME3001 FOUNDATION MEDIA STUDIES 2**

Development of a visual dialogue through a series of projects within and outside the studio with a view to understanding relationships between the theoretical and practical aspects of art and developing a philosophical basis for professional attitudes and original thinking; research into the knowledge and resources available; development of the ability to evaluate aesthetic qualities in the student's own work.

**Prerequisite:** ME3012

**Credit Points:** 30    **Contact Hours:** 10 per week

■ **ME3002 ADVANCED MEDIA STUDIES 1**

Students are expected to research into their own personal directions, formulate and develop self-generated enquiry and demonstrate the acquisition of working methods, skills and knowledge required for the successful realisation of their concepts. Students present a program to the Course Coordinator which will indicate specific studies in the two-dimensional or three-dimensional areas or a combination of these.

**Prerequisite:** ME3001

**Credit Points:** 30    **Contact Hours:** 10 per week

■ **ME3003 ADVANCED MEDIA STUDIES 2**

Students prepare and present a plan of studies based on their own specific interest; rigorous questioning of concept and artefact will be required with the level of realisation and the ways in which media are used reflecting a high level of achievement. Further

workshops in areas where the acquisition of skills is essential.

**Prerequisite:** ME3002

**Credit Points:** 20    **Contact Hours:** 8 per week

■ **ME3004 ADVANCED MEDIA STUDIES 3**

Students are expected to work independently demonstrating sound habits of research and sustained studio practice; skills developed in ME3001 and ME3002 should enable concepts to be expressed with confidence; intensive studio work to draw together the students' interest in the visual arts in general and their specific study in particular.

**Prerequisite:** ME3003

**Credit Points:** 20    **Contact Hours:** 8 per week

■ **ME3005 ADVANCED MEDIA STUDIES 4**

Independent work in preparation for an exhibition.

**Prerequisite:** ME3004

**Credit Points:** 20    **Contact Hours:** 8 per week

■ **ME3006 EXTENDED MEDIA STUDY 1**

Students are required to prepare and present a plan of studies based on their own particular interests and participate in workshops where the acquisition of skills is essential to the solution of problems and achievement of high levels of performance.

**Credit Points:** 20    **Contact Hours:** 6 per week

■ **ME3007 EXTENDED MEDIA STUDY 2**

See ME3006.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ME3008 EXTENDED MEDIA STUDY 3**

Students are expected to be able to work independently and demonstrate sound habits of research and sustained studio practice. The studio will be regarded as the area on which to draw together the students' interests in the visual arts in general and their specific study in particular.

**Credit Points:** 20    **Contact Hours:** 6 per week

■ **ME3009 EXTENDED MEDIA STUDY 4**

See ME3008.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ME3012 FOUNDATION MEDIA STUDIES 1**

Familiarisation with resources available within and outside the University (exhibition spaces, working environments, institutions, the materials and tools of art-making facilities, printed and visual resources); individual and group projects introducing a variety of visual art problems.

**Credit Points:** 30    **Contact Hours:** 18 per week

■ **ME4007 MEDIA PRODUCTION & USE**

The micro-computer and production; learning centres and bulletin boards; uses for the overhead projector; design of visual images; selection, operation and maintenance of audio equipment, 16mm projectors, video; slide-tape production; the operation of a 35mm camera and development of black-and-white photographs.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **ME4008 MEDIA, SCHOOL & SOCIETY**

Mass media communication processes; influences of media formats; media control and ownership, techniques of advertising; educational applications of mass media.

**Prerequisites:** All Part A subjects

**Credit Points:** 9

■ **MG3025 INTRODUCTION TO MANAGEMENT**

The role of management; evolution of management theory; fundamentals of planning; decision making in organisations; fundamental organisation; group dynamics and informal organisations; human resources management; motivation; leadership; principles of communication; the management of change.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **MG3026 RESOURCE MANAGEMENT**

The family as a social system; resources and constraints related to the life cycle; management in the family context; the family in Australia; managing finance.

**Prerequisite:** MG3025

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **MG3027 BUSINESS ORGANISATION**

The structure of business organisations; types of organisations; business objectives, strategies and policies; functions within business organisations; the role of unions and the nature of industrial relations in Australia; women's issues.

**Prerequisite:** MG3025

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **MK3013 CONSUMER BEHAVIOUR**

Consumer motivation; consumer personality and attitudes; consumer decision processes; group influences in marketing.

**Prerequisite:** MK3019

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3014 BUSINESS FORECASTING**

Forecasting problems; forecasting methods including Delphi, time series analysis and causal models.

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3015 MARKET RESEARCH**

Problem definition; research planning; analysis, interpretation and utilisation of research data; quantitative techniques.

**Prerequisite:** MK3013

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3016 LOGISTICS**

Business logistics management deals with the coordination, planning, organisation and control of all move-store activities that facilitate product flow from the point of raw material acquisition to the point of final consumption, and in this process involves provision of the attendant research and information flows for the purpose of providing the requisite level of customer service.

**Prerequisite:** MK3020

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3017 COMPUTER APPLICATIONS IN MARKETING**

Application of computer packages, including SPSS and various statistical/marketing packages.

**Prerequisites:** MK3014 and MK3020

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3018 APPLIED MARKET RESEARCH**

The capstone application of theoretical concepts studied in the areas of: marketing, market research, communication, management, data analysis and report writing; a market research project for industry.

**Prerequisites:** MK3015 and MK3020

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3019 INTRODUCTORY MARKETING**  
Assessment of market opportunities; organisation of the firm for marketing; planning the marketing program; measurement of market performance.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3020 STRATEGIC MARKETING**  
Product planning including development of product mix and product life cycle; pricing, distribution, advertising and promotion decisions.  
**Prerequisite:** MK3019  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3021 INTERNATIONAL MARKETING**  
The foreign exchange market; fixed and floating exchange rates, buying and selling overseas; the export decision; export promotion.  
**Prerequisites:** EC3029 and MK3020  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3022 BUSINESS QUANTITATIVE METHODS 1**  
Linear functions; systems of linear equations; matrix algebra; linear programming; quadratic functions; exponential and logarithmic functions; differential calculus; partial differentiation.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3023 BUSINESS QUANTITATIVE METHODS 2**  
Descriptive statistics; probability; probability distributions; discrete distributions – binomial and hypergeometric, continuous distribution – normal; sampling distributions; statistical inference – estimation and hypothesis testing; non-parametric test – chi-square tests of goodness of fit and independence; simple linear regression and correlation.  
**Prerequisite:** MK3022  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3024 INTRODUCTORY ECONOMETRICS**  
Linear programming; simplex method; duality; sensitivity analysis; multiple linear regression; general linear model in matrix form; heteroscedasticity; multicollinearity and autocorrelation; decision theory.  
**Prerequisite:** MK3023  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK3026 PRODUCT DEVELOPMENT**  
The consumer market; product development; critical path analysis and network planning; idea generation and product evaluation; feasibility study and product cost analysis; quality assurance; the production and marketing of products; career prospects.  
**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MK3028 MARKET SIMULATION**  
Managerial and behavioural theories of the firm; pricing under monopoly and oligopoly; average cost pricing, unit pricing; structure, conduct and performance in industry; public policy and its effect on behaviour of the firm.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK4005 QUANTITATIVE METHODS FOR BUSINESS**  
Descriptive statistics; statistical inference; simple linear correlations, regressions and analysis; time series; forecasting; index numbers; computer packages.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK4006 ENTREPRENEURSHIP**  
Introduction to the Business Plan; entrepreneurial management; organisational strategy; legal and con-

tractual aspects; marketing function; marketing research; market strategies; venture financing; cash flow forecasting; writing a Business Plan.  
**Prerequisite:** Completion of 40 credit points towards GradDipBus – Administration  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK4007 MARKETING FOR MANAGERS**  
Principles and applications of marketing; consumer behaviour; strategic marketing; pricing policies; market research; market planning and implementation.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK5004 ADVANCED QUANTITATIVE RESEARCH METHODS**  
Conceptual foundations of research design; research methodologies; data sources; methods of observation and data collection; data analysis; evaluation.  
**Prerequisite:** MK3024 or equivalent. A high level of performance in subjects in statistics and applied statistics at undergraduate level is assumed. Knowledge of computing and use of computer packages is highly desirable.  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK5005 BUSINESS FORECASTING TECHNIQUES**  
Exponential and moving average techniques; decomposition models; seasonal regression models; stochastic models; stationary and non-stationary models; model identification and estimation; diagnostic checking; transfer functions.  
**Prerequisite:** MK3014 or equivalent  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK5006 BUSINESS LOGISTICS**  
The integrated physical distribution management concept; customer service; inventory policy, analysis and decision making; selection of distribution channels, channel design and strategy; transport systems and model choice; modelling the facility location, optimising size, siting and network; logistics and pricing; organisational implementation of the marketing logistics concepts.  
**Prerequisite:** MK3014, MK3024 or equivalent  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK5007 ADVANCED MARKETING SIMULATION**  
The economics of risk and uncertainty; quantitative estimation of demand and costs; market structures and pricing practices; multi-product pricing; transfer pricing; capital budgeting.  
**Prerequisite:** Economics to Bachelor's degree level  
**Credit Points:** 12    **Contact Hours:** 4 per week

■ **MK5011 THESIS**  
Synthesis and application of studies undertaken in the course. Topic may be taken from any aspect of marketing science. Formulation of thesis undertaken in conjunction with supervisor and other academic staff.  
**Credit Points:** 120-168

■ **ML3005 FRENCH LANGUAGE 1**  
Development of the four language skills: listening, speaking, reading and writing; acquisition of knowledge and skills to perform various language functions in a variety of settings.  
**Credit Points:** 10    **Contact Hours:** 5 per week

■ **ML3006 FRENCH LANGUAGE 2**  
Extension of ML3005.  
**Prerequisite:** ML3005  
**Credit Points:** 10    **Contact Hours:** 5 per week

■ **ML3007 FRENCH LANGUAGE & LITERATURE 1**

Development of the four language skills; literary texts where the prevailing ideas are seen to be revolutionary in some way, whether individually, socially, or philosophically; (Voltaire, Rousseau, Sartre, Rimbaud, Robbe-Grillet) where language and genre are at issue.

**Prerequisite:** ML3006

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ML3008 FRENCH LANGUAGE & LITERATURE 2**

Continuing development of the four language skills; studies in conflict in French literature.

**Prerequisite:** ML3006

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ML3009 FRENCH LANGUAGE & LITERATURE 3**

Continuing development of the four language skills; studies in relationships between men and women in French literature.

**Prerequisite:** ML3006

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ML3010 FRENCH LANGUAGE & LITERATURE 4**

Continuing development of the four language skills; study of a variety of French texts where there is the possibility of analysing different aspects of the concept of hero or heroine.

**Prerequisite:** ML3006

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ML3017 ITALIAN LANGUAGE 1**

Functional development of the four language skills; systematic study of Italian grammar to consolidate language structures.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **ML3018 ITALIAN LANGUAGE 2**

Extension of ML3017.

**Prerequisite:** ML3017

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **ML3019 ITALIAN LANGUAGE & LITERATURE 1**

Italian grammar; writing, listening and speaking skills; reading of prose and poetry; reading and performance of a play.

**Prerequisite:** ML3018

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ML3020 ITALIAN LANGUAGE & LITERATURE 2**

Difficult aspects of Italian grammar; systematic study of the literature of the Middle Ages.

**Prerequisite:** ML3019

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **ML3021 ITALIAN LANGUAGE & LITERATURE 3**

Further development of language skills; literature from the Renaissance to the nineteenth century; development of the Italian language; dialects; Italian spoken by migrants in Australia.

**Prerequisite:** ML3020

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **MU2102 MUSIC EDUCATION**

The role of the music educator; development of personal musical skills; concept development: rhythmic notation, form, harmony, texture and timbre, dynamics; music learning experiences.

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **MU2700 CONTEXTS FOR TEACHING & LEARNING**

Music curriculum models; the needs of learners from varied cultural backgrounds; stages of musical development; program development and teaching strategies.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MU2701 APPROACHES TO MUSIC EDUCATION**

Philosophy objectives and content of four music programs; implementation of some aspect of these programs; improvement of teaching techniques.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MU2702 CLASS PROGRAM DEVELOPMENT IN MUSIC EDUCATION**

The music curriculum; the nature of curricula in the arts; current research in children's musical development; linkages between musical development and overall growth; interpersonal relationships in the context of class, school, bands/choir, theatre and the community.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MU2703 VOCAL STUDIES**

Breathing for singing; voice production; sight singing; repertoire selection; ensemble singing; conducting; conducting and analysis.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MU2704 INSTRUMENTAL STUDIES**

Performance skills in solo performance with ensemble backing; score reading and analysing arrangements; tuning and conducting techniques; practical work styles of contemporary composers.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MU2705 PRACTICAL MUSICIANSHIP**

Literature suitable for school use and its performance score reading and interpretation; conducting; music writing.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MU2708 ALTERNATIVE APPROACHES TO MUSIC EDUCATION**

Introduction to philosophy and techniques of the different approaches of Orff, Dalcroze, Suzuki; comparison between these approaches and the Queensland programs.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MU2710 PERFORMANCE PRACTICE**

Continuation of conducting and rehearsal techniques; instrumental and vocal instruction; rehearsals of small ensembles as both leaders and performers; researching the repertoire of suitable ensemble music; solo or ensemble performance at a public recital.

**Prerequisite:** Advanced skills in playing chosen instrument

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **MU2713 MUSIC IN MULTICULTURALISM**

Scope and purpose of ethnomusicology; the role of music in culture; the multicultural nature of Australian society; the role of music in a multicultural society; the use of ethnic music in the classroom; songs and dances of various ethnic communities; seminars on fieldwork.

**Credit Points:** 8    **Contact Hours:** 3 per week

**MU2800 GUITAR WORKSHOP**

Development of skill in playing basic guitar chords, strumming suitable rhythmic patterns and leading of group singing with guitar.

**Prerequisite:** Available only to beginners or those with little recent experience on guitar

**Credit Points:** 5    **Contact Hours:** 2 per week

**MU2802 PIANO FOR BEGINNERS**

Introduction to the piano as a practical instrument for use in both recreational and classroom situations; sight reading; harmonisation.

**Prerequisite:** Available only to those with no previous experience on piano

**Credit Points:** 5    **Contact Hours:** 2 per week

**MU2803 PIANO WORKSHOP 1**

Development of keyboard skills relevant to both recreational and classroom situations; sight reading; accompaniment; performance of pieces.

**Co/Prerequisite:** MU2802 or equivalent

**Credit Points:** 5    **Contact Hours:** 2 per week

**MU2809 VOCAL STUDIES 1**

Breathing for singing (muscular control, use of lungs and diaphragm, control in inhaling and exhaling); voice production (sound mechanisms, vowel and consonant shaping, attacking and releasing notes, articulation); sight singing; ensemble singing; conducting.

**Credit Points:** 8    **Contact Hours:** 3 per week

**MU2814 EXPLORING MUSIC**

Use of recorder, percussion instruments, voice, autoharp, movement and speech to develop a familiarity with music; building a vocabulary for understanding the language of music and movement.

**Credit Points:** 5    **Contact Hours:** 3 per week

**MU2816 MUSICIANSHIP**

Aural training; movement as an aid to musical understanding; appreciation of music from primitive times to the twentieth century including knowledge of composers, styles etc.; harmonisation explored through singing rounds and part songs, and by providing instrumental accompaniments in various styles; development of instrumental skills.

**Credit Points:** 10    **Contact Hours:** 3 per week

**MU2817 GROUP INSTRUMENTAL**

Participation in group instrumental performance using a variety of instruments; playing instruments for use in ensemble work; ensemble techniques in singing; part-writing; performing in ensemble.

**Prerequisite:** MU2814 or equivalent

**Credit Points:** 10    **Contact Hours:** 4 per week

**MU2824 VOCAL STUDIES 2**

Development of vocal range and tone colour; stylistic singing; improvisation; repertoire selection; conducting and analysis.

**Prerequisite:** MU2809

**Credit Points:** 8    **Contact Hours:** 3 per week

**MU2827 INSTRUMENTAL MUSIC 1**

Performance skills on selected instruments; development of musicianship; simple composition for ensemble with group performance of student compositions.

**Credit Points:** 8    **Contact Hours:** 3 per week

**MU2828 INSTRUMENTAL MUSIC 2**

Performance and accompaniment skills; more advanced musicianship, composition and arrangements and performance for ensembles in four or five parts.

**Prerequisite:** MU2827

**Credit Points:** 8    **Contact Hours:** 3 per week

**MU2829 CREATIVE MUSIC WORKSHOP**

Musical improvisation and composition; exploration of sound; discrimination and organisation of sound; musical communication; integration with other artistic forms; media and technology; workshop performance; style and technique.

**Credit Points:** 5    **Contact Hours:** 2 per week

**MU3035 AURAL MUSICIANSHIP 1**

Aural perception skills; development of vocal sight reading and performance skills; training the musical memory; solfege; dictation; aural analysis.

**Credit Points:** 10    **Contact Hours:** 3 per week

**MU3036 AURAL MUSICIANSHIP 2**

Continuation from work begun in MU3035; performance of music in parts; harmonic analysis; transcription of melodies by ear.

**Prerequisite:** MU3035

**Credit Points:** 10    **Contact Hours:** 2 per week

**MU3037 AURAL MUSICIANSHIP 3**

Advanced aural perception for students who wish to extend further their expertise in this field; continuation from MU3036.

**Prerequisite:** A grade of 5 or above in MU3036

**Credit Points:** 5    **Contact Hours:** 2 per week

**MU3040 SYSTEMS OF PART WRITING 1**

Writing of modal and tonal melodies; two part techniques; functional harmony and voice leading techniques; diatonic harmony.

**Prerequisite:** Literacy in notation, key, rhythm. Knowledge of basic chord structures and progressions

**Credit Points:** 10    **Contact Hours:** 2 per week

**MU3041 SYSTEMS OF PART WRITING 2**

Chromatic harmony; nineteenth and twentieth century writing techniques.

**Prerequisite:** MU3040

**Credit Points:** 10    **Contact Hours:** 2 per week

**MU3044 MUSIC PRACTICUM**

Skills, interests and aptitudes gained through experience in the course to date are directed towards a college or community activity in music. Students are provided with an opportunity to practise their art within a specific community – artistic, public or institutional.

**Credit Points:** 10

**MU3046 HISTORY, LITERATURE & ANALYSIS 1**

Late Renaissance and Baroque music; development of research and analysis skills; special emphasis on Fugue, Binary and Ritornello forms as found in keyboard, instrumental and vocal music of the period.

**Credit Points:** 10    **Contact Hours:** 3 per week

**MU3047 HISTORY, LITERATURE & ANALYSIS 2**

Music in the classical era; development of research and analytical skills; the classical sonata principle as found in the symphony, sonata, concerto and opera genres of the period.

**Prerequisite:** MU3046

**Credit Points:** 10    **Contact Hours:** 3 per week

**MU3048 HISTORY, LITERATURE & ANALYSIS 3**

Romantic and impressionist music; development of research and analytical skills; forms studied will include the lied, symphony, orchestral music, instrumental and keyboard music, and music drama.

**Prerequisite:** MU3047

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **MU3053 COMPOSITION & TECHNOLOGY 1**

Principles of composition; motivic development; popular song forms; introduction to midi and computer music; sequences.

**Prerequisite:** Consent of lecturer  
**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3054 COMPOSITION & TECHNOLOGY 2**

Introduction to contrapuntal techniques, including imitation, canon, sequence; studio techniques including sound mixing, microphone techniques, sampling, editing.

**Prerequisite:** MU3053  
**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3055 COMPOSITION & TECHNOLOGY 3**

The development of fully formed short compositions using the resources of the sound studio. Music in the popular media.

**Prerequisite:** MU3054  
**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3056 COMPOSITION & TECHNOLOGY 4**

Personal composition project involving selection from a wide range of sound resources both in the studio and available from the wider community.

**Prerequisite:** MU3055  
**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3057 MUSIC IN THE TWENTIETH CENTURY**

Overview of the major styles of twentieth century music including jazz and popular music; writing techniques; individual and group generated compositions. Analysis of selected representative compositions.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3058 MUSIC IN CONTEMPORARY SOCIETY**

A survey of the range of musical activity within society today; principles of program design; the role of the community musician; funding and grant implications for music projects in Australia today.

**Credit Points:** 5 **Contact Hours:** 2 per week

■ **MU3059 KEYBOARD MUSICIANSHIP**

Selected keyboard majors: practical classes in accompanying. Other students: keyboard technique; sight reading in a variety of keyboard styles; basic improvisation skills, including harmonisation of melodies.

**Credit Points:** 10 **Contact Hours:** 2 per week

■ **MU3060 IMPROVISATION**

Aural analysis of harmonic progressions; acquisition of a repertoire of jazz/pop standards for improvisation purposes; improvisation on chief instrument and in the ensemble situation.

**Prerequisite:** MU3035  
**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3061 SOCIOLOGY OF POPULAR MUSIC**

Understanding popular culture; relationship between popular culture and art forms; roles of the media; critical study of popular music genres.

**Prerequisite:** AR3005  
**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3062 COMMUNITY MUSIC**

Understanding the roles of the musician in the community; identification of the sources and practice of

music in the wider community; field work. Composition and performance for the layperson. (Not offered in 1991.)

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3063 STUDIO MUSIC TEACHING**

An introduction to the teaching of music in the studio; understanding child development; lesson preparation; teaching materials; survey of group methods. (Not offered in 1991.)

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **MU3064 GUITAR WORKSHOP**

Development of basic skills in guitar performance; single-line melodies; chord progressions; song accompaniment. (Not offered in 1991.)

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **MU3065 PRACTICAL STUDIES A1**

Development of a strong and reliable technique, interpretation and performance skills on the chief practical instrument or voice; performance seminar; participation in performance activities; recital.

**Credit Points:** 15 **Contact Hours:** 2 per week

■ **MU3066 PRACTICAL STUDIES B1**

Group tuition on an orchestral wind or string instrument; basic performing techniques. Directed ensemble activities including membership of wind or choral ensemble depending on chief instrument; repertoire and reading choir.

**Credit Points:** 15 **Contact Hours:** 6 per week

■ **MU3067 PRACTICAL STUDIES A2**

Exploration of established and new repertoire on the chief practical instrument or voice. Continued development of technique, together with the acquisition of analytical and interpretive skills; participation in performance activities; performance seminar, recital. Instrumental or vocal ensemble.

**Prerequisite:** MU3065  
**Credit Points:** 15 **Contact Hours:** 2 per week

■ **MU3068 PRACTICAL STUDIES B2**

Group tuition on an orchestral wind instrument or guitar; basic performing techniques.

**Prerequisite:** MU3066  
**Credit Points:** 15 **Contact Hours:** 6 per week

■ **MU3069 PRACTICAL STUDIES A3**

Consolidation and extension of studies from MU3067; performance seminar, participation in performance activities; open recitals.

**Prerequisite:** MU3067  
**Credit Points:** 15 **Contact Hours:** 2 per week

■ **MU3070 CHORAL ARRANGING & CONDUCTING**

Arrangement of keyboard and diverse ensemble music for choral ensemble; harmonisations of set melodies and arrangements of same for choral ensemble; arranging for large vocal ensemble. Score preparation; conducting techniques; rehearsal procedures; development of a personal style in the direction of choral music.

**Co/Prerequisite:** MU3040  
**Credit Points:** 10 **Contact Hours:** 4 per week

■ **MU3071 INSTRUMENTAL ARRANGING & CONDUCTING**

Harmonic analysis and arranging of keyboard music for instrumental ensemble; harmonisation of set melodies and arrangement of same for instrumental ensemble. Arranging for a variety of ensembles including concert band, popular music ensemble.

Preparation of instrumental scores for conducting; baton techniques; rehearsal procedures; development of a personal style in the direction of instrumental ensembles.

**Co/Prerequisite:** MU3040

**Credit Points:** 10    **Contact Hours:** 4 per week

#### ■ MU3072 ENSEMBLE

Participation in rehearsals and concerts for one or more of the performing ensembles operating within the Department of Music at Kelvin Grove. Groups include Choir, Wind Ensemble, Stage Band, Popular Music Ensemble and a range of discrete, small, instrumental ensembles.

**Credit Points:** 10    **Contact Hours:** 4 per week

#### ■ MU4033 TWENTIETH CENTURY MUSIC

Use of twentieth century rhythms through dictation, composition improvisation and performance; exploration of overtone series; understanding tone clusters, sound mass and aleatoric procedures; performance of material of twentieth century.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MU4034 BAROQUE & THE ROCOCO

Written and aural activities to improve musicianship; studies of Baroque and Rococo music literature, analysis, form, continuo; performance practice.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ MU4035 CLASSICAL & ROMANTIC MUSIC

Interpret and perform work from Viennese/Romantic eras; understand musical forms and theory of these eras; compose short works.

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ NU3025 NUTRITION

Simple tools used in nutrition education: food groups and food composition tables; role of nutrients in the Australian diet; function of water in human systems; energy requirements; individual research.

**Prerequisite:** PL3026

**Credit Points:** 10    **Contact Hours:** 4 per week

#### ■ NU3027 SOCIAL NUTRITION

Evaluation of nutritional information; psychology of food; methods of assessing nutritional status; nutritional disorders; community, remedial and nutrition education programs.

**Prerequisite:** NU3025

**Credit Points:** 8    **Contact Hours:** 4 per week

#### ■ NU3701 NUTRITION APPRECIATION

Biochemical approach to nutrition; history and evolution of nutrition; critical evaluation of popular nutrition literature; development of a philosophy of nutrition.

**Prerequisite:** Home economics studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

#### ■ OE2800 OUTDOOR PURSUITS

Outdoor recreation: philosophy behind outdoor adventure activities; the practice of minimal input skills. Bushcraft skills: practical experience in pioneering skills including navigation, construction site selection, meal preparation. Outdoor adventure activities: participation in a wide range of activities such as kayaking and initiative games.

**Prerequisite:** PE2823

**Credit Points:** 10    **Contact Hours:** 4 per week

#### ■ PE2085 HEALTH & PHYSICAL EDUCATION

Historical background; anatomy, physiology, kinesiology; physical growth and development of children; static and dynamic posture; child health; exercise, rest and recreation; psycho-social factors; child safety; the concept of health and the philosophy and language of health education; the Primary Health Education Curriculum Guide; health behaviour and decisions; nutrition; health modules; planning of a selected health module; aims and objectives of physical education; swimming and water safety; physical skills; folk and social dance; physical education in the total curriculum.

**Credit Points:** 12    **Contact Hours:** 5 per week

#### ■ PE2086 PHYSICAL EDUCATION

Historical, sociological and climatic influences on the content of physical education; rural and urban programs; teaching and coaching; educational gymnastics; track and field athletics; creative dance; curriculum development.

**Prerequisite:** PE2085

**Credit Points:** 6    **Contact Hours:** 2 per week

#### ■ PE2701 RESOURCE TEACHING IN PHYSICAL EDUCATION

Principles involved in planning a program for years 1-7; voice control; written communication in physical education; consultation skills; individualising physical education; adaptive physical education; coaching individual sports.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ PE2702 CONTEXTS FOR TEACHING & LEARNING

Teaching and learning in physical education; the concept of teaching; the individual learner; management and control of small and large groups in physical education; physiological and motor development.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ PE2705 TOTAL PROGRAMMING IN PHYSICAL EDUCATION

Concept of daily physical education; movement education; organisation and administration (carnivals etc.); roles of the physical educator in total programming; outdoor education; evaluation.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ PE2706 PHYSICAL EDUCATION & THE ARTS

Music and movement: frameworks for listening and moving; music and dance relationships; program planning. Administration of sport and recreation: the processes of administration; administrative policies; facilities; organisation of track and field and swimming meetings; organisation of school sporting events and teams; camps and leisure pursuits; budgeting; purchase and care of equipment.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ PE2712 TEACHING GAMES & SPORTS

Skill recognition (catching, throwing, striking) development of physical skills; skill analysis and teaching; study of a selected sport; certification in coaching school sports; presentation of a coaching workshop.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ PE2713 RESOURCE TEACHING & CONSULTANCY

Self-awareness; interpersonal relationships; communication skills; response modes; functioning as a resource teacher in physical education; the organisa-

tional and procedural roles of a physical education specialist.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PE2807 SOCIO-CULTURAL STUDIES OF SPORT**

Bases of sociology; discipline areas in socio-cultural study of sport; lifestyle and physical activity of Neolithic era; sociocultural influences in Pre-Hellenic, Greek, Roman, Dark Ages and Medieval eras; development of sport from Renaissance to nineteenth century in England; historical development of sport in Australia; Aboriginal play and games; dance throughout history; field trip; presentations; comparative study.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PE2808 SPORT IN SOCIETY**

Play games and sport; sport as a business; the role of the media in sports; aggression and violence in sport; children in sport; sport and social class.

**Prerequisite:** PE2807

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PE2809 AQUATIC RECREATION**

Planning aquatic pursuits; snorkelling and scuba diving; sailing; power boating and skiing; fishing; equipment design and maintenance.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PE2810 INTRODUCTORY SPORTS SCIENCE**

Aerobic conditioning for sport; muscular strength, endurance and flexibility; body composition and sport; the energy systems of the body; the female athlete; the development of sporting skill.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PE2811 MEASUREMENT OF PHYSICAL GROWTH**

Morphological considerations; assessment of biological or maturation age; postural adjustments and growth and development; nutrition and growth; critical periods in growth; secular growth trends.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PE2812 ADVANCED SPORTS SCIENCE**

Specificity of conditioning and training techniques; sport for specific groups particularly the handicapped; sports medicine; prevention of sporting injuries; evaluation techniques used in sports science research.

**Prerequisite:** PE2810

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PE2819 INTRODUCTION TO HUMAN MOVEMENT**

Rhythmic experiences: range of rhythmic experiences including folk dance, singing games, rhythmic patterns with music and percussion. Games and gymnastics activities: basic skills in games and gymnastics with emphasis on improvisation in play situations. First-aid studies: theoretical and practical aspects of emergency aid including resuscitation and bandaging.

**Credit Points:** 5      **Contact Hours:** 3 per week

■ **PE2820 DANCE FOR RECREATION**

Community dance: development of basic techniques in square, round and bush dancing, latest trends in popular dance. Ballroom dance: basic figures in ballroom dancing such as cha-cha, quickstep, modern waltz. Aerobic dance: rhythmic activities for personal fitness.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **PE2823 RHYTHMIC MOVEMENT**

Folk and square dance: steps and figures of folk dances of varying complexity; emphasis on improving students' knowledge, ability to interpret dance. Creative dance: experimentation with stimuli – words and poems, percussion, music, drama; movement exploration utilising student's own ideas. Rhythmic activities: development of skill in working with music and a variety of rhythmic activities.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **PE2824 PERSONAL HEALTH & FITNESS**

Health: development of a personal health program; issues, techniques and topics of current personal and societal health concerns. Fitness: theoretical basis of physical fitness; appraisal of personal fitness; development of fitness programs; mandatory practical involvement.

**Credit Points:** 10      **Contact Hours:** 4 per week

■ **PE2825 GYMNASTICS**

Personal development incorporating components of gymnastics; progressed activities designed to promote success and challenge through artistic gymnastic skills.

**Prerequisite:** PE2819 or equivalent experience

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **PE2829 LEISURE EDUCATION**

Leisure and recreation; leisure and the individual; leisure and society; future directions for leisure; all-of-life sport.

**Credit Points:** 10      **Contact Hours:** 3 per week

■ **PE2830 GAMES FOR RECREATION**

Development of the individual skills and techniques of the game; application of the rules and umpiring procedures. Students are expected to participate in two of the following games – Volleyball, Tennis, Squash.

**Credit Points:** 10      **Contact Hours:** 3 per week

■ **PE3010 MOTOR DEVELOPMENT & SKILLS ACQUISITION**

Identification of key terms in motor development and skill acquisition; evaluation of different classification systems; classification of skills using a variety of criteria; awareness of different stages of motor development; interpretation of performance curves; theoretical bases of information processing models; analysis of mechanisms involved in skilled performance.

**Credit Points:** 10      **Contact Hours:** 5 per week

■ **PE3011 ANATOMY & BIOMECHANICS**

Recognition of skeletal structures; differences in the structure and functions of human joints, muscle attachment; actions of muscles as related to major joints; why certain activities are anatomically harmful; mechanical principles of human movement; diagnosis of errors in technique; isolation of basic elements common to a variety of performance skills.

**Credit Points:** 10      **Contact Hours:** 5 per week

■ **PE3012 EXERCISE PHYSIOLOGY**

The structure and function of body systems; key terms and principles relating to specific aspects of systemic physiology; application of general physiological principles to conditions of work; interpretation of a variety of tests and procedures used in evaluating physique, fitness, effects of training and exercise.

**Credit Points:** 10      **Contact Hours:** 5 per week

■ **PE3013 FOUNDATIONS OF PHYSICAL EDUCATION**

Historical events which have shaped developments in contemporary physical education; demonstration of confidence and competence in the communication of philosophical and historical aspects of education and sport; appreciation of the nature and scope of human movement studies, including physical education, leisure and sport.

**Credit Points:** 10    **Contact Hours:** 5 per week

■ **PE3014 PERFORMANCE SKILLS 1**

Application of scientific principles to the analysis and development of techniques for swimming and track and field; performance of all aspects of the major swimming strokes and track and field events; instructional strategies and motivational, conditioning and training activities; development of activity programs for various ability levels; application of event rules; water rescue.

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **PE3015 PERFORMANCE SKILLS 2**

Various game forms; analysis of fundamental game skills; identification of problem areas in skill developments; application of relevant skills to suit game situation; application of sport rules; application of relevant strategies for teaching and coaching selected sports for a variety of age groups.

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **PE3016 PERFORMANCE SKILLS 3**

Basic theoretical principles fundamental to the performance and teaching of gymnastics and dance; physical fitness and basic biomechanical principles in the performance of excellence in gymnastics; performance of routines incorporating a variety of gymnastic and dance skills on floor/apparatus; recognition of unsafe practices.

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **PE3017 OUTDOOR EDUCATION**

Appreciation of the value and place of outdoor education in schools and the community; development of proficiency in a number of outdoor pursuits; light-weight, minimum impact camping; leadership skills and safety techniques; the Australian natural environment; promotion of positive attitudes towards natural environments.

**Credit Points:** 10    **Contact Hours:** 6 per week

■ **PE3018 RESEARCH IN MOVEMENT STUDIES**

Data collection, presentation, and interpretation; test design and administration; basic computer programming and analysis; elementary research procedures and design.

**Prerequisites:** PE3010, PE3011 or PE3012

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3019 PERFORMANCE DEVELOPMENT**

How physical performance can be improved; development of skills in the young, the atypical, the disabled, the elite, and the aged; subjective and objective evaluation as performers are assessed both physically and psychologically; techniques from the sciences of exercise physiology, sport psychology, and biomechanics; coaching, teaching, program design and motivation.

**Prerequisites:** PE3010, PE3011 or PE3012

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3020 ADMINISTRATION IN PHYSICAL EDUCATION & SPORT**

Types of administration and styles of leadership practised in both physical education and sport; the various administrative tasks in both fields; personnel and program administration.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3021 SOCIOLOGY OF SPORT & LEISURE**

How sport affects individuals, the local community, and society in general; sport and leisure from a sociological standpoint; commercialism; politics in sport; changing habits in leisure; expansion of individual activities; increased interest in hazardous and life-threatening activities.

**Prerequisite:** PE3013

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3022 ADAPTED PHYSICAL EDUCATION**

The causes of short-term and long-term disorders and disabilities from medical and developmental perspectives; procedures for assessing the range of movement and current level of skills; individualised program planning for most disability groups.

**Prerequisite:** PE3010

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3023 SPORT & FITNESS MANAGEMENT**

Practical procedures and laboratory work; testing and evaluating; exercise prescription; design and development of conditioning programs.

**Prerequisite:** PE3012

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3024 ADVANCED SKILL LABORATORIES**

Investigation of an advanced theoretical structure and application to a performance activity of their choice.

**Prerequisites:** PE3010 and a Performance Skill subject from Group B

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3025 INDEPENDENT STUDY**

Students are required, with guidance, to propose, carry out, and report on some achievable enquiry which may take a variety of forms, from a specialised development of previously undertaken subjects to a supplementary option chosen to expand the scope of their studies in human performance and physical education.

**Prerequisites:** Compulsory Level 1 subjects and PE3018

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3026 HUMAN PERFORMANCE ANALYSIS**

Various methods of conducting performance analysis; deductive and inductive approaches to analysis; analysis of selected activities using observation techniques, video tapes of performance, sequential photographs, film.

**Prerequisites:** All Level 1 subjects and PE3018

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3027 TRENDS & ISSUES IN SPORT SCIENCE**

Current trends in the sport sciences; critical interpretation of the information yielded; best approaches to handling of the totality of the sport scene.

**Prerequisites:** Compulsory Level 1 subjects and PE3018

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PE3032 PHYSICAL EDUCATION CURRICULUM: SECONDARY**

Curriculum development in physical education in Australia; curriculum models for secondary school physical education; factors influencing future physical education curriculum development; planning and designing a secondary physical education curriculum; curriculum evaluation.

**Prerequisite:** CU3040 or equivalent; physical education curriculum studies at Diploma of Teaching level  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PE3033 PHYSICAL EDUCATION CURRICULUM: PRIMARY**

Philosophical background; growth characteristics of the primary school child with particular reference to their implications for physical education; orientation of physical education into the primary school program; structuring the learning environment.

**Prerequisite:** CU3040 or equivalent  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PE3704 MOTOR DEVELOPMENT & LEARNING**

The role of reflexes and early voluntary movements in the development of the child; fundamental patterns of movement (walking, running, jumping, throwing, catching) and their sequential development; development of prehension and manipulation; theories of motor learning; evaluation of perceptual-motor, sensory-motor and psycho-motor theories.

**Prerequisite:** Studies in physical education at Diploma of Teaching level  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PE3801 SOCIOLOGY OF SPORT**

Conceptual framework; overview of historical and contemporary perspectives; sport and the socio-cultural system; politics in sport; racial discrimination; the role of international sport; education, leisure, entertainment and sport; commercial interests; outline of a program for schools.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PG2800 PHOTOGRAPHY AS AN ART FORM**

Exploration of the art potential of the camera and darkroom techniques; the photograph as art: creation of art works, composition, expressive design, manipulation of the image; the beginnings and growth of photography and its emergence as an art form; works of eminent photographers.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **PG2801 PHOTOGRAPHY**

How to take photographs using a 35mm SLR camera; darkroom printing work; analysis of the meanings contained in photographs and how these meanings are generated.

**Credit Points:** 5    **Contact Hours:** 3 per week

■ **PG2802 PHOTOGRAPHY 1**

Operation of a camera; construction of a pin-hole camera; loading and developing film; darkroom techniques; photography in natural light; experience with different lenses; critical analysis of photographs; arrangement of a series of photographs to communicate an event, feeling of thematic statement; presentation of material for display.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PG2803 PHOTOGRAPHY 2**

Technical problems (exposure control, lighting and processing); studio lighting; studio figure studies;

auto portrait; consideration of the works of established photographers; project.

**Prerequisite:** PG2802

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PG2804 PHOTOGRAPHY PRODUCTION & ANALYSIS**

Operation of a 35mm SLR camera; taking and composing photographs; basic darkroom procedures; analysing photographic images.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **PG4004 PHOTOGRAPHIC MEDIA 1**

Photographic processes; aesthetic aspects of photography; history of art and photography; personal approaches to photography.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PG4005 PHOTOGRAPHIC MEDIA 2**

Continuation of PG4004. Photographic techniques; innovative approaches to photography; history of photography; personal approaches to photography.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PG4006 PHOTOGRAPHY IN EDUCATION**

Use of black-and-white photographs in educational situations; production of black-and-white photographs for teaching and learning; requirements for setting up a photography program in a school; evaluation criteria and design of slide/tape programs for educational situations; application of this knowledge to planning a photography program in a school.

**Credit Points:** 9

■ **PH3005 PHYSICS FUNDAMENTALS 1A**

Kinematics; dynamics; fluids; kinetic theory.

**Co-requisite:** PH3006

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **PH3006 PHYSICS FUNDAMENTALS 1B**

Force; electrical energy; current electricity; electromagnetism; AC circuits; basic electronics; vibrations and waves.

**Co-requisite:** PH3005

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **PH3007 ATOMIC & NUCLEAR PHYSICS**

Introduction to modern physics; physical principles including: the relativity principle; the quantum principle; the Pauli exclusion principle; the conservation of matter principle; nuclear forces; the search for additional principles.

**Prerequisites:** PH3005 and PH3006

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **PH3008 ELECTRONICS**

The physics of active devices, operational amplifiers and oscillators; analog measurement, pulse circuits and digital electronics.

**Prerequisites:** PH3005 and PH3006

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **PH3026 INTRODUCTION TO PHYSICS**

Introduction to the major areas of physics and their relevance to the development of equipment and appliances utilised by the consumer.

**Credit Points:** 9    **Contact Hours:** 4 per week

■ **PH3000 PHILOSOPHY & THE CLASSROOM**

Recent developments in philosophy and philosophy education; understanding the relationship between theory and practice; application of this philosophy to understand classroom problems, eg, teaching/learn-

ing, discipline, equality, academic freedom, classroom texts and utterance.

**Prerequisites:** SY3013 and SY3014

**Credit Points:** 10    **Contact Hours:** 2 per week

■ **PI3003 PHILOSOPHY OF SCIENCE**

Definitions of science and scientific knowledge; the interlinking of science and politics; technology in modern society; the contributions of Popper, Kuhn, Feyerabend, Kalatos, Koyre, Bergson and Bachelard; implications for teaching science.

**Prerequisites:** SY3013 and SY3014

**Credit Points:** 10    **Contact Hours:** 2 per week

■ **PI3303 PHILOSOPHICAL PERSPECTIVES ON EDUCATION**

Recent developments in philosophy of education; education and schooling in contemporary society; fairness and quality in education; education in a post-industrial society; development of a personalised philosophy of education.

**Co/Prerequisite:** ED3303 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PI3304 PHILOSOPHY IN THE CLASSROOM**

Current developments in moral philosophy as they relate to classroom practice; philosophical bases of learning theories; curriculum and knowledge; justice and fairness in the classroom.

**Co/Prerequisite:** ED3303 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PI3305 PHILOSOPHY OF EDUCATION**

Meaning, purpose and function of philosophy; philosophy of education; the continuing education debate; the concept of knowledge; traditional and progressive education; confronting the future in a changing society; development of a personal philosophy of education.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PI3802 REFORM & INNOVATION IN EDUCATION**

The early educational innovators; the concept of free schooling; the neo-libertarian and anarchist tradition; the concept of education for liberation; deschooling; alternative schooling; socialist models of education.

**Prerequisite:** Relevant studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PI3803 CONTEMPORARY MORAL PROBLEMS**

Central issues in applied ethical and moral philosophy: uses of technology, genetic engineering, nuclear energy, overpopulation, environmentalism, war, terrorism, civil disobedience, pacifism, racism, sexism, abortion, euthanasia, suicide, sexuality.

**Prerequisite:** Relevant studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PL3026 HUMAN PHYSIOLOGY**

The basic structure and function of human body systems; the chemical structure of food components and their role in the body; roles of nutrients within the human body systems; nutrients and maintenance of good health.

**Prerequisite:** BC3026

**Credit Points:** 9    **Contact Hours:** 4 per week

■ **PO2800 CONTEMPORARY POLITICAL ISSUES**

Introduction to political theory and concepts; the first Cold War 1947-1961; politics of confrontation 1961-1975; politics of Detente 1975-1980; the new Cold War 1980-1983; future developments. Incompatible with PO2007.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **PT2911 PRACTICE TEACHING**

Orientation to the primary school; planning, implementation and lesson closure; observations; program of other activities (group sessions and discussions).

**Credit Points:** 10

■ **PT2912 PRACTICE TEACHING**

See PT2911.

**Credit Points:** 10

■ **PT2913 PRACTICE TEACHING**

Planning, implementation and evaluation of units; observations; program of other activities (group sessions and discussions).

**Credit Points:** 10

■ **PT2914 PRACTICE TEACHING**

See PT2913.

**Credit Points:** 10

■ **PT2915 PRACTICE TEACHING**

Planning, implementation and evaluation of subjects and total programs of work; observations; program of other activities (group sessions and discussions).

**Credit Points:** 10

■ **PT2916 PRACTICE TEACHING**

See PT2915.

**Credit Points:** 10

■ **PT2917 PRACTICE TEACHING: EARLY CHILDHOOD**

Five continuous days in a pre-school/kindergarten and five continuous days in a lower primary school; guided observation of child learning and behaviours, and of the teacher's role; interacting and communicating with children, staff and parents in selected areas of the program; assisting with the preparation and organisation of indoor and outdoor learning environments.

**Credit Points:** 5

■ **PT2918 PRACTICE TEACHING: PRE-SCHOOL 1**

Five single days and five continuous days in kindergartens/pre-schools observing and recording individual child behaviours and selected aspects of the teaching learning environment; planning teaching and evaluating experiences with individual children and small groups; participating in selected areas of the program with staff, parents and children; preparing and introducing materials into indoor and outdoor environments.

**Prerequisite:** PT2917

**Credit Points:** 5

■ **PT2919 PRACTICE TEACHING: PRE-SCHOOL 2**

Five single days and fifteen continuous days in kindergartens/pre-schools observing and recording the behaviour and learning of small groups of children and selected aspects of the teaching/learning environment; planning, teaching and evaluating an increasing number of learning experiences, for small groups in

selected areas of the program, and for the total group in one area.

**Prerequisite:** PT2918

**Credit Points:** 10

■ **PT2920 PRACTICE TEACHING: SCHOOL 1**

Five single days and fifteen continuous days in lower primary schools observing and recording child and teacher behaviours, classroom and school environments; planning, teaching and evaluating experiences, with increasing responsibility for individuals, small groups and the class group; assuming responsibility for the total program for two days.

**Prerequisite:** PT2919

**Credit Points:** 10

■ **PT2921 PRACTICE TEACHING: SCHOOL 2**

Twenty continuous days in lower primary schools observing and recording child and teacher behaviours, classroom and school environments, parent involvement, role of ancillary staff and administrative procedures; planning, teaching and evaluating experiences with increasing responsibility for individuals, small groups and the class group for longer periods of time; assuming responsibility for the total program for eight days.

**Prerequisite:** PT2920

**Credit Points:** 15

■ **PT2922 PRACTICE TEACHING: PRE-SCHOOL 3**

Twenty continuous days in kindergarten/pre-schools observing children and the teaching learning environment; planning, implementing and evaluating a comprehensive curriculum, culminating in a continuous control period of at least one week; communicating with children, parents and colleagues; utilising organisational and administrative skills in the assumption of responsibility for the total pre-school or kindergarten program.

**Prerequisite:** PT2921

**Credit Points:** 15

■ **PT2947 PROGRAMS FOR YOUNG CHILDREN 0-12 YEARS**

The equivalent of five continuous days in each of two services, centre-based day care, family day care, out-of-school-hours care, hospital or work-related care; guided observations of individual children's behaviour and learning, and of the service-providers role; interacting and communicating with children, staff and where possible, parents; assisting with the preparation, organisation and implementation of selected learning opportunities; evaluation of processes and practices.

**Credit Points:** 5

■ **PT2948 PROGRAMS FOR INFANTS & TODDLERS 0-3 YEARS**

Ten continuous days participating in a group care setting for infants and toddlers; observing and recording individual children's behaviour and learning; planning, implementing and evaluating learning opportunities for individuals which foster communication and exploration; responding to family contexts and child rearing practices; practising and adopting rigorous health and safety standards appropriate for infants and toddlers in group care settings.

**Prerequisite:** PT2947

**Credit Points:** 5

■ **PT2949 PROGRAMS FOR CHILDREN 0-3 YEARS**

Twenty continuous days in a group care setting for infants and toddlers; observing, recording and analysing the behaviour and learning of individual children and selected aspects of the teaching/caring/learning environment; planning, implementing and evaluating learning opportunities for individuals and where appropriate, small groups, which foster communication, exploration and problem solving and which take into account social and cultural contexts; adopting and promoting sound health and safety practice.

**Prerequisite:** PT2948

**Credit Points:** 10

■ **PT2950 PROGRAMS FOR CHILDREN 3-5 YEARS**

Twenty continuous days in a group care setting for children 3-5 years observing, recording and analysing the behaviour and learning of individuals and groups of children; recording and evaluating selected aspects of the teaching/caring/learning environment; planning, implementing and evaluating, learning opportunities for individuals and groups which foster communication, exploration and problem solving, creativity and self-expression and which take into account social and cultural backgrounds, and health and safety practices appropriate for 3-5-year-old children in group care; assuming limited leadership responsibilities for the total program.

**Prerequisite:** PT2949

**Credit Points:** 10

■ **PT2951 FIELD PROJECT (CHILDREN 0-5 YEARS)**

Twenty continuous days (Internal Mode) and fifteen continuous days (External Mode) in a group care setting for children birth to five years observing, recording and analysing the behaviour and learning of individuals and groups of children; recording and evaluating selected aspects of the teaching/caring/learning environment; planning, implementing and evaluating learning opportunities for individuals and groups; developing a specific management program for an individual or small group of children based on a series of observations taken prior to the placement; implementing and evaluating the management of the program in the context of the whole group plan; assuming specific leadership responsibilities for the total program for a selected period.

**Credit Points:** 15

■ **PT2952 ELECTIVE PROGRAMS (CHILDREN 0-12 YEARS)**

Twenty continuous days (Internal Mode) and fifteen continuous days (External Mode) in a selected service, centre-based long day care, family day care, out-of-school-hours care, occasional care, work-related child care, observing, recording and analysing aspects of children's behaviour and learning and the teaching/caring/learning environment; planning, implementing and evaluating a comprehensive curriculum which takes into account a selected social, political and/or curriculum issue which was previously researched and relevant to the selected service; communicating with children, parents, colleagues and the wider community; utilising organisational and administrative skills in the assumption of responsibility for the total program for an extended period; recording and analysing operational details of the service, the interaction and interrelated-

ness of components of the service, its management and structure.

**Credit Points:** 15

■ **PT3001 INTEGRATED FIELD STUDIES 1A**

Two weeks of school experience aimed at promoting the understanding of the roles of teachers and pupils in interactive school communities, followed at a later stage by six weeks of teaching experience in a Curriculum A subject area. In this section, students apply their studies to the planning, implementation and evaluation of short sequences of classroom activities and lessons. Emphasis is upon developing confidence and competence in basic teaching strategies and interpersonal and professional relationships.

**Credit Points:** 20

■ **PT3002 INTEGRATED FIELD STUDIES 1B**

This subject has identical purposes and the same duration and timing of school and teaching experience as PT3001, Integrated Field Studies 1A. However, it focuses on teaching experiences in a Curriculum B subject area.

**Credit Points:** 20

■ **PT3003 INTEGRATED FIELD STUDIES 2A**

Two weeks of school experience in which students identify and record the range of beginning year procedures that set in place pupils' learning expectations for the new school year; to be followed later in the course by six weeks of teaching experience. This aims at preparing students for beginning teaching in their Curriculum A area. Students will assume responsibility for effectively teaching their 'own' classes, employing appropriate planning, researching, managing, collegial and teaming skills needed in the interactive classroom and in the wider school community.

**Credit Points:** 25

■ **PT3004 INTEGRATED FIELD STUDIES 2B**

This subject is identical with PT3003 in terms of purposes, and the timing and duration of its school and teaching experiences; there is the proviso that teaching activities are carried out in a Curriculum B subject areas.

**Credit Points:** 20

■ **PT4900 PRACTICE TEACHING 1**

Orientation to the primary school; planning, implementation and lesson closure; planning, implementation and evaluation of subjects; observation; other activities including group talks and discussions.

**Credit Points:** 12

■ **PT4901 PRACTICE TEACHING 2**

Planning, implementation and evaluation of subjects and total programs of work; observation; other activities including group talks and discussions.

**Credit Points:** 12

■ **PT4916 PRACTICE TEACHING 1**

Orientation to the primary school; supervised completion of learning tasks with individuals and small groups; planning implementation and evaluation of single-faceted learning activities; class lesson and module planning in conjunction with the class teacher; compilation of a series of written observations of class and school procedures.

**Credit Points:** 10

■ **PT4917 PRACTICE TEACHING 2**

Orientation to the special education unit or support program; supervised completion of learning tasks

with individuals and small groups; planning, implementation and evaluation of single-faceted learning activities; class lesson and module planning in conjunction with the class teacher; compilation of a series of written observations of class and school procedures.

**Credit Points:** 10

■ **PT4918 PRACTICE TEACHING 3**

See PT4917.

**Credit Points:** 10

■ **PT4921 PRACTICE TEACHING 1**

Participation in two early childhood settings for 20 days (10 days in each setting). Emphasis on observation, planning, implementing, evaluating and record-keeping.

**Credit Points:** 8

■ **PT4922 PRACTICE TEACHING 2**

Participation in two childhood settings for 20 days (15 days in each setting). Emphasis on observation, planning, implementing, evaluating, administration, parent programs and record-keeping.

**Prerequisite:** PT4921

**Credit Points:** 8

■ **PY2800 BECOMING AN EFFECTIVE PERSON**

The differing perceptions people have of the sources of control over their lives; how behaviour appears to be dependent upon perceptions of control; valuation of training schemes which are designed to enable people to control their own lives.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **PY2801 INTERPERSONAL PROBLEM SOLVING**

The causes and nature of interpersonal problems; approaches and skills applicable to the resolution of these problems; self-management approaches; analysis and evaluation of the processes used.

**Credit Points:** 5      **Contact Hours:** 2 per week

■ **PY2808 INTERPERSONAL PSYCHOLOGY**

Interpersonal perception; the psychology of impression-formation; self-esteem; the significance of empathy; interpersonal attraction; the sources of interpersonal influence; interpersonal relationships; verbal and non-verbal communication; assertiveness.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PY2811 PERSONAL DEVELOPMENT IN CREATIVITY**

Developing an awareness of creativity; manifestations of creativity in lifestyles, personality traits, ways of viewing the world; interaction with other people, 'becoming' rather than 'being'; development of a 'fulfilled' life.

**Credit Points:** 8      **Contact Hours:** 3 per week

■ **PY2812 SEXUALITY & PERSONAL RELATIONS**

Physical and psychological development; attitudes and beliefs about sex; sexual expression; sexuality in childhood and adolescence; sex roles; contraception; sexually transmitted diseases; sexuality, disability and illness; sexual abuse of children; sexual problems; pregnancy; abortion; sex education in schools.

**Credit Points:** 10      **Contact Hours:** 3 per week

■ **PY2813 INTIMACY & ALIENATION**

Access to intimacy as an essential component in personal development; characteristics and components of intimacy and alienation; changes in intimacy/isola-

tion, loneliness through the lifecycle; relationships between intimacy/alienation and other key concepts; operationalising the expression of intimacy, warmth and rejection; causes and effects of loneliness and isolation; measuring intimacy and developing skills in its expression; the 'future' of love, sexuality and intimacy; enrichment program.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3016 INTERPERSONAL PSYCHOLOGY 1**  
The 'inductive' learning approach; models of interpersonal communication and perception; the concept of 'self' and self-esteem; dealing with emotions – defensiveness vs openness; communication skills: attending, responding, interviewing and influencing skills; non-verbal communication; attitudes and clarification; stress and burnout; an assertive life style.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3017 INTERPERSONAL PSYCHOLOGY 2**  
Social influence factors; interpersonal influence: power, authority, control, personal styles; attitude change and persuasion; interpersonal conflict; the interpersonal influencing skills: confrontation, self-disclosure, feedback, assertion, reframing, problem solving, decision making and planning; gender roles and sexuality; social support systems; stress and burnout.  
**Prerequisite:** PY3016  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3033 PERSONAL & INTERPERSONAL CHANGE**  
Construction of identity, self, self-concept, self-esteem, and self-development; understanding and using a wide range of personal and interpersonal change methods, theories and approaches, together with relevant research data.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3034 INTERPERSONAL & GROUP PROCESSES**  
Understanding relationships and small group dynamics with emphasis on skill development in listening, helpful responding, assertion, conflict resolution, disclosures, feedback; models of groups development and roles lead to facilitation and leadership skills. Skills are applied and analysed outside the class group.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3035 HUMAN SEXUALITY**  
Sexuality; model strategies for dealing appropriately with sensitive, value laden issues; personal comfort in discussion of sexual matters; aspects of sexuality relevant to the students' own development; the sexual development of adolescents; issues of social concern such as the sexual abuse of children.  
**Prerequisite:** PY3033  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3046 HUMAN RELATIONSHIPS: A SOCIOLOGICAL PERSPECTIVE**  
The significance of social context to human relationships; the impact of social and demographic change on families and communities; the implications of such changes for interpersonal relationships; society and human relationships in contemporary and historical settings.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3048 SOCIAL PSYCHOLOGY**  
General study of social psychology and its relevance to the work and role of home economist; theory and

research of group dynamics and related concepts; analysing small group development.

**Prerequisite:** SS3025  
**Credit Points:** 9    **Contact Hours:** 4 per week

■ **PY3049 INTERPERSONAL RELATIONS**  
Overview of concepts related to interpersonal relationships; interpersonal communication; the emotions and their effect on communication; facilitating communication; self-concept; interpersonal attraction; competition, cooperation and mistrust; interpersonal influence; human relationship skills.  
**Prerequisite:** PY3048  
**Credit Points:** 8    **Contact Hours:** 4 per week

■ **PY3050 DEVELOPMENTAL PSYCHOLOGY**  
The themes of cognitive, physical and socio-emotional growth in recurring sequences through life's major phases: infancy, toddlerhood and early childhood, middle childhood; adolescent phase; adulthood; old age and the end of life span.  
**Prerequisite:** SS3025  
**Credit Points:** 8    **Contact Hours:** 3 per week

■ **PY3051 SOCIO ETHICS & HUMAN RELATIONSHIPS**  
Philosophical and pedagogical issues underpinning the human relationships dimension of classroom practice and school cultures (eg, concept of personhood, the nature of love, power, desire, human rights); consideration of the socio-cultural factors and changes which are generating moral dilemmas in contemporary society; case studies of moral issues and moral decision making; the ethics of teaching controversial issues and matters such as indoctrination and censorship – all in the context of the possibilities of Human Relationships Education, within the Queensland education system.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3052 COUNSELLING PSYCHOLOGY**  
Personal effectiveness in satisfying needs and wants; becoming an effective facilitator of 'help' to others.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3053 ADOLESCENT DEVELOPMENT & HUMAN RELATIONSHIPS**  
Adolescence and the search for identity; social, physical, cognitive and moral development; overview of human relationships; self-concept and self-awareness; interpersonal relationships; group processes; and educational applications of interpersonal psychology.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3054 PSYCHOLOGY OF LEARNING & TEACHING**  
Approaches to learning as well as factors that influence effective teaching and learning – motivation, classroom management, learning styles, individual differences, teaching effectiveness, as these issues apply to the full range of learners, including those with special needs.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3055 CONTEMPORARY ISSUES IN ADOLESCENCE**  
The search for identity; variations in adolescent physical and physiological development; socialising influences on the adolescent; vocational choice in a changing world; adolescents and drugs; troubled adolescents; emerging issues in adolescence.  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3056 ADVANCED CLASSROOM MANAGEMENT & DISCIPLINE**

Teaching for need gratification; special motivational needs of students from disadvantaged backgrounds and methods for attacking the associated issues; maintaining classroom control; theoretical constructs for decision making.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3057 GIFTED CHILDREN IN REGULAR SCHOOLS**

Conceptions of giftedness particularly the definition suggested by Renzulli identifying the gifted and talented; traditional and innovative schemes for catering for gifted and talented children within the regular school; adapting teaching styles and curriculum content to meet the needs of gifted and talented children in the regular classroom.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3058 HELPING STUDENTS WITH LEARNING PROBLEMS**

Correlates of low achievement in the secondary school (biological, psychological, environmental), identification of slow learners and students with learning disabilities; collection, interpretation and reporting of data; teaching strategies for learning-disabled and slow-learning children; evaluation of teaching/learning strategies.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3059 INNOVATIVE TEACHING METHODS**

Definition of innovation; review of literature on innovative teaching methods; school/classroom organisation as a framework from which innovative approaches may grow; small group process; application of small group process to a range of curriculum areas; school-based practicum.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3060 THE TEACHER AS COUNSELLOR**

The nature of counselling; theories of counselling; listening and relationship-building skills; goal-setting and action skills; critical evaluation of counselling; community resources.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY3304 APPLIED STRATEGIES IN CLASSROOM LEARNING**

Contemporary theoretical approaches to human development and learning; dimensions of learning (cognitive, affective, psychomotor); correlates of learning; developing teaching/learning strategies; gathering and interpreting information; consideration of a range of advanced teaching/learning strategies; development and implementation of a specific program.

**Co/Prerequisite:** ED3303 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY3305 HUMAN DEVELOPMENT & LEARNING**

Human development: cognitive, affective and psychomotor development; classroom management and interactions; learning and problem solving, educational evaluation. Teaching atypical children; the needs of atypical children, special teaching procedures, referral agencies.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY3306 INTERPERSONAL PSYCHOLOGY IN EDUCATION**

Historical development and major principles of interpersonal psychology; concepts related to the formation and development of interpersonal relation-

ships; particular concepts and their application to education; interpersonal relationships with exceptional students; emotionality; models of affective teaching; self-concept; small group development; applications of interpersonal psychology. Study school for external students strongly recommended.

**Co/Prerequisite:** ED3303 or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY3603 CREATIVITY IN PROBLEM SOLVING**

Definition of creativity; history of creativity; theories of creativity; principle features of the creative process; the creative personality; creativity and intelligence; creativity and curriculum; altered states of awareness.

**Prerequisite:** Relevant studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY3604 INNOVATIVE TEACHING METHODS**

Factors which affect the selection and use of interactive teaching strategies; review of research findings on small-group dynamics in educational settings; classroom organisation to enhance learning.

**Prerequisite:** Must be currently teaching

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY3703 HUMAN SEXUALITY**

Physical and psychological development; attitudes and beliefs about sex; sexual expression; sexuality in childhood and adolescence; sex roles; contraception; sexually transmitted diseases; sexuality, disability and illness; sexual abuse of children; sexual problems; pregnancy; abortion; sex education in schools.

**Prerequisite:** Studies in developmental psychology at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY4030 LEARNERS WITH SPECIAL NEEDS**

Special educational needs of school (P-12) and TAFE College learners arising from cognitive, behavioural and socio-cultural differences; diagnosing student functioning in cognitive, social-emotional, self-help and motor skill areas; developing teaching strategies suited to student learning styles; techniques of formative and summative assessment appropriate to student learning needs; mixed 'ability' teaching.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY4032 DEVELOPING RELATIONSHIPS & GROUPS**

Overview of concepts relating to a model of interpersonal relationships; study of some human relationships concepts such as verbal and non-verbal interpersonal communication, power, influence, authority/control, trust and mistrust, confrontation and constructive resolution of conflict; interviewing and consulting skills; self-concept studies; small group dynamics; student and teacher stress; assertion-related theory and skills; resource teacher as change agent.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **PY4036 REMEDIATING LITERACY DIFFICULTIES**

Review of significant learning difficulties among learners in schools (Years 1-12) and post secondary education; foundation studies in language and learning; assessment and monitoring of literacy-related curriculum tasks; test interpretation and development; related approaches to teaching, informed by principles derived from psycholinguistics, metacognition

and process approaches to literacy; service delivery based on an adjunct model.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY4037 RESOURCE TEACHING FIELDWORK 1**

Students participate in colloquia on resource/support teaching and undertake school- or college-based projects related to other subjects studied in the first half of the course; observe and report on classroom teacher and students on a particular resource teaching project; demonstrate a range of personal and professional attributes necessary for successful resource/support teaching.

**Credit Points:** 8    **Contact Hours:** 2 per week

■ **PY4038 STUDY SKILLS, LITERACY & LEARNING**

Review of significant learning difficulties among learners in schools (Years 4-12) and post secondary education in the areas of language/learning demands of the curriculum, functions of language and foundations studies of language and learning leading to detailed study of composing and comprehending tasks as they relate to curriculum demands; recent language/learning research, genre theory; study skills development and organisation; test-wisness, notetaking, organisation, managing examination stress; service delivery based on an adjunct model.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY4039 RESOURCE TEACHING FIELDWORK 2**

Students participate in colloquia on resource/support teaching and undertake school- or University-based projects related to other subjects studied in the second half of the course; observe and report on curriculum and socio-cultural influences in schools/colleges; work with classroom teacher and students on a study skills, language and learning project; demonstrate a range of advanced personal and professional attributes necessary for successful resource/support teaching.

**Prerequisite:** PY4037

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY4040 RESEARCH METHODS IN RESOURCE TEACHING**

Introduction to research quantitative and qualitative research methodologies; literature reviews; gaining access to research sites; data collection and analysis; ethical issues in research; reporting research; completion of minor research task or preparation of masters research proposal.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY4041 INDEPENDENT STUDY IN RESOURCE TEACHING**

Action research, literature reviews or special project development on a topic arising from resource/support teaching; designing appropriate investigative strategies; implementation of investigation; producing and presenting final report using computer and various audiovisual formats as required.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **PY4045 SOCIO-CULTURAL CONTEXTS OF HUMAN RELATIONSHIPS**

Poverty; marriage and partnerships; divorce and separation; family violence; disability.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY4046 HUMAN SEXUALITY & RELATIONSHIPS**

Sexual behaviour and the life cycle; sexual health and reproduction; sex and society.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY4047 INTERPERSONAL RELATIONSHIPS**

Models of interpersonal relationship and social change; interpersonal influencing skills; counselling and the 'helping relationship'; attitudes and values; group facilitation and development; professional communication.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY4048 INTERPERSONAL & SMALL GROUP TEACHING STRATEGIES**

The value of cooperative learning; cooperative learning and interpersonal skills; the role of the teacher; classroom organisation; cooperative strategies and educational objectives; investigation and review of small group and interactive teaching strategies; developing research and testing theory.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY4049 ETHICS & HUMAN RELATIONSHIPS EDUCATION**

Philosophical approaches to human relationships; moral philosophy and education; development of an integrated and clearly articulated agreement for a philosophy of human relationship education.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY4050 HUMAN RELATIONSHIPS THROUGHOUT THE LIFE SPAN**

The developmental processes; issues in human development across the lifespan; developmental theory and research; development of human relations; aspects of development (physical, cognitive, social-emotional); the socio-cultural context of development.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **PY4052 RESOURCE TEACHING FIELDWORK 1A**

See PY4037.

**Credit Points:** 4

■ **PY4053 RESOURCE TEACHING FIELDWORK 1B**

See PY4037.

**Credit Points:** 4

■ **PY4054 RESOURCE TEACHING 2A**

See PY4039.

**Credit Points:** 4

■ **PY4055 RESOURCE TEACHING 2B**

See PY4039.

**Credit Points:** 4

■ **RE3704 TRENDS IN THE TEACHING OF READING**

Theoretical models of the reading process; implications for development of school policy and for class reading programs; analysis of a range of text; the reader; development of a class reading program.

**Prerequisite:** Studies in the teaching of reading at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **RE3705 PSYCHOLOGY OF READING DISABILITY**

Investigation of reading and spelling disability; an overview of assessment and remedial procedures; an examination of the consequences of this phenomenon.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **RE3706 LEARNING TO LEARN THROUGH READING**

The reading process; comparison of the reading processes of efficient and inefficient readers; analysis of texts to determine how information is structured and presented; evaluation of a variety of strategies which may be used to teach content and information processing simultaneously; implications of reading-to-learn activities for school programs.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **RP1025 WORKPLACE EXPERIENCE**

Use of skills obtained in the first three terms in the on-the-job context of the Industrial Commission, court and parliament; non-defensive communication; conflict resolution; relationship contracting and role negotiation.

**Prerequisite:** RP1028

**Credit Points:** 12    **Contact Hours:** 6 per week

■ **RP1026 REPORTING 1**

Introduction to the theory and application of stenograph computer compatible theory (machine shorthand).

**Credit Points:** 24    **Contact Hours:** 10 per week

■ **RP1027 REPORTING 2**

Consolidation and reinforcement of theory acquired in RP1026 with emphasis on speed development; introduction to court procedures and basic legal, medical and technical terminology.

**Prerequisite:** RP1026

**Credit Points:** 36    **Contact Hours:** 14 per week

■ **RP1028 REPORTING 3**

Further emphasis on speed development and familiarity with specialist vocabularies; introduction to court etiquette and court reporting practices.

**Prerequisite:** RP1027

**Credit Points:** 36    **Contact Hours:** 16 per week

■ **RP1029 REPORTING 4**

Refinement of students' shorthand and transcription skills and development of a stenograph shorthand speed to a minimum of 180wpm with transcription accuracy of 98 per cent.

**Prerequisite:** RP1028

**Credit Points:** 24    **Contact Hours:** 12 per week

■ **RS4004 REFERENCE SERVICES & MATERIALS 2**

Provision of reference and information services to students, teachers and administrators; development of students and teachers as autonomous finders of information; current trends in information storage and retrieval, such as online database searching; services beyond the school. Includes a compulsory study school.

**Prerequisite:** All Part A subjects

**Credit Points:** 10

■ **RS4013 COLLECTION DEVELOPMENT FOR LEARNING**

Principles and procedures involved in collection development in schools; the relationship between current curricula, learning theory, educational resources and ways of using them; issues affecting collections; the goals of particular collections.

**Prerequisites:** All Part A subjects

**Credit Points:** 10

■ **RS4015 RESOURCES: SELECTION & USE**

How to select library resources, including children's literature, matched to the needs and interests of children and teachers, and how to assist them in using

these materials in resource-based teaching and learning situations.

**Credit Points:** 9    **Contact Hours:** 4 per week

■ **RS4016 REFERENCE SERVICES & MATERIALS 1**

Familiarisation with a wide range of reference materials and the development of the ability to evaluate them critically; principles involved in the development, maintenance and use of an effective reference collection; preparation for undertaking a comprehensive range of user services in a school library.

**Credit Points:** 9    **Contact Hours:** 3 per week

■ **RS4017 AUSTRALIAN LITERATURE FOR YOUNG PEOPLE**

History to 1959; critical assessment of trends 1960-1980; visual representation and interpretation of Australian children's literature in books, film and display; criticism and review; the needs of K-12.

**Credit Points:** 9

■ **RS4018 ISSUES IN LITERATURE FOR ADOLESCENTS**

The literature written for adolescents; issues facing adults who are involved in the selection of such literature; strategies for the encouragement and promotion of reading amongst this age group. Incompatible with LI3701

**Prerequisites:** All Part A subjects

**Credit Points:** 9

■ **RS4019 ISSUES IN LITERATURE FOR CHILDREN**

Issues, genres and materials relevant to both contemporary children's literature and the historical background from which it evolved; the place of children's literature as a core component of children's reading programs; exploration of current trends and controversies. Incompatible with LI3701.

**Prerequisites:** All Part A subjects

**Credit Points:** 9

■ **RS4020 STORYTELLING**

History of storytelling; skills and techniques of storytelling; storytelling as a tool for teacher-librarians.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **SB4902 SCHOOL STUDIES 1**

Students undertake a range of activities which are functionally related to their University-based studies; activities are of three types: school study, class study and child study. Students also undertake a program of field studies competencies in first aid and school swimming.

**Credit Points:** 8    **Contact Hours:** 5 per week

■ **SB4903 SCHOOL STUDIES 2**

Students undertake a range of activities which are functionally related to their University-based studies; activities are of three types: school study, class study and child study. Students also have the opportunity to select an area of study that they identify within the educational context that will enrich their professional development.

**Credit Points:** 8    **Contact Hours:** 5 per week

■ **SC2081 SCIENCE EDUCATION**

Approaches to teaching primary science; processes in science; commercial curriculum materials; content in the conceptual areas of energy and matter; curriculum development.

**Prerequisite:** MA2089

**Credit Points:** 6    **Contact Hours:** 2 per week

### ■ SC2800 THE AUSTRALIAN ENVIRONMENT

Distinctive elements in Australian native flora and fauna; the geological and climatic history of the Australian continent; overview of evolution and evolutionary influences within the Australian context; Australian ecosystems with particular reference to Queensland; effects of Aboriginal and European settlement.

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ SC2801 ENVIRONMENTAL PHYSICAL SCIENCE

The composition and structure of the atmosphere; general principles of water chemistry; current methods of treatment of industrial and municipal waste water; the role of water in the generation of meteorological phenomena; problems related to the presence of toxic substances in the atmosphere, soil, water supply.

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ SC2807 AUSTRALIAN FLORA & FAUNA

Relationships in the biosphere; terminology related to the ecology of plants; evolution of Australian flora; the impact of introduced species; laboratory and field techniques; terminology and techniques of animal ecology; survival mechanisms; theories of the evolution of Australian fauna; applied ecological techniques.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ SC2808 BOTANY OF AUSTRALIAN PLANTS

Relationships between plants; recognition of major groups; plant needs, preferences and tolerances with respect to the physical environment; consideration of how plants obtain, distribute and utilise nutrients and products of metabolic activity; flowering patterns; means of plant propagation; seed dispersal and conditions which favour weed production; common plant diseases, their causes and methods of control.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ SC2809 ZOOLOGY OF SMALL DOMESTIC ANIMALS IN AUSTRALIA

Classification of major groups with particular reference to domestic animals; legal controls relating to domestic animals in Queensland; the keeping and feeding of animals; ethology and its link with evolution; reproductive biology; husbandry of small animals; common health problems.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ SC2810 THE SCIENCE OF CHANGE

Scientific study of changes in systems of varying sizes and of different time scales eg, micro-organism populations in a small pond over a period of days; changes in Australian ecosystems over millions of years; changes in scientific methodology related to technological development during this century.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ SC2811 EARTH & SPACE

The nature and behaviour of light; optical properties of various materials; construction and operation of instruments that rely on optical components; the role of earth-based instrumentation in extending knowledge of earth and space; production and observation of spectra; use of spectra as a tool of discovery in space science; observational astronomy.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ SC2816 DISCOVERING SCIENCE

Practical investigation of basic scientific concepts; practice in skills in science and the application of scientific methods of investigation to problems in the laboratory and in the field.

**Credit Points:** 5      **Contact Hours:** 2 per week

### ■ SC3015 SCIENCE FOUNDATIONS

Major concepts in physical and inorganic chemistry as they relate to 'home economics' systems; conceptual framework for the chemistry of carbon compounds; application of concepts to an introductory study of more complex macromolecular structures in chemical and biological systems; fundamental concepts in physics-forces, energy, fluids, pressure, heat, temperature, electromagnetic radiation and electricity – as related to the study of home economics.

**Credit Points:** 10      **Contact Hours:** 6 per week

### ■ SC3016 SCIENCE, TECHNOLOGY & SOCIETY

The nature of science and technology; the sociological functioning of the scientific enterprise – its norms, values; the nature of scientific knowledge – objectivity and epistemological issues; the origins of modern science and technology; the future of science and technology.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SC3017 MARINE STUDIES

Ecological principles and ecology of the marine environments; biological and abiotic components of a variety of marine coastal ecosystems; sandy and rocky shores, mangroves, mud flats, estuaries and the Great Barrier Reef; oceanography; the ecology of coastal environments; the management and conservation of marine ecosystems; field studies.

**Prerequisite:** BI3012

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ SC3018 ORGANIC & BIOLOGICAL CHEMISTRY

The structure and properties of important classes of biomolecules using a functional group approach; the basic organic chemistry of these substances; reaction mechanisms; application of these principles to life processes; cellular metabolism and molecular genetics; theories relating to chemical and biological evolution.

**Prerequisites:** BI3012 and CH3006

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ SC3019 THE CHEMISTRY & PHYSICS OF THE ENVIRONMENT

The physical and chemical processes which affect our lithosphere, hydrosphere and atmosphere; energy sources; soil, water and air pollution; chemical and radioactive wastes; toxins; household and farm chemicals.

**Prerequisite:** CH3005

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ SC3020 THE PHYSICAL UNIVERSE

Application of physical principles and remote sensing techniques to studies of the structure and composition of the Earth, Solar System and the Universe; sensors include those which detect, measure or record physical variables (temperature, etc); waves (seismometers and sonar); force fields (magnetometers, gravimeters); electromagnetic radiation (telescopes, astrophotography, photometry, spectrography); radioactivity (radioactive dating); the role of satellites

in remote sensing, weather forecasting and space research.

**Prerequisites:** ER3002 and ER3003

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **SC3032 PRIMARY SCIENCE CURRICULUM DEVELOPMENT**

The nature of science; the purpose of teaching science in primary school; consideration of those areas of science and teaching strategies particularly suitable to the primary school; the structure and rationale of the Queensland Primary Science syllabus; the philosophy and structure of selected commercial science curriculum materials; the development of primary science subjects.

**Prerequisite:** CU3040

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SE3710 NON-TRADITIONAL CLASSROOM MANAGEMENT**

Application of learning principles to the management of behaviour problems; application of social psychology research to the management of behaviour; application of parenting programs to the management of behaviour in the school.

**Prerequisite:** Relevant studies at Diploma of Teaching level

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SE3711 PSYCHOSOCIAL FOUNDATIONS OF HANDICAP**

Development of skill in teaching children with handicapping conditions other than those already studied; psychological and sociological implications of handicapping conditions as these relate to the design and implementation of appropriate educational programs. Incompatible with Diploma of Teaching and Graduate Diploma in Teaching subjects in the area of exceptionality chosen.

**Prerequisite:** Studies in special education

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SK3701 ADVANCED SECRETARIAL STUDIES**

The role of the administrative secretary; secretarial procedures; office systems; office supervision; technology and the administrative secretary. Incompatible with degree or higher qualification in secretarial studies.

**Prerequisite:** Diploma of Teaching with major in commercial studies or equivalent

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SK4015 SKILLS FOR OFFICE AUTOMATION**

Development of keyboard skills using microcomputers; introduction to basic word processing and text editing techniques covering a range of typewritten business communications (correspondence, reports, tabulations).

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **SK4016 OFFICE AUTOMATION & ADMINISTRATION**

Introduction to the concepts and practice of office automation with emphasis on advanced techniques of computerised text generation and editing using the word processor; office style integrated projects; implications for administrators of the introduction of computer-based technology into the office and implementation of appropriate procedures.

**Prerequisite:** SK4015 or demonstrated keyboard competence

**Credit Points:** 12    **Contact Hours:** 4 per week

■ **SK4017 OFFICE ADMINISTRATION ASSIGNMENTS**

Development of advanced production techniques; office style integrated projects with emphasis on a problem-solving approach covering a variety of business communications utilising the most appropriate technology.

**Prerequisites:** AD4010 and SK4015

**Credit Points:** 12    **Contact Hours:** 6 per week

■ **SS2026 AUSTRALIAN CITIZENSHIP**

Legal and political studies; the problems of law, such as assets and judicial procedure; the teacher and the law; aspects of politics and government in contemporary Australia.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **SS2038 ABORIGINAL CULTURE STUDIES**

Overview of hunter-gatherer societies, examining how lifestyles and beliefs provided for the material and spiritual needs of their members; traditional Aboriginal society (economy, socio-economic groups, religion, laws, the life cycle, significance of art); comparison of the values of the traditional Aboriginal society, of urban Aborigines and of western society; contemporary issues including health, housing, education, self-determination, identity.

**Credit Points:** 10    **Contact Hours:** 3 per week

■ **SS2046 ABORIGINES & TORRES STRAIT ISLANDERS**

Early human occupation in Australia; reading archaeological evidence; traditional Aboriginal and Torres Strait Islander society from an Aboriginal and Islander perspective; interaction with Anglo-Australians; contemporary issues relevant to Aboriginal and Torres Strait Islander culture and identity.

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **SS2053 FOUNDATIONS IN THE HUMANITIES**

Structures, concepts and strategies in the humanities with special references to social sciences and language arts; the humanities in the classroom; elements of curriculum planning; preparation of modules in the humanities.

**Credit Points:** 14    **Contact Hours:** 6 per week

■ **SS2054 SOCIAL STUDIES EDUCATION**

Approaches to primary social studies teaching; processes fundamental to primary social studies teaching: cognitive, affective, psychomotor, evaluative; question sequences, lesson sequences, unit planning.

**Prerequisite:** SS2053

**Credit Points:** 6    **Contact Hours:** 2 per week

■ **SS2055 THE NATURAL & SOCIAL WORLD**

Identifying and establishing the content area; identifying and evaluating modes of inquiry; approaches to curriculum development; curriculum program development.

**Credit Points:** 8    **Contact Hours:** 3 per week

■ **SS2805 INTRODUCTION TO THE SOCIAL SCIENCES**

Contemporary issues in Australian society including ecology and the environment, poverty and underdevelopment, human rights, multicultural Australia; various approaches and methods used by social scientists in cognitive and values inquiry.

**Credit Points:** 5    **Contact Hours:** 2 per week

### ■ SS2809 CULTURAL & REGIONAL STUDIES 1

Culture through the study of human behaviour in an historical, anthropological and geographical setting; development of social science skills; awareness of the meaning of culture; specialisation in one of the following areas: South East Asian history; culture contact in the nineteenth century Pacific; contact and culture in nineteenth century Queensland; human and physical geography.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ SS2810 CULTURAL & REGIONAL STUDIES 2

Continuation of SS2809. Specialisation in one of the following areas: Indonesian history and culture; contemporary issues in the Pacific; Australia in the twentieth century; human and environmental geography.

**Credit Points:** 8      **Contact Hours:** 3 per week

### ■ SS3025 CONTEMPORARY SOCIAL SCIENCE

Introduction to the nature of sociology and psychology; social image; social control; deviance; environmental planning and human behaviour; family patterns; gender roles and relationships; work and unemployment.

**Credit Points:** 10      **Contact Hours:** 4 per week

### ■ SS3037 SOCIAL EDUCATION: CURRICULUM DEVELOPMENT

Curriculum movements in social education; planning, implementing and evaluating a teaching unit; curriculum development projects in social education; curriculum design and evaluation.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12      **Contact Hours:** 3 per week

### ■ SS3038 SOCIAL EDUCATION IN THE CURRICULUM

The nature and purpose of social education; the current state of social education; competing models; social education and the learner; instructional techniques; preparation of a rationale for a particular program; implementation strategies.

**Prerequisite:** CU3040 or equivalent

**Credit Points:** 12      **Contact Hours:** 3 per week

### ■ SS3035 MODERN EUROPEAN STUDIES

Major aspects of the physical geography of Europe; population factors; political institutions and movements; economic activities and institutions; relationships with the rest of the world; current ecological issues; current social issues; political interactions and movements; ecological issues; social issues.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3036 EUROPEAN CULTURAL HISTORY

The development of European civilisation from its origins in Greece and Rome; the spread and influence of Christianity; the fall of Rome and the Barbarian invasions; the Middle Ages and the Renaissance; cultural and artistic achievements which find expression in literature, art, music, and architecture; the importance of Renaissance Italy on the whole of European culture; the emergence of the great European powers and the development of national thought in the seventeenth and eighteenth centuries; Romantic period and the significance of the French Revolution; the industrial age, the growth of liberalism and literary and artistic achievements until World War I; developments in the modern age.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3040 LOCAL COMMUNITY

The importance of the local community in relation to broader issues of Australian and global citizenship; the sources of data available for local community studies and methods of collating, analysing, synthesising and evaluating data on local communities; the nature of local communities; the problems and issues facing them; the interrelationship between the local community and broader community groups.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3041 INTRODUCTION TO THE SOCIAL SCIENCES

Principles theories and procedures of the social sciences; problematic nature of evidence and data used by social scientists; the value base of social science knowledge and inquiry.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3042 ABORIGINAL CULTURE STUDIES

Concepts of culture; Aboriginal and Torres Strait Islander culture: laws, religions, philosophy, social structure, material culture, artistic expression; alternative social stratification, behaviours and values; ritual and ceremonial life, their aspects and importance; contemporary socio-political issues, land rights, health, education, employment and expression.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3043 AUSTRALIA & THIRD WORLD ISSUES

The Third World and Australia; the nature of world poverty; myths surrounding overpopulation; the causes of world hunger; life in 'shanty towns'; the relationship between the arms race and underdevelopment; approaches to development based on self-reliance and global interdependence.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3044 AUSTRALIAN CITIZENSHIP

Concepts and values which serve as an analytical and explanatory context for studies of Australian society; the major institutions of society, including government at all levels, economic institutions, organisations of employers and workers, extra-parliamentary political groups.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3045 CONTEMPORARY GLOBAL ISSUES

The world economic system; nation states and self-determination; the causes of conflict and the maintenance of peace; international human rights; the ecological crisis; sustainable development; the role of the United Nations System and non-government groups.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3046 SOCIAL SCIENCE SEMINAR 1

The following are examples of topics which could provide the study focus for this subject: philosophies of the social sciences; world systems theory; Pacific Basin studies; Marxism and the social sciences; global studies, development studies; environmental studies; the use of conceptual models in the social sciences.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3047 SOCIAL SCIENCE SEMINAR 2

See SS3046.

**Credit Points:** 10      **Contact Hours:** 3 per week

### ■ SS3048 CONSUMERISM

The nature of the consumer society and the values underlying it; consumer sovereignty – reality or myth?; the structures and institutions promoting,

maintaining and sustaining the consumer society; the implications of consumer society – a consideration of the benefits and costs; visions of a 'new' consumer society; what needs to be done?; alternative visions to the consumer society.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SS3803 PATTERNS & PROCESSES OF DEVELOPMENT**

Global patterns and inequalities in development; the cause of global development inequalities; their consequences and alternative approaches to solutions.

**Credit Points:** 12 **Contact Hours:** 3 per week

■ **SS3804 ENVIRONMENTAL EDUCATION**

Nature of environmental education; ecosystems and environment; human impact and resource use; exploitation and management; development of field, research and planning skills; curriculum applications. Incompatible with extensive studies in outdoor or environmental education.

**Credit Points:** 12 **Contact Hours:** 3 per week

■ **SS4002 STUDIES IN THE NATURAL & SOCIAL WORLD 1**

Commonalities and differences in contributing disciplines (health, science, social studies); planning a learning module for a small group of pupils; modelling a learning module for a larger group of pupils; modelling of a learning module which considers the organisation of 'small group tasks' within the total class setting.

**Credit Points:** 8 **Contact Hours:** 3 per week

■ **SS4003 STUDIES IN THE NATURAL & SOCIAL WORLD 2**

Analysis of the nature of each of the contributing disciplines (health, science, social studies); the role of the contributing disciplines within the framework of the total curriculum; the organisation of content/processes/evaluation within and across the disciplines; analysis of learning resources and their application; development of extended and integrated learning programs.

**Credit Points:** 4 **Contact Hours:** 1 per week

■ **ST1011 QUANTITATIVE METHODS**

Applications of mathematics in business; exponential and logarithmic functions; interest calculations; annuities; sinking funds; depreciation; descriptive statistics; probability; graphical techniques; linear regression and correlation.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **ST1012 RESEARCH METHODS**

Logic and argument; descriptive statistics – collection, presentation and analysis of data; price index numbers; introduction to computers.

**Credit Points:** 12 **Contact Hours:** 4 per week

■ **SU2801 SCULPTURE 1**

Development of conceptual expression through three-dimensional materials: clay, metal, leather and wood.

**Credit Points:** 10 **Contact Hours:** 4 per week

■ **SU2802 SCULPTURE 2**

Developing a more expressive approach to sculpture, building on the techniques gained in SU2801 and further applied design studies.

**Prerequisite:** SU2801

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SY3013 AUSTRALIAN SOCIETY & IDENTITY**

Images of the typical Australian; omissions/absences from the cultural stereotype; omissions from the notion of identity; critical analysis of contemporary Australian society; the role of the media in social and cultural reproduction; who are the 'real' Australians?

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SY3014 AUSTRALIAN CULTURE IN A WORLD CONTEXT**

The nature of post-industrial society; global economic effects of industrialism and post-industrialism; environmental effects of industrial and post-industrial production; technology and mass culture; current responses to global problems.

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SY3015 YOUTH IN CONTEMPORARY SOCIETY**

The relationship between structural economic change and the genesis and extension of youth; an introduction to the issues of: youth sub-cultures; work and unemployment; health, housing and poverty; the law and the policing of the young; education; and the impact of public policy.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SY3016 LANGUAGE & POWER**

Language as a social and cultural phenomenon; sociolinguistics; ethnicity, class and language; 'man made' language; language and power; concept of cultural capital. Educational implications: language and learning; literacy and learning; bilingual/bicultural programs.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SY3017 RACE & ETHNIC RELATIONS**

A comparative study of a number of different societies, including Australia, to identify and analyse sources of ethnic and racial minority status; historical roots; political and economic context; political struggles, civil disobedience; revolutions; role of education; strategies for change.

**Prerequisite:** SY3013

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SY3020 UNDERSTANDING 'THE SYSTEM'**

Bureaucracies and how they operate; teaching and bureaucracies; the contradictory demands of bureaucracies and professionalism.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SY3023 PEACE STUDIES**

Peace as a personal issue and as a political issue; analysis of the human response as seen in the social sciences; peace as an alternative to the arms race, racial conflict and destruction of the environment; conflict resolution; its dilemmas and possible strategies; social change through violent and non-violent means.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective

**Credit Points:** 10 **Contact Hours:** 3 per week

■ **SY3024 TECHNOLOGY, THE ENVIRONMENT & MORAL DILEMMAS**

Technology in society; technology, work and unemployment; the peril and promise of technology; introductory theoretical consideration of social ethics; case study examination of issues such as: information technology, nuclear energy, technology and work, overpopulation, nuclear weapons, genetic engineering, medical technology, environmentalism, alternative futures. Technocratic mindedness vs. critical mindedness. The dilemmas raised by these concerns for educators and professionals generally are examined eg, the computer and the classroom, technology and the curriculum.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **SY3025 SOCIOLOGY OF THE FAMILY**

Definitions of the family; the family and society; social class and geographical differences in family patterns; influence of changing social conditions; socialisation and child rearing patterns; families in a multicultural society.

**Prerequisite:** SS3025  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **SY3026 CHILDREN'S CULTURE**

The history of childhood and theorising about childhood; race, gender and class variants on these issues; Christian versus romantic conceptions of childhood; the representation of childhood in painting, music, philosophy, literature; the social control of childhood to folk and fairy tales; the scientisation of childhood through psychology; the culture of children's games, plays, skipping rhymes, songs; the future of childhood.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective  
**Credit Points:** 10    **Contact Hours:** 3 per week

■ **SY3028 DISCIPLINE & PUNISHMENT**

Sociological approaches to student disruption and resistance; theories of causality; the links between student deviance and aspects of schooling, and the possibilities of change in school structures and teacher practices.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective  
**Credit Points:** 8    **Contact Hours:** 2 per week

■ **SY3030 GENDER & SCHOOLING**

The educational situation of girls and women: schooling for women's work; special needs of different groups of girls; gender differences in planned and hidden curriculum; single-sex and coeducation; current initiatives; practices enabling teachers and other youth workers to promote gender equity.

**Prerequisites:** SY3013, SY3014, ED3053 and any 3rd year education elective  
**Credit Points:** 8    **Contact Hours:** 3 per week

■ **SY3034 FAMILIES & SOCIETY**

Issues which relate to the family in Australia; history of the family; evolution of contemporary family structures; the interrelationship between family and society; the changing roles of men and women; sex stereotyping; violence; child abuse; family breakdown; multicultural values as they affect Australian family life.

**Prerequisite:** DY3031  
**Credit Points:** 10    **Contact Hours:** 4 per week

■ **SY3035 FAMILIES IN OTHER CULTURES**

Individuals, the structured elements within families and the relationship of families to society; kinship, family structures, mate selection practices, legitimacy and illegitimacy, contemporary issues that relate to family groups.

**Credit Points:** 10    **Contact Hours:** 4 per week

■ **SY3303 SOCIETY, SOCIAL POLICY & EDUCATION**

Social policy in education; implications for social policy of change in society; the economics of education; social policy and the teacher.

**Co/Prerequisite:** ED3303 or equivalent  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SY3304 SOCIOLOGY OF THE SCHOOL**

Sociological views of schooling; clarifying tasks, structures and relationships of schools and classrooms; the consequences of these for both teachers and pupils.

**Co/Prerequisite:** ED3303 or equivalent  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SY3305 SOCIOLOGY OF EDUCATION**

The nature and scope of sociology; sociology and education; the cultural context of educational institutions and teaching; sub-cultures in the school and their interaction; appropriateness of education to modern Australian society.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SY3701 STUDIES IN ALCOHOL & OTHER DRUGS**

Epidemiology of drug use and misuse; effects of drug taking; socio-cultural influences on drinking behaviour; the nature of dependency; community attitudes and strategies for prevention; occupational programs.

**Prerequisite:** Studies in social sciences at Diploma of Teaching level  
**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SY3803 CAREER & LIFE PATTERNS OF WOMEN TEACHERS**

Theories of adult development; career development theories; transitions and crises; trends in career development and their implications for women teachers; additional knowledge and skills which women teachers may need for planning future and professional roles.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **SY3804 SOCIAL CHANGE & WOMEN IN AUSTRALIA**

Policy initiatives relating to women; current debates on the status of women; ideology and the position of women; effects of economic recession and technological change; educational implications.

**Credit Points:** 12    **Contact Hours:** 3 per week

■ **TE2800 FIBRE ARTS**

The variety and scope of materials and processes used in textile arts; study of contemporary and past works; dyeing; fibre constructions (spinning, weaving, other construction techniques); or surface decoration (block printing, mono printing, fabric printing, screen printing, embroidery).

**Credit Points:** 5    **Contact Hours:** 2 per week

■ **TE2801 TEXTILE STUDIES 1**

Introduction to the preparation of fibres and yarns and to the study of a range of textile structures. Practical work in selected areas.

**Credit Points:** 8    **Contact Hours:** 3 per week

#### ■ TE2802 TEXTILE STUDIES 2

Analysis of the aesthetic principles underlying the production of contemporary textiles and the study of cultural influences on textile artists. Practical work in dyeing, spinning and weaving.

**Prerequisite:** TE2801

**Credit Points:** 8     **Contact Hours:** 3 per week

#### ■ TE2805 TEXTILES

Further development of fibre techniques in spinning, weaving and dyeing, working towards both functional and 'fine art' products.

**Credit Points:** 10     **Contact Hours:** 4 per week

#### ■ TE3701 WOVEN TEXTILES

History of textiles in America, Europe, Australia, New Zealand and the Orient; aesthetics related to fibre and materials; textile design; practical work in dyeing, spinning and weaving; design work; study of one weaving technique.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ TE3801 TEXTILES: FUNCTION & DESIGN

Practical application of designs; historical perspectives with emphasis on Greek, Indian, English, Japanese, Javanese and American influences; yarn construction; fabric construction; fabric finishes; fabric testing; the textile industry; nature of colour and colour formation.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ TE4002 FIBRE ARTS 1

Investigation of both historical and contemporary textile media; development of technical and conceptual textile knowledge; utilisation of fibre/textile materials and processes to develop both 2-D and 3-D textile artifacts/objects; the relationship between textile arts and selected cultures; particularly in relation to fashion design, individual development of design, construction and decoration techniques and textile imagery.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ TE4003 FIBRE ARTS 2

Continuation of TE4002. Nature of fibres; fibre construction; printing techniques suitable for fibre arts; embellishing fibre surfaces.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ TS2906 STUDIES IN TEACHING 1

Analysis of the teaching and learning environment; communication at individual and group level; personal and professional planning; basic teaching skills; self-analysis of teaching skills.

**Credit Points:** 5     **Contact Hours:** 3 per week

#### ■ TS2907 STUDIES IN TEACHING 2

Use of teaching skills to achieve instructional objectives; assessment, evaluation and measurement of pupil learning; identification, selection and evaluation of resources for facilitating learning.

**Co/Prerequisite:** TS2906

**Credit Points:** 5     **Contact Hours:** 3 per week

#### ■ TS2908 STUDIES IN TEACHING 3

Workshop safety; placement of facilities; storage and display of equipment; beginning and ending a practical class; standards of care, workmanship and behaviour; management; learning styles (creative, acceptance/anxious, rigid/inhibited, undisciplined); basic patterns of grouping for use in the classroom; formats for individualising learning.

**Co/Prerequisite:** TS2907

**Credit Points:** 5     **Contact Hours:** 3 per week

#### ■ TS2909 STUDIES IN TEACHING 4

Curriculum development as a participatory decision-making process; interpersonal relationships with colleagues, administrators and parents; the curriculum-related needs of the beginning teacher; analysis of beginning teaching and the development of strategies to ease the transition into teaching.

**Co/Prerequisite:** TS2908

**Credit Points:** 5     **Contact Hours:** 3 per week

#### ■ TS3003 THE BEGINNING TEACHER

There are six components in this subject: socialisation into teaching; the work context of teaching; teachers and their strategies; promoting a positive and effective learning environment; developing an action plan; practice teaching.

**Co-requisites:** CU3009 and CU3010

**Prerequisites:** CU3005, CU3006, CU3007 and CU3008

**Credit Points:** 20

#### ■ TS3604 CLASSROOM MANAGEMENT: MODELS & PRACTICE

Concepts and variables associated with classroom management and control; student and teacher perceptions of classroom contexts and behaviour problems; contemporary views of classroom management and discipline; developmental theories of classroom and behaviour management; teaching for professional integration and self-actualisation.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ TS3605 PERSPECTIVES ON EDUCATIONAL TECHNOLOGY

Current perspectives on educational technology; development of a theoretical and research basis; the media of instruction; application of educational technology; significant modern manifestations of educational technology; future directions. External students need access to a video recorder. Incompatible with degree or graduate diploma studies in educational technology or media; ME4007.

**Prerequisite:** Relevant studies at Diploma of Teaching level

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ TS3606 TEACHERS & ISOLATED LEARNERS

The isolated community; the isolated learner; consideration of various types of teaching situations; teaching strategies; support services.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ TS3607 TEACHING STRATEGIES

Evaluation of the student's own teaching strategies; examination of the literature on teaching strategies; critical evaluation of strategies/models of teaching available.

**Credit Points:** 12     **Contact Hours:** 3 per week

#### ■ TX3000 TEXTILES 1

The scientific understanding and aesthetic aspects of textiles and their selection, use and care, with reference to specific end uses; practical aspects of construction and surface design of textile articles; textile project.

**Prerequisites:** HS3015 and SC3015

**Credit Points:** 10     **Contact Hours:** 6 per week

#### ■ TX3001 TEXTILES 2

Extension of TX3000.

**Prerequisite:** TX3000

**Credit Points:** 10     **Contact Hours:** 6 per week

■ **TX3002 TEXTILES: SUPERVISED PROJECT**

Students select and complete an indepth study in one or more methods of creating with textiles. The study will include the development of advanced skills in the technique(s) and an investigation and evaluation of the corresponding commercial production.

**Prerequisite:** TX3000

**Credit Points:** 10      **Contact Hours:** 3 per week

■ **TX3003 CONSUMER TEXTILES**

Technological advances in the production of textiles with particular reference to fibres, yarns, fabric, finishing and dyeing; significant technological advances in the manufacture of the major textile products such as apparel, household textiles, furnishings and floor coverings; textile performance requirements of these major consumer textile end-uses; experimental evaluation of textiles for suitability of purpose; development of problem identification and solution skills in consumer textiles through a major project-based assignment.

**Prerequisite:** TX3001

**Credit Points:** 10      **Contact Hours:** 6 per week

■ **TX3026 APPAREL DESIGN**

Factors influencing garment and household goods designs; design development; yarn structure; techniques of fabric construction and decoration; the textile industry.

**Credit Points:** 10      **Contact Hours:** 6 per week

■ **TX3028 TEXTILE SCIENCE**

Overview of textiles and textile evaluation; fibres; yarns; fabric construction; finishing treatments; colour and its application to textiles; textile care; textile end-use; principles and practice of textile performance evaluation.

**Prerequisite:** CH3025

**Credit Points:** 9      **Contact Hours:** 4 per week

■ **TX3029 TEXTILE MARKETING**

Theories of clothing consumption; factors affecting individual and family clothing expenditure; standard sizing; pattern styling techniques; preparation of a brief.

**Prerequisite:** TX3026

**Credit Points:** 8      **Contact Hours:** 4 per week

