Graduate Certificate In Built Environment and Engineering (BN85)

Year offered: 2013
Admissions: Yes
CRICOS code: 060808G
Course duration (full-time): 6 months
Course duration (part-time): 12 months
Domestic Fees (indicative): 2013: $13,300 (indicative) per Semester
Student Services and Amenities Fee
You'll need to pay the Student Services and Amenities Fee (SSAF) as part of your course costs. More information on the SSAF - http://www.student.qut.edu.au/fees-and-finances/study-costs/fee-schedule/table-1-student-services-and-amenities-fee
Start month: February, July
IELTS (International English Language Testing System): Overall: 6.0, Subscores: 6.0
Deferrment allowed: No
Total credit points: 48
Standard credit points per full-time semester: 48
Course coordinator: ASPRO Bambang Trigunarsyah
Discipline coordinator: Science and Engineering Faculty
Campus: Gardens Point
Attendance: Part-time, Full-time
Additional Requirements:

A four-year full-time bachelor degree in a relevant discipline area; or a three-year full-time diploma and three or more years of relevant professional experience in a relevant discipline; and a grade point average of 5.0 or more (on a 7-point scale) in that study, or an equivalent qualification determined by the Faculty. English language requirements for the course are an English Language Proficiency level in accordance with QUT requirements (IELTS score of 6.0 with no sub-band below 6.0) if English is not your first language.

If requested, supply documentation of professional work experience as detailed in Completing the PG Form.

Course highlights
- Preparation and pathway program for students wanting to study a masters degree related to built environment and engineering.
- Complete in 1 semester full-time or 2 semesters part-time.

Details:
This course serves as a preparation and pathway program for students wishing to enter built environment or engineering masters programs in the Science and Engineering Faculty. It is particularly aimed at students with a degree in an area unrelated to the masters of their choice.

Career outcomes
The Graduate Certificate in Built Environment and Engineering is offered as an alternative entry pathway to built environment or engineering masters courses in the Science and Engineering Faculty.

Standard Course structure - February Entry and July Entry

Full-time Structure - Year 1, Semester 1
Undergraduate Unit 1
Undergraduate Unit 2
Postgraduate Unit A
Postgraduate Unit B
(All units to be approved by Postgraduate Coordinator prior to enrolment).

Part-time Structure
A part-time course structure will require completion of one (1) undergraduate level unit and one (1) postgraduate level elective unit each semester (50% of standard load as above.)

Postgraduate Level Electives
IFP100 Knowledge Transfer and Research Commercialisation
INN311 Enterprise Systems
INN221 Technology Management
KIP401 Critical Practices in Visual Design
PUN301 Occupational Health and Safety Law and Policy
PUP415 Occupational Health
PUN001 Contemporary Risk Management
PUN500 Occupational Health and Safety Management
AMN430 International Logistics Management
MGN447 Managing in a Globalised Economy
MGN423 Contemporary Strategic Analysis
EFN420 Introduction To Financial Management
Or consult with BN85 Course Leader.
(Other suitable postgraduate units will be

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continually identified during course development.)

Undergraduate Level Electives

NOTE:

** Please ensure you enrol in units within the Master degree you intend to enter.

For BN87 Master of Engineering Management pathway
BSB115  Management
ENB333  Operations Management
ENB336  Industrial Engineering
ENB432  Engineering Asset Management and Maintenance

Or consult with BN87 Course Leader.

For BN88 Master of Infrastructure Management pathway.

ENB432  Engineering Asset Management and Maintenance
BEB114  Project Financing
UBD104  Urban Development Economics
UBD316  Cost Planning and Control

Or consult with BN88 Course Leader.

For BN89 Master of Project Management pathway.

UBD213  Construction Estimating
UBD312  Contract Administration
UBD313  Programming and Scheduling
UBD316  Cost Planning and Control
UBD410  Strategic Construction Management
BEB110  Organising and Managing Project Team
BEB111  Managing Project Quality
BEB114  Project Financing

Or consult with BN89 Course Leader.

For DE50 Master of Design (Urban Design) pathway.

BEB902  Greening the Built Environment
BEB903  Greenhouse Solutions
BEB904  Eco-Innovation for Sustainability
DAB325  Architecture in the 20th Century
DAB525  Architecture and the City
HHB127  Environment And Society

NRB600  Sustainable Environmental Management

Or consult with DE50 Course Leader.

[BEB902, DAB325, and DAB525 are the most suitable.]

For EN50 Master of Engineering pathway (students commencing July 2012 onwards)

** [PLEASE NOTE: You must consult the relevant Discipline Coordinator on the recommended unit selection.]

SUITABLE FOR MASTER OF ENGINEERING (MECHANICAL)

ENB312  Dynamics of Machinery
ENB316  Design of Machine Elements
ENB317  Design and Maintenance of Machinery
ENB331  Materials and Manufacturing 2

SUITABLE FOR MASTER OF ENGINEERING (NETWORKING & COMMUNICATIONS)

ENB342  Signals, Systems and Transforms
ENB346  Digital Communications
ENB446  Wireless Communications
ENB448  Signal Processing and Filtering

SUITABLE FOR MASTER OF ENGINEERING (SUSTAINABLE ENERGY)

ENB340  Power Systems and Machines
ENB421  Thermodynamics 2
ENB422  Energy Management
ENB456  Energy

SUITABLE FOR MASTER OF ENGINEERING (TRANSPORT)

ENB372  Design and Planning of Highways
ENB379  Transport Engineering and Planning Applications
ENB376  Transport Engineering
ENB476  Civil Engineering Design Project

For EN50 Master of Engineering (Systems) pathway (for continuing students only)

MOST SUITABLE:

ENB301  Instrumentation and Control
ENB342  Signals, Systems and Transforms

MECHANICAL ENGINEERING ORIENTED:

ENB311  Stress Analysis
ENB312  Dynamics of Machinery

ELECTRICAL ENGINEERING ORIENTED:

ENB350  Real-time Computer-based Systems
The unit aims to briefly introduce students to barriers facing only.

THIS UNIT IS OFFERED IN ODD-NUMBERED YEARS ONLY.

BEB903 GREENHOUSE SOLUTIONS

This unit aims to introduce students to barriers facing...
The adoption of greenhouse abatement strategies and the methods by which these barriers can be overcome. Finally, the unit will describe how energy, transport and urban systems, like the climate system itself, have great inertia: they take decades to change. This means that in order to achieve significant reductions in greenhouse emissions, and to avoid the worst effects of climate change, early planning and action is critical for these systems.

Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-2

**EBB904 ECO-INNOVATION FOR SUSTAINABILITY**

This unit is offered in even-numbered years only.

This is one of the units in a Minor in Sustainability designed to equip you to address fundamental social, ecological and economic challenges facing society using a systems design approach. This unit focuses on 'eco-innovation', which includes institutional, technological and spatial design solutions that increase the ecological base, human health, well-being and equity as well as reducing total resource consumption and waste. New strategies are explored which can help find leverage points where small actions or investments generate system-wide improvements.

Credit points: 12  Campus: Gardens Point

**BSB115 MANAGEMENT**

The unit provides an introduction to the theories and practice of management and organisations. Emphasis is on the conceptual and people skills that are needed in all areas of management and in all areas of organisational life. The unit acknowledges that organisations exist in an increasingly international environment where the emphasis will be on knowledge, the ability to learn, to change and to innovate. Organisations are viewed from individual, group, corporate and external environmental perspectives.

Antirequisites: BSD115  Equivalents: BSX115, CTB115  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Caboolture  Teaching period: 2013 SEM-1, 2013 SEM-2 and 2013 SUM-1

**DAB325 ARCHITECTURE AND THE CITY**

This unit aims to give a comprehensive overview of issues and techniques relevant to architectural design at an urban scale. Teaching and learning activities are spread across lectures, tutorials, and studio based activities.

Assumed knowledge: DAB325 and DAB420 are assumed knowledge.

Equivalents: ADB013  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2013 SEM-1

**EFN420 INTRODUCTION TO FINANCIAL MANAGEMENT**

This unit is a preliminary study of financial information and financial markets and it includes a number of techniques required for analysing financial information.

Equivalents: EFX420  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2013 SEM-1 and 2013 SEM-2

**ENB301 INSTRUMENTATION AND CONTROL**

The unit introduces the student to classical control systems, analysis and synthesis, and implementation in an industrial control context. It introduces the principles of electrical measurements and instrumentation, sensors, PLC, DSC and industrial networks, and foundation of feedback control theory for engineers.

Prerequisites: MAB126 or MAB182 or MAB132  Assumed knowledge: ENB105 or ENB205 or ENB243 are assumed knowledge.

Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point  Teaching period: 2013 SEM-1

**ENB311 STRESS ANALYSIS**

Advanced analysis of stress and strain; experimental stress analysis techniques; failure criteria and factors of safety, axisymmetric systems; energy methods; plates and shell theory, principles of finite element analysis, and torsion of non-circular sections.

Prerequisites: ENB102 or ENB212  Equivalents: MMB212  Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point  Teaching period: 2013 SEM-1

**ENB312 DYNAMICS OF MACHINERY**

Kinematic and dynamic analysis of planar linkages and mechanisms; multi-degree of freedom systems with steady and transient vibrations, Introduction to noise.

Prerequisites: ENB211  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2013 SEM-1

**ENB316 DESIGN OF MACHINE ELEMENTS**

Analysis of operating conditions and their impact on design solutions, design of fasteners, shafts and other mechanical components, design of springs. Design for manufacturability, fundamentals of lubrication, computer
aided design (solid modelling), frames and housings.

**Prerequisites:** ENB215  
**Equivalents:** MMB381  
**Credit points:** 12  
**Contact hours:** 6 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB317 DESIGN AND MAINTENANCE OF MACHINERY**

Design of equipment for special applications such as pressure vessel, food processing, Design of machine system, Optimisation of design, machinery failure, prediction, analysis and prevention. Design for reliability application of FMEA, Condition monitoring, ethics, Fundamentals of friction , wear related to design, Failure analysis & OH&S.

**Prerequisites:** ENB316  
**Equivalents:** MMB382  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

**ENB331 MATERIALS AND MANUFACTURING 2**

This unit extends the formative body of knowledge gained in ENB231 and introduces the shear deformation mechanisms of engineering material and how these properties can be used to understand the mechanics of metal cutting. Descriptive and analytical information about different material removal processes and material failure mechanisms are provided to you through lectures, tutorials, practical laboratory and case studies. The unit also provides you with an excellent opportunity to apply the knowledge in the design and manufacture of a component.

**Prerequisites:** ENB231  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

**ENB333 OPERATIONS MANAGEMENT**

This unit develops students’ ability in applying quantitative techniques in solving different types of industrial operations problems. Topics include: product mix, assignment and transportation models; location and layout decisions, job design analysis; project planning; quality control and the use of simulation in operations management.

**Equivalents:** MMB476  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

**ENB336 INDUSTRIAL ENGINEERING**

Aim of this unit is to develop skills and understanding the concepts and techniques of lean manufacturing (methods engineering). These includes identifying wastes using Value Stream Mapping (VSM), 5S, SMED, JIT, plant layout, cell design with proper material handling and balance and job design with due consideration to ergonomics.

**Assumed knowledge:** MAB233 is assumed knowledge.  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB340 POWER SYSTEMS AND MACHINES**

This is a core unit that develops the basic topics essential for an electrical engineer working in areas that include the resources sector, the process industries, electrical power utilisation, electric power generators as well the electricity supply industry. Topics covered in machines include magnetic circuits, single phase and three phase transformers; electric machines including electromechanical energy conversion, reluctance motors, induction motors, synchronous machines, D.C. machines, stepper motors, P.C. motors; motor control; heating, cooling and rating. Power system topics include power generation and energy sources, electricity market operation, fault calculations, basic protection and power system operation, in particular real and reactive power control.

**Prerequisites:** ENB103 or ENB250  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB342 SIGNALS, SYSTEMS AND TRANSFORMS**

The unit covers the area of Signals in Linear Systems for which a detailed study of Fourier theory applied to both analogue and discrete-time signals and to the analysis of linear systems will be given. Systems will be represented in time as well as in frequency and various characteristics and relationships in the two domains will be discussed. The students will be introduced to the fundamentals of analogue and discrete-time signal processing; analogue and discrete Fourier transform; linear and discrete convolution. Finally, the students will learn the fundamentals of digital filter design and implementation, with examples and applications arising from various disciplines.

**Prerequisites:** ENB242  
**Assumed knowledge:** ENB243 and ENB246 are assumed knowledge.  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB346 DIGITAL COMMUNICATIONS**

Revolutionary developments in the field of Digital Communication Technology have enabled improvement in the characteristics of communication systems in order to meet the performance requirements for transmission of information for private, business and industrial applications. This unit which covers Elements of a Digital Communication System aims at providing the students with an in-depth understanding of the theory and applications of digital communication systems and technology.

**Prerequisites:** ENB342  
**Assumed knowledge:** MAB233 is assumed knowledge.  
**Equivalents:** EEB560  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB350 REAL-TIME COMPUTER-BASED SYSTEMS**

This unit covers the area of embedded systems and real-time kernels. C programming is reviewed in the context of
real-time applications where it is often mixed with assembly language. Data representations, input-output programming, concurrency, scheduling, memory management and system initialisation are discussed. Programming laboratory exercises introduce development tools and reinforce fundamental concepts such as polling, interrupt driven input-output, serial port communication, pre-emptive and non pre-emptive scheduling, resource sharing, priority inversion and deadlock. Students develop a simple real-time process control application using programmable logic and micro-controllers.

**ENB352 COMMUNICATION ENVIRONMENTS FOR EMBEDDED SYSTEMS**

This unit addresses the following: computer networks; network programming; open network foundations; embedded systems; client/server; bus architectures; network controllers; distributed systems in automation and process control; embedded Java; distributed objects; distributed databases; distributed operating systems.

**Prerequisites:** ENB244  
**Equivalents:** EEB566  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB372 DESIGN AND PLANNING OF HIGHWAYS**

Civil engineers as professionals are responsible for the delivery of major transport infrastructure items through the stages of inception, planning, design, development, maintenance and management. The purpose of such projects is to improve the quality of life of the community by offering safe and efficient access to activity locations and mobility between locations. In delivering such infrastructure it is imperative that social, economic, and environmental impacts and benefits are considered and addressed. This unit offers students an opportunity to explore the role of the civil engineer in the preparation of a feasibility design study for a road as a major transport infrastructure item.

**Assumed knowledge:** ENB271 and ENB274 are assumed knowledge.  
**Equivalents:** CEB317  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB376 TRANSPORT ENGINEERING**

The transport system is an essential part of our physical infrastructure. It is imperative that civil engineers are able to undertake typical road and traffic engineering investigations, analyses and designs. These require an understanding of the intent of individual road system elements, how they operate, and how they are delivered and managed: this understanding is developed in this unit. Further, it is important that civil engineers are able to undertake multi-modal transport surveys to gain an understanding of the operation of a particular transport system.

**Assumed knowledge:** ENB274 and ENB372 are assumed knowledge.  
**Equivalents:** CEB323  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

**ENB379 TRANSPORT ENGINEERING AND PLANNING APPLICATIONS**

The environmental engineer must be familiar with the role of each transport mode in the overall transport task, along with current issues associated with each mode. This must be overlapped by an understanding of the system for planning and management of transport projects and systems, particularly in context with economic, environmental and social attributes. This unit provides students who wish to pursue a career in environmental engineering with an understanding of these areas. The unit also includes case studies covering the environmental impacts for some of the urban and rural transport and infrastructure projects especially in the area of community consultation.

**Assumed knowledge:** ENB274 and ENB372 are assumed knowledge.  
**Equivalents:** CEB419  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB421 THERMODYNAMICS 2**

Applications of heat transfer theory in steam power plant, refrigeration and gas turbines; steady state and transient conduction; convection with internal or external flow; free convection in stationary fluids; boiling and condensation; thermal resistance networks; heat exchangers; radiation heat transfer.

**Prerequisites:** ENB222 and ENB321  
**Equivalents:** MMB351  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**ENB422 ENERGY MANAGEMENT**

Topics covered in this unit include: Global energy and climate issues, the systematic process by which energy use is monitored and analysed; individual treatment of electricity, fuels and their properties, compressed air, buildings, cycle requirements, energy recovery equipment; financial analysis of proposals. Environmental aspects will be considered for each topic.

**Assumed knowledge:** ENB201 or ENB221 and ENB222 are assumed knowledge.  
**Equivalents:** MMB451  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

**ENB432 ENGINEERING ASSET MANAGEMENT AND MAINTENANCE**

This unit includes the following: engineering asset management policy statement; overhaul and replacement of engineering assets; organisation for maintenance; maintenance planning and control; failure mode and effect
analysis; reliability, maintainability and availability analysis; risk assessment; spare parts inventory management.  

Assumed knowledge: MAB233 is assumed knowledge.  
Equivalents: MMB470  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2013 SEM-1

ENB446 WIRELESS COMMUNICATIONS  
This unit addresses the following: cellular mobile radio system concepts; mobile radio propagation; spread spectrum techniques and CDMA; speech coding modulation and channel coding techniques for GSM and CDMA; fading mitigation through diversity; inter-symbol interference mitigation; the GSM and CDMA standards; the WAP and the GPRS; introductions to UMTS/IMT2000; introduction to personal communications; introduction to blue tooth technology; other wireless systems including wireless LAN, wireless local loop, microwave local multipoint distribution systems (LMDS) and LEO satellite communication.  
Prerequisites: ENB346  Equivalents: EEB960  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2013 SEM-2

ENB448 SIGNAL PROCESSING AND FILTERING  
This unit gives a comprehensive introduction to the representation and processing of signals distorted or corrupted by noise, and the systems needed to process them. Techniques to enhance, detect, classify and estimate useful information from the signals in the presence of noise and other distortions will be presented. The methods presented will be tested on real signals drawn from different engineering applications, such speech signals, image signals, biomedical signals and signals in communications systems.  
Prerequisites: ENB342  Assumed knowledge: MAB233 is assumed knowledge.  
Equivalents: EEB941  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2013 SEM-2

ENB456 ENERGY  
Renewable energy sources including solar and wind energies are becoming more important than ever due to increasing energy demand, dwindling oil and gas supplies, increasing pollution levels in the atmosphere and the associated global warming effects. Renewables may also help improve competitiveness and have a positive impact on regional development and employment.  
An overview of the different energy sources will be covered followed by an understanding of the characteristics of solar energy, radiation calculation, measurements and applications in remote, hybrid and grid interactive configurations. Students will be equipped with fundamentals of alternative energy sources including solar thermal, photovoltaics and wind conversion technologies.  
Assumed knowledge: MAB126 or MAB180 or MAB131 are assumed knowledge.  
Equivalents: EEB911  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2013 SEM-2

ENB476 CIVIL ENGINEERING DESIGN PROJECT  
Through preparation of various civil engineering design elements of a major project, this final design strand unit builds upon the earlier units to polish students’ professional capabilities as expected of a graduate civil engineer. Students will be expected to apply to their project the knowledge and experience gained in the civil engineering sub-disciplinary core units including: Geotechnical Engineering 2, Water Engineering, and Transport Engineering. The aims of this unit are to provide you with an understanding of the role of the civil engineer within a major project, including the various technical activities undertaken, overall project management, and an understanding of community expectations.  
Prerequisites: (ENB371 and (( ENB372, ENB376, and ENB378) or EN40MJR-CVCOENG)  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2013 SEM-2

HBB127 ENVIRONMENT AND SOCIETY  
This unit includes a geographical systems approach to investigations of the natural and social environments, and human-environmental interactions. The emphasis is on explaining spatial patterns and variability in social and natural landscapes through the understanding of physical, social and cultural processes and systems at regional and local spatial scales. Through practical sessions, the acquisition of basic geographical field and mapping skill is fostered.  
Credit points: 12  Campus: Carseldine  Teaching period: 2009 SEM-1  Incompatible with: HUB201, HHB227

IFP100 KNOWLEDGE TRANSFER AND RESEARCH COMMERCIALISATION  
This unit provides you with practical information and builds skills and capacities in the identification of commercialisation opportunities and the implementation of commercialisation processes appropriate to your research.  
Credit points: 12  Campus: Internet  Teaching period: 2012 SEM-1 and 2012 SEM-2

INN221 TECHNOLOGY MANAGEMENT  
This unit presents operational, tactical and strategic insights that support the activities central to the leadership and management of technology. These insights include project management, organisational leadership, outsourcing, planning, governance and millennium technologies. Such insights are used to inform decision-making - the core skill of any manager. Technology managers must understand
the factors influencing any decision point. This unit equips students for the challenges of management and to contribute to the decision-making faced by managers and the staff who advise on these issues.

**Antirequisites:** ITN241, ITN251, ITN366, INB221  
**Assumed knowledge:** INB103, ITB002 or ITB360 is assumed knowledge  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

### INN311 ENTERPRISE SYSTEMS

The unit presents and discusses the Enterprise Systems Lifecycle model, orienting students to the requirements of addressing total cost of ownership, change management requirements and process modelling requirements in order to achieve business benefits. Concepts of Enterprise Systems success and associated enablers and barriers are also introduced. This unit introduces the technical architecture of complex 3-tiered client server environments. It seeks to show how an integrated complex database environment meets common business needs, and yet fails to meet the total Information Systems requirements.

**Antirequisites:** INB311  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

### KIP401 CRITICAL PRACTICES IN VISUAL DESIGN

Communication Design deals with visual communication and the creation of meaning through images. This unit will introduce you to the principles, production and presentation of visual design and communication.

**Antirequisites:** KIB101, KIB801  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2013 SEM-1 and 2013 SEM-2

### MGN423 CONTEMPORARY STRATEGIC ANALYSIS

This unit focuses upon developing managers’ understanding of the strategy concept and placing the fundamental elements of strategy in a framework for use in the decision making process. Taking the perspective that many managers make decisions that can have strategic implications, the emphasis is upon studying those issues that can affect the strategic positioning of the organisation. This involves creating an understanding of the universal building blocks of competitive advantage at the business, corporate and international levels. By understanding the nature and determinants of competitive and comparative advantages, students will be well positioned to take a more strategic perspective in their organisational activities.

**Antirequisites:** BSN407 and MGN504  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

### MGN447 MANAGING IN A GLOBALISED ECONOMY

This core unit examines the forces of globalisation, the diversity of international environments and their impact on business functions at the operational level. It examines the processes and challenges of internationalising the business operation as firms strive to compete successfully in the global marketplaces. Areas of study include the growth of international business and globalisation, international business motives and forms, the nature and challenges of the diversity of environments, and managing and controlling business operations. An international business simulation game is used to facilitate the understanding of business as a system of integrated operations and environments.

**Antirequisites:** BSN408  
**Equivalents:** IBN408, MGX447  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1 and 2013 SEM-2

### NRB600 SUSTAINABLE ENVIRONMENTAL MANAGEMENT

Sustainable environmental management requires a multidisciplinary approach to decision-making. This approach must be founded on scientific knowledge about the environment, but to be effective, the science must also be integrated with social, economic, political and technological policies. This unit explores contemporary environmental management issues: the science behind them, linkages between them, their cultural settings and sustainable solutions.

**Prerequisite(s):** 48 credit points of second level units  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-2  
**Incompatible with:** HUB685

### PUN001 CONTEMPORARY RISK MANAGEMENT

This unit provides an introduction to the risk management process as outlined in AS/NZS 4360 risk management. The unit concentrates on the context of risk management and introduces the student to the concepts that will be explored further in other units. The structure of the organisation, its environment and the potential loss exposures are examined in some detail.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove and External  
**Teaching period:** 2013 SEM-1

### PUN301 OCCUPATIONAL HEALTH AND SAFETY LAW AND POLICY

This unit introduces students to the history of occupational health and safety and the impact on occupational health and safety practice of the law, and industrial relations. The theory and practice of occupational health and safety management is discussed.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove and External  
**Teaching period:** 2013 SEM-1
PUN500 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT
In this unit, students learn about the nature of materials with
regards to material failure, fire and explosions. Students are
introduced to the concept of the hierarchy of controls and
learn about the various safety systems used to control
physical, chemical and biological hazards. Students are also
introduced to specific legislative requirements that regulate
the use of such substances, the configuration of appropriate
safety systems, and the storage, handling and transport of
hazardous materials. Students develop skills in accident
investigation.
Credit points: 12  Contact hours: 3  Campus: Kelvin
Grove and External  Teaching period: 2013 SEM-1 and
2013 SEM-2

PUP415 OCCUPATIONAL HEALTH
This unit explores chemical hazards in the working
environment, epidemiological principles and practice, and
identification of special risk groups in the workforce. Topics
include the following: the pathological bases of disease in
humans; chronic occupational diseases; occupational skin
conditions; respiratory diseases; biological hazards in the
work environment (bacteria, parasites, viruses, rickettsia
and fungi); chemical and physical stresses and their
physiological responses; physiological monitoring principles
and practice; special risk groups; and epidemiological
principles and practice.
Credit points: 12  Contact hours: 3  Campus: Kelvin
Grove and External  Teaching period: 2013 SEM-1

UDB104 URBAN DEVELOPMENT ECONOMICS
This unit will introduce microeconomic and macroeconomics
concepts applied to urban and regional development. The
unit will initially focus on demand, supply and determination
of prices, and other important microeconomic concepts, at
the level of an individual development. Here, the value of
microeconomics in explaining aspects of development is
demonstrated using local and national examples. In doing
so, this unit will also help to deepen the appreciation of the
key steps in development and the role of the main actors.
Since anyone development project does not occur in a
vacuum, the unit will then broaden to consider the impact of
changes in the national and local economy on land use and
development, including business cycle, monetary and fiscal
policy.
Equivalents: BSB113, BSD113  Credit points: 12
Contact hours: 4 per week  Campus: Gardens Point
Teaching period: 2013 SEM-2

UDB213 CONSTRUCTION ESTIMATING
Estimating techniques to quantify cost; Fundamental
elements of cost and methods of evaluating labour,
materials and equipment to realistic levels of accuracy; Unit
rate approach to assessing the base estimate for major
trades; Assessment of offers from sub-contractors and
implications for tendering with respect to risk, quality and
ethical responsibilities; Functional estimating and the
significance of method, time and assembly of information to
estimating; Review of an estimate, determination of profit;
letters of offer; Subsequent negotiations prior to award of a
contract; application of estimating to variations and profit
monitoring; Linking best value procurement assessment to
outcome performance indicators (including tender
evaluation criteria).
Prerequisites: UDB110, UDB113  Credit points: 12  Contact
hours: 12 per week  Campus: Gardens Point
Teaching period: 2013 SEM-1

UDB312 CONTRACT ADMINISTRATION
The administration of construction contracts represents one
of the core applications for both construction managers and
quantity surveyors. In order to appreciate some of the
commercial implications of contract administration you will
study administrative implications for both parties to the
contract.
Equivalents: CNB302  Credit points: 12  Contact
hours: 4 per week  Campus: Gardens Point
Teaching period: 2013 SEM-1

UDB313 PROGRAMMING AND SCHEDULING
This unit covers the following: Project time and resource
planning techniques such as bar charts, critical path
networks (precedence, time scales, and activity on arrows);
Line of balance; Resource allocation and levelling; Schedule
updates and progress control; Delays and claims analysis.
Applications of computer-based project planning software
will form an important part of the study in this unit.
Equivalents: CNB335  Credit points: 12  Contact
hours: 4 per week  Campus: Gardens Point
Teaching period: 2013 SEM-1

UDB316 COST PLANNING AND CONTROL
Interrelationship between construction industry and
economy; Fundamental principles of cost management
(design and construction cost planning and cost control);
Nature and purpose of cost planning and cost control
systems; Contract costing (historical accounting) and
anticipatory (forecast final cost / value); Design economics,
cost and value concepts, cost information systems, cost
modelling, cost analyses, cost indices, cost data, cost
implications of design variables; Life cycle costing and
modelling including design knowledge in virtual
environments; Value management, including energy
efficiency in buildings, and value alignment process for
project delivery; Asset management and building
maintenance; Risk management in cost planning and cost
control.
Equivalents: CNB307  Credit points: 12  Contact
Students learn how land uses are generated and can be planned. They study the logic, role and methods of successive stages of planning processes including aims, information analysis and synthesis, evaluation, strategy development, monitoring and review. They learn how to consult widely in the community and with other relevant professionals to develop and apply flexible and widely relevant planning processes.

**Equivalents:** UDB266, DBP402  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

### UDN555 DEVELOPMENT ASSESSMENT AND INFRASTRUCTURE

The aim of this unit is to provide students with a grounding in the issues and skills related to the assessment of development applications and planning related to infrastructure. The unit will be conducted in two sections. The first will introduce students to the relevant legislation, procedures, and techniques associated with development assessment. The second will give students an understanding of issues related to the provision and maintenance of technical and social infrastructure, with particular reference to the importance of sustainability and the emergence of new technology and systems.

**Equivalents:** UDB267  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

### UDN556 DEVELOPMENT PROCESS

This unit will address the development process within the framework of a multi-disciplinary activity focusing on a practical exercise for the preparation and lodgement of a development application. This framework will expose students to the manner within which sustainable land development should occur. The unit relies on and brings together, within the practical exercise, the knowledge and skills-set exposed to students in earlier units dealing with stewardship of land, sustainability and economics. The focus on the practical exercise will demonstrate in context the multi-disciplinary range of social, economic and ecological issues that practicing land development professionals need to understand and apply to demonstrate the comparative benefits and likely success of a development proposal.

**Equivalents:** UDB302  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2

### UDN557 URBAN DESIGN

This studio unit develops skills in urban design analysis and intervention through the transformation of urban design theory into policies and design proposals. Students are introduced to the production of urban design instruments (such as strategies and frameworks) and effective...
communication of desired urban design outcomes. Where possible, students participate in live projects, with inputs from industry, government and communities.

**Equivalents:** UDB368  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-1

**UDN558 REGIONAL AND METROPOLITAN POLICY**

Students learn to focus and apply material from a wide range of disciplines and locations to understand and develop current regional and metropolitan policy. Issues of global, national and state regionalism, demography, economics, human services, central place theory, regional resource evaluation and public administration are related to work in the Regional Planning Practice unit.

**Equivalents:** UDB475, DBP414  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2013 SEM-2