Bachelor of Design (Architectural Studies) (DE40)

Year offered: 2012
Admissions: Yes
CRICOS code: 056386C
Course duration (full-time): 4 years
Domestic Fees (indicative): 2012: CSP $4,025 (indicative) per Semester
Additional costs: You'll need to pay some costs on top of your course fees. Additional course costs - http://qut.edu.au/study/fees-and-scholarships/additional-compulsory-course-costs

Start month: February
QTAC code: 412372
Past rank cut-off: 90
Past OP cut-off: 6
OP Guarantee: Yes
IELTS (International English Language Testing System): Overall: 6.0, Subscores: 6.0
Deferment allowed: Yes
Total credit points: 394
Standard credit points per full-time semester: 48
Course coordinator: Mr Andrew Scott
Discipline coordinator: Dr Anoma Kumarasuriyar
Campus: Gardens Point
Attendance: Full-time

Assumed knowledge: English
Assumed knowledge notes: We assume that you have knowledge equivalent to four semesters at high school level (Years 11 and 12) with sound achievement (4, SA). For information on acquiring assumed knowledge visit http://www.qut.edu.au/assumed-knowledge

Course highlights
- Learn to create environments with positive impacts on human health, environmental quality, social relationships and urban systems.
- Study sustainable systems using advanced digital design tools.
- Undertake architectural design projects in practical studio settings.
- Progress onto a Master of Architecture and gain the required practical experience to become an architect.

Details:
Architecture engages with the design, theory and practice of making spaces and environments for human activity. The profession of architecture has an extensive history as a practice and academic discipline. Developed from an apprenticeship model of professional education, workplace experience is still a requirement for professional registration and recognition of architects. This historic relationship with workplace learning still strongly informs architectural education at QUT.

Architecture strongly relates to built environment and urban planning disciplines such as civil and structural engineering, quantity surveying, and property economics and management. If you are interested in creating things, buildings and spaces, technology, art and design, a career in architecture may be for you.

Why choose this course?
Your architecture and design degree at QUT focuses on sustainable systems and the application of advanced digital design tools to address sustainability. Your study is supported by the integration of teaching, practice and research.

Architecture at QUT is increasingly recognised internationally for its service to the advancement of the discipline, and its focus on innovation in design and sustainable development. To address the sustainability imperative, entirely new approaches to constructing and retrofitting cities are necessary. We inspire and empower you to create environments with positive impact on human health, environmental quality, social relationships and urban systems.

Architectural education at QUT is also supported by active and cooperative learning between the University and the workplace. The course prepares students with necessary knowledge and skills for professional life, while integrating aspects of practical workplace experience.

You will undertake architectural design projects with a practical edge, which will require you to think logically about how buildings function and are constructed. Designers learn and develop these skills in synthesis with innovative and creative thinking.

Project-based architectural design units, conducted in a studio setting, are a feature. Attitudes, theories, philosophies and practices associated with this learning environment align well with recognised good practice in teaching and learning in higher education.

Career outcomes
Graduates can find employment in the fields of architecture and building design. Upon completion of the Master of Architecture and the required period of practical experience, graduates are eligible to sit for registration as an architect in Australia.

Professional recognition
This course, along with the following Master of Architecture course, has received full accreditation from the Architects
Accreditation Council of Australia, and full recognition from the Australian Institute of Architects.

Structures and Units

Your course

Year 1
Your foundation year sets the groundwork for architecture design and theory units. Five units are common to the design degree or Faculty and these cover design, design history, design and sustainability and digital communications. You undertake two units of introductory core architecture design studios and the first unit dealing with place making.

Year 2
You participate in two design studios covering process of design, dwelling, tectonics and public spaces. Further design units which integrate technology (climate) and history/theory (culture and space) are covered and lecture-based units address history/theory (architecture in the twentieth century) and architectural technology (building construction). You complete the first two units for your second major or first minor.

Year 3
Design studios address course focus areas of digital tools and sustainability. Design units continue, integrating specific knowledge of technology (structure). Additionally there is a collaborative design unit where you work with students in other disciplines of design. Two lecture-based units address history/theory (architecture and the city), and architectural technology (building services). You complete a further two units for your second major or first minor.

Year 4
Core design studios are of an advanced level, addressing the context of buildings in the urban setting, and culminating with a design project that demonstrates the integration of knowledge accumulated through the course. You also complete two common units in design research and professional practice. You complete a further four units of your second major or four units of your second minor.

Second majors and minors
You will be able to select from two 4 unit approved minors or one 8 unit approved second major to enhance and broaden your knowledge in a related field or area of interest.

ARCHITECTURAL STUDIES Second Major and Minor Options

Second Major:
A 2nd major from anywhere in QUT.

Minors:
A minor from anywhere in QUT.
*Please remember that one minor must be from outside of your course.
**Design students interested in enrolling in the BEE Applications minor, must first consult and obtain approval from the Subject Area Coordinator/Course Coordinator

Faculty Minor options

Collaborative Digital Design (BEBXMNR-DIGIDES)
The aim of the Collaborative Digital Design minor is to provide a series of units in which:
* You will collaborate with students from different disciplines across SEF on developing designs against a range of criteria.
* You will learn to use a range of software tools that improve communication between the members of the design and manufacture/construction team and between the project team and non-technical stakeholder.
* You will use a range of software support tools that allow the rapid exploration of alternatives and resolution of design problems.
* You will develop skills to reflect on and characterise how tools support interdisciplinary collaboration and to understand how these tools may fit into workflows in industry.
Select 48cp from the Collaborative Digital Design Unit Options below:

BEB210 Introduction to Collaboration
BEB211 Parametric Design Systems
BEB212 Advanced Collaboration
BEB213 Sustainable Design Systems
KIB103 Introduction to Web Design and Development

Indigenous Studies (BEBXMNR-INDIGEN)
(SEF students only)
This minor has been developed in consultation with the Oodgeroo Unit, to focus on indigenous perspectives on built environment and engineering and the professions served by these fields of study.
Units will be sourced in other Faculties & Divisions. Further information on units included in this minor is available at the Oodgeroo Unit subject information page at http://www.oodgeroo.qut.edu.au/about/unitcourse.jsp
Select 48cp from the Indigenous Studies Unit
Options below:

EDB007  Culture Studies: Indigenous Education
EDB038  Indigenous Australian Culture Studies
EDB039  Indigenous Politics and Political Culture
EDB040  Indigenous Knowledge: Research Ethics and Protocols
EDB041  Indigenous Australia: Country, Kin and Culture

Maximum of one unit of Work-integrated Learning (BEB701-BEB707). Work experience must be conducted in a professional or community organisation focusing on Indigenous issues.

International (BEBXMNR-INTRNTL)
(SEF students only)
This minor will allow you to focus on international issues and prepare for global professional practice. The focus on business languages and international business is designed to equip students who choose this minor to work more readily in international environments.
Select 48cp from the International or Language Unit Options below:

BSB119  Global Business
AMB336  International Marketing
AMB210  Importing and Exporting
AMB303  International Logistics
MGB225  Intercultural Communication and Negotiation Skills
Foreign Language units (minimum of two units)

Project Collaboration (BEBXMNR-PROJCOL)
The Minor in Project Collaboration is designed to provide you with appropriate knowledge and skills for your involvement in delivering projects in professional organisations in the public and private sectors. It addresses the main concepts and methodologies of project management. The course will aim to produce graduates who are capable of supporting project managers to successfully managing projects through the management of constraints in time, cost and quality, as well as social, political and environmental challenges.

The Minor in Project Collaboration offers you both the theoretical understanding and practical applications of professional project development and management practices, with a focus on built environment and engineering projects.

Note:

***Students in UD40 Bachelor of Urban Development (Construction Management) cannot take UDB313 or BEB113 due to content overlap with core Construction Management units.
Select 48cp from the Project Collaboration Unit Options below:

UDB313  Programming and Scheduling
BEB110  Organising and Managing Project Team
BEB111  Managing Project Quality
BEB112  Principle of Project Management
BEB113  Managing Project Cost
BEB114  Project Financing

Research (BEBXMNR-RESEARC)
(SEF students only)
This minor is designed to ensure that students with interest and capacity for higher degree research have the opportunity, during their undergraduate degree, to be well-prepared to undertake further study following graduation. This minor contains units that allow you to develop, implement and evaluate research knowledge and skills.

Units will be offered to illustrate a broad range of research types such as practice-led research, experimentally-based research, and work-based research.
Select 48cp from the Research Unit Options below:

EDN612  Conducting Innovative Educational Research
ENB379  Transport Engineering and Planning Applications
ENB441  Applied Image Processing
ENB448  Signal Processing and Filtering
ENB474  Finite Element Methods
MAB210  Statistical Modelling 1
MAB314  Statistical Modelling 2
MAB524  Statistical Inference
MAB536  Time Series Analysis
PYB110  Psychological Research Methods

Sustainability (BEBXMNR-SUSTAIN)
This minor will allow you to develop deeper understandings of and specialisations in the future role of your profession in the sustainable development of modern societies. The minor will build on Faculty-wide common units in Professional Learning and Sustainability.

Minor Contents:

* One to four specialisation units
* Up to two units of work-integrated learning
Engineering Studies Second Major options

Civil Engineering Studies (ENBXSMJ-CIVLENG)

* Up to two problem-based multidisciplinary project units

Notes:
Students would be expected to complete one of DEB100/ENB100/UDB100 first, but this would not be a prerequisite.

All students in the Bachelor of Design seeking a Minor in Sustainability must take a minimum of two of the following units: BEB901-BEB904

Design students enrolling in the Sustainability minor must first consult and obtain approval from the Subject Area Coordinator/Course Coordinator prior to enrolling in BEB801 or BEB802.

Select 48cp from the Sustainability Unit Options below:

Specialisation Units:
BEB901 Retrofitting for Sustainability
BEB902 Greening the Built Environment
BEB903 Greenhouse Solutions
BEB904 Eco-Innovation for Sustainability
BEB213 Sustainable Design Systems

Work-Integrated Learning Units (must address sustainability objectives):
BEB701 Work Integrated Learning 1
BEB702 Work Integrated Learning 2

Multi-disciplinary Project Units (must address sustainability objectives):
BEB801 Project 1
BEB802 Project 2

Work-integrated Learning 1 (BEBXMNSR-WKLRNG1)

* Up to two problem-based multidisciplinary project units

Notes:
Students would be expected to complete one of DEB100/ENB100/UDB100 first, but this would not be a prerequisite.

All students in the Bachelor of Design seeking a Minor in Sustainability must take a minimum of two of the following units: BEB901-BEB904

Design students enrolling in the Sustainability minor must first consult and obtain approval from the Subject Area Coordinator/Course Coordinator prior to enrolling in BEB801 or BEB802.

Select 48cp from the Work-integrated Learning Unit Options below:

Specialisation Units:
BEB901 Retrofitting for Sustainability
BEB902 Greening the Built Environment
BEB903 Greenhouse Solutions
BEB904 Eco-Innovation for Sustainability
BEB213 Sustainable Design Systems

Work-Integrated Learning Units (must address sustainability objectives):
BEB701 Work Integrated Learning 1
BEB702 Work Integrated Learning 2

Multi-disciplinary Project Units (must address sustainability objectives):
BEB801 Project 1
BEB802 Project 2

Construction Engineering Studies (ENBXSMJ-CONSENG)

* Up to two problem-based multidisciplinary project units

Notes:
Students would be expected to complete one of DEB100/ENB100/UDB100 first, but this would not be a prerequisite.

All students in the Bachelor of Design seeking a Minor in Sustainability must take a minimum of two of the following units: BEB901-BEB904

Design students enrolling in the Sustainability minor must first consult and obtain approval from the Subject Area Coordinator/Course Coordinator prior to enrolling in BEB801 or BEB802.

Select 48cp from the Work-integrated Learning Unit Options below:

Specialisation Units:
BEB901 Retrofitting for Sustainability
BEB902 Greening the Built Environment
BEB903 Greenhouse Solutions
BEB904 Eco-Innovation for Sustainability
BEB213 Sustainable Design Systems

Work-Integrated Learning Units (must address sustainability objectives):
BEB701 Work Integrated Learning 1
BEB702 Work Integrated Learning 2

Multi-disciplinary Project Units (must address sustainability objectives):
BEB801 Project 1
BEB802 Project 2

Electronic Circuit Engineering Studies (ENBXSMJ-ELECENG)

* Up to two problem-based multidisciplinary project units

Notes:
Students would be expected to complete one of DEB100/ENB100/UDB100 first, but this would not be a prerequisite.

All students in the Bachelor of Design seeking a Minor in Sustainability must take a minimum of two of the following units: BEB901-BEB904

Design students enrolling in the Sustainability minor must first consult and obtain approval from the Subject Area Coordinator/Course Coordinator prior to enrolling in BEB801 or BEB802.

Select 48cp from the Work-integrated Learning Unit Options below:

Specialisation Units:
BEB901 Retrofitting for Sustainability
BEB902 Greening the Built Environment
BEB903 Greenhouse Solutions
BEB904 Eco-Innovation for Sustainability
BEB213 Sustainable Design Systems

Work-Integrated Learning Units (must address sustainability objectives):
BEB701 Work Integrated Learning 1
BEB702 Work Integrated Learning 2

Multi-disciplinary Project Units (must address sustainability objectives):
BEB801 Project 1
BEB802 Project 2
Select 48cp from the Electronic Circuit Engineering Studies unit options below:

ENB150 Introducing Engineering Design
ENB240 Introduction To Electronics
ENB242 Introduction To Telecommunications
ENB243 Linear Circuits and Systems
ENB244 Microprocessors and Digital Systems
ENB245 Introduction To Design and Professional Practice
ENB246 Engineering Problem Solving
ENB345 Advanced Design and Professional Practice

Environmental Engineering Studies (ENBXSMJ-ENVLENG)

ENB110 Engineering Statics and Materials
ENB200 Introducing Engineering Systems
ENB280 Hydraulic Engineering
MAB126 Mathematics for Engineering 1
ENB274 Design of Environmentally Sustainable Systems
ENB372 Design and Planning of Highways
ENB376 Transport Engineering
ENB378 Water Engineering
ENB380 Environmental Law and Assessment
ENB383 Environmental Resource Management

Mechanical Engineering Studies (ENBXSMJ-MECHENG)

ENB110 Engineering Statics and Materials
ENB130 Mechanical and Thermal Energy
ENB212 Strength of Materials
MAB126 Mathematics for Engineering 1
ENB211 Dynamics
ENB215 Fundamentals of Mechanical Design
ENB221 Fluid Mechanics
ENB222 Thermodynamics 1
ENB231 Materials and Manufacturing 1
ENB311 Stress Analysis
ENB316 Design of Machine Elements

Engineering Studies Minor options

Introduction to Civil Engineering Studies (ENBXMNR-CIVLENG)

ENB110 Engineering Statics and Materials
ENB270 Engineering Mechanics of Materials
MAB126 Mathematics for Engineering 1
ENB272 Geotechnical Engineering 1
ENB276 Structural Engineering 1
ENB280 Hydraulic Engineering

Introduction to Electrical Engineering Studies (ENBXMNR-ELECENG)

ENB120 Electrical Energy and Measurements
ENB250 Electrical Circuits
MAB126 Mathematics for Engineering 1
ENB240 Introduction To Electronics
ENB246 Engineering Problem Solving

Introduction to Mechanical Engineering Studies (ENBXMNR-MECHENG)

ENB110 Engineering Statics and Materials
ENB212 Strength of Materials
MAB126 Mathematics for Engineering 1
ENB221 Fluid Mechanics
ENB222 Thermodynamics 1
ENB231 Materials and Manufacturing 1

Urban Development Minor options

Building Economics (UDBXMNR-BUILDEC)

UDB216 The Environment and the Quantity Surveyor
UDB316 Cost Planning and Control
Plus 1 from:

UDB110 Residential Construction and Engineering
UDB210 Commercial Construction and Engineering
Plus 1 from:

UDB113 Measurement 1
UDB104 Urban Development Economics

Legal Administration in Construction (UDBXMNR-LEGCONS)

(not available to UD40MJR-CONSMGT or UD40MJR-QUANSRV or UD40MJR-URBPLAN students)

UDB102 Applied Law
UDB312 Contract Administration
Plus 1 from:

UDB216 The Environment and the Quantity Surveyor
UDB101 Stewardship of Land
Plus 1 from:

UDB202 Business Skills
UDB314 Statutory Construction Law

Property Economics Development (UDBXMNR-PROPDEV)

(not available to UD40MJR-PROPECO students)

UDB140 Property Valuation 1
UDB240 Planning Theory and Processes
OR
UDB245 Urban Land Studies
(Planning students must select UDB245.)
UDB302 Development Process
OR
UDB243 Property Economics
(UD40 students must select UDB243.)
Select one unit from the Property Economics Development unit options below:

UDB242 Property Valuation 2
UDB246 Property Feasibility Studies
UDB341 Property Finance

Property Economics Investment (UDBXMNR-PROPINV)

(not available to UD40MJR-PROPECO students)

UDB140 Property Valuation 1
UDB242 Property Valuation 2

UDB246 Property Feasibility Studies
Plus 1 from:

UDB341 Property Finance
UDB344 Property and Asset Management

Property Economics Valuation (UDBXMNR-PROPVAL)

(not available to UD40MJR-PROPECO students)

UDB140 Property Valuation 1
UDB241 Property Law 1
UDB242 Property Valuation 2
UDB247 Property Valuation 3

Residential Construction (UDBXMNR-RESCONS)

(not available to UD40MJR-CONSMGT or UD40MJR-QUANSRV or UD40MJR-URBPLAN students)

Select four units from the Residential Construction unit options below:

UDB110 Residential Construction and Engineering
UDB111 Engineering Construction Materials
UDB112 Professional Studies 1
UDB113 Measurement 1
UDB213 Construction Estimating
UDB214 Professional Studies 2

Spatial Science Studies (UDBXMNR-SPATSCI)

(not available to UD40MJR-SPATSCI students)

Select four units from the Spatial Science Studies unit options below:

UDB181 Geospatial Positioning and GPS
UDB182 Surveying
UDB281 Geographic Information Systems
UDB282 Remote Sensing
UDB381 Geospatial Mapping
UDB387 Spatial and Land Information Management
UDB388 Spatial Analysis Practice

Urban and Regional Planning Studies (UDBXMNR-URBPLAN)

(not available to UD40MJR-URBPLAN students)

Select four units from the Urban and Regional Planning Studies unit options below, of which at least two must be advanced units.

Introductory Units:

UDB101 Stewardship of Land
UDB161 Introduction to Planning and Design
UDB162 History of Built Environment
UDB163 Land Use Planning
UDB164 Population and Urban Studies
Advanced Units:
UDB266 Planning Processes and Consultations
UDB267 Development Assessment and Infrastructure
UDB368 Urban Design
UDB369 Negotiation and Conflict Resolution
UDB370 Environmental Planning and Management
UDB471 Urban Planning Practice
UDB475 Regional and Metropolitan Policy

Language Minor options
Further information is located at:
http://www.bus.qut.edu.au/courses/languages/
Mandarin Language (BSBXMNR-MNDARIN)
Italian (BSGUMNR-ITALIAN)
Japanese (BSGUMNR-JAPAN)
Spanish (BSGUMNR-SPANISH)
French (BSUQMNRFRENCH)
German (BSUQMN-GERMAN)
Indonesian (BSUQMN-INDO)
Japanese (BSUQMN-JAPAN)
Korean (BSUQMN-KOREAN)
Russian (BSUQMN- RUSSIAN)
Spanish (BSUQMN-SPANISH)

Potential Careers:
Architect.

UNIT SYNOPSES

AMB210 IMPORTING AND EXPORTING
Trade has become fundamental to the survival and growth of many businesses in Australia as well as other economies. International business students need an understanding of the many challenges entailed in the management of trade. Import and export practice is an applied, technical and evolving area of international business operations that reflects the dynamic nature of trans-national trade in the global economy. This unit examines the importance of importing and exporting for Australia's economic development.

Prerequisites: BSB119 or CTB119
Equivalents: AMX210, IBB210
Credit points: 12
Campus: Gardens Point
Teaching period: 2012 SEM-1 and 2012 SEM-2

AMB303 INTERNATIONAL LOGISTICS
This unit examines international logistics through the concepts of international distribution channels and international supply chain management. Strategy in managing international logistical constraints is emphasised with practical studies of contemporary international supply chain management in international industries. Traditional costs and financial aspects of supply chain management are considered. Contemporary issues are incorporated including: the impact of e-business on international logistics; the evolution of new technologies for 'smart' packaging, warehousing and international stock control; the combination of international services with goods products; recent technological developments in international transportation and product quality control.

Prerequisites: AMB210, IBB210, AMB240, or CTB240
Equivalents: AMX303, IBB303
Credit points: 12
Campus: Gardens Point
Teaching period: 2012 SEM-1 and 2012 SEM-2

AMB336 INTERNATIONAL MARKETING
The aim of this unit is to provide students with a thorough understanding of the multiplicity of issues that impact on the development of international marketing strategies and plans and their operational implementation. The unit is highly applied and provides students with the following opportunities: to analyse global international firms, their marketing strategies and various international marketing issues in a variety of geographic and industry contexts; to evaluate methodologies and new practices for handling problems and issues typical of global and international markets and competition; to develop an operationally sound international marketing plan.

Prerequisites: AMB240, CTB240, AMB210, or IBB210
Equivalents: AMX336, IBB213
Credit points: 12
Campus: Gardens Point and Caboolture
Teaching period: 2012 SEM-1, 2012 SEM-2 and 2012 SUM

BEB110 ORGANISING AND MANAGING PROJECT TEAM
The unit focus is on the dynamics of managing and organising project teams involved in delivering built environment, engineering or infrastructure projects. Recent literature has identified the need for managers and leaders to acquire knowledge in the areas of self management and the management of others to contribute to project effectiveness. You will be introduced to key managerial and
human resource theories to assist in the development of analytical and interpretive skills to enable you to proactively and effectively lead project teams.

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

**BEB111 MANAGING PROJECT QUALITY**
This unit is one of four within the BEE minor in Project Collaboration and is designed to provide you with appropriate knowledge and skills needed for your involvement in delivering projects in professional organisations in the public and private sectors, by ensuring that the achieved project quality outcomes accord with client requirements and satisfy customer expectations.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

**BEB112 PRINCIPLE OF PROJECT MANAGEMENT**
Project Management is the overall planning, control and coordination of a project, from inception to completion, aimed at meeting a client’s requirements in order that the project will be completed on time within authorized cost and to the required quality standards. The aim of this unit is to provide the key concepts and foundation knowledge in project management, and to describe, clarify, and formalise project management process.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2

**BEB113 MANAGING PROJECT COST**
Cost is a major metric of a successful project management. This unit introduces the process of managing project cost which includes planning, estimating, budgeting, and controlling costs so that the project can be completed within the approved budget.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2

**BEB114 PROJECT FINANCING**
Project is growing in complexity and size. Many projects never get off the ground due to insufficient financing. It is therefore necessary for project managers to know the sources and cost of project funds in order to package a financially viable project for approval. This unit introduces capital budgeting, project finance, and risk analysis. It covers the capital allocation framework, project cash flows, cost of capital, financial risk analysis, and how various types of projects are financed.

**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2

**BEB210 INTRODUCTION TO COLLABORATION**
This unit introduces students to the foundational aspects of collaboration within the design and documentation of artefacts, using Building Information Modelling (BIM) approach. Focusing on multidisciplinary collaboration during the complete life cycle of a built environment facility. This unit is an approach to the theory and practice of BIM software, exploring the translation from Computer Aided Design (CAD) to BIM. This unit is also the foundation for BEB212 Advanced Collaboration.

**Assumed knowledge:** DE40/ UD40 students completion of Yr 1 units; EN40 students completion of Yr 1 & 2 units. Additionally, for all students, working knowledge of 3D CAD software for your discipline, demonstrated by completion of one unit utilising 3D CAD or equivalent.  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

**BEB211 PARAMETRIC DESIGN SYSTEMS**
This subject introduces students to the use of parametric geometry systems that are used in early stages of design. These are the systems used by major design firms such as Zaha Hadid and Frank Gehry (architecture), SOM (architecture/engineering) and Arup (engineering).

**Assumed knowledge:** DE40/ UD40 students completion of Yr 1 units; EN40 students completion of Yr 1 & 2 units. Additionally, for all students, working knowledge of 3D CAD software for your discipline, demonstrated by completion of one unit utilising 3D CAD or equivalent.  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

**BEB212 ADVANCED COLLABORATION**
In a real environment designers need to collaborate with others using a range of design tools provided by different software vendors. In this unit you will develop an understanding of interoperability and methods of maximising the benefits of information exchange across a range of design tools.

**Prerequisites:** BEB210  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2

**BEB213 SUSTAINABLE DESIGN SYSTEMS**
A range of sustainability tools will be covered that support environmental impact analysis, economic analysis and social impact assessment, within a holistic approach to design. The capabilities of the tools will be discussed and then used to build up appropriate workflows that support integrated assessment for sustainability. These will be applied to a comprehensive design problem to reinforce the students understanding.

**Assumed knowledge:** DE40/ UD40 students completion of Yr 1 units; EN40 students completion of Yr 1 & 2 units. Additionally, for all students, working knowledge of 3D CAD software for your discipline, demonstrated by completion of one unit utilising 3D CAD or equivalent.  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2
BEB701 WORK INTEGRATED LEARNING 1
This unit aims to provide you with the opportunity to learn in a workplace environment. It will involve attendance, participation, observation, critical reflection, and report writing on workplace activities. The emphasis of your critical reflection and report writing will be on identifying and describing aspects of professional relevance incorporating: collaboration and teamwork; work place, health and safety; professional conduct; ethical responsibility, and other aspects of your work place experience. This unit may form part of your (compulsory) course core (as required by professional accrediting bodies e.g. Engineers Australia, Australian Institute of Building, Royal Institution of Chartered Surveyors), or it may be one of several work integrated learning (WIL) units (selected as part of a Minor).
Assumed knowledge: This unit is not designed for first year students. It is recommended that you check WIL Community Blackboard site for information on enrolment pattern. If you are EN40 student you can only enrol after completing a minimum of 192 cp. Credit points: 12
Campus: Gardens Point Teaching period: 2012 SEM-1 and 2012 SEM-2

BEB702 WORK INTEGRATED LEARNING 2
This unit aims to provide you with the opportunity to continue to learn in a work place environment. It will involve attendance, participation, observation, and reflection on activities negotiated with the work place supervisor. The emphasis of your critical reflection for this unit is to explicate the culture of the organisation you work for via the profile it presents to its employees, clients and the public and critique the role of an individual in a work place and how this relates to other employees in meeting the organisations aims and objectives.
Credit points: 12 Campus: Gardens Point Teaching period: 2012 SEM-1 and 2012 SEM-2

BEB703 WORK INTEGRATED LEARNING 3
This unit will provide you with the opportunity to consolidate and extend your learning through a work placement and associated projects. It will involve some on-campus attendance at lectures and online tutorials as well as participation in, observation of, and reflection on activities undertaken during the work placement. The emphasis in the unit is on the critical reflection of academic learning and its application in practice. This is supported through an emphasis on the development of high order observation skills and critical reflection skills. The outcomes of your learning will be recorded in your e-portfolio. Most students undertaking this unit will do so as part of a WIL Minor.
Credit points: 12 Campus: Gardens Point Teaching period: 2012 SEM-1 and 2012 SEM-2

BEB704 WORK INTEGRATED LEARNING 4
As with the previous WIL units, this unit involves participation in a work placement, associated projects and on-campus lectures and seminars to further extend and consolidate students’ learning and preparation for professional practice. The emphasis in this unit is on developing a broader appreciation of the issues impacting on industry, the nature of academic and practice knowledge and how they can be productively integrated to respond to the needs of and the challenges facing professional practice. The unit also gives explicit attention to the continuing development of graduate capabilities including oral communications skills. This unit is normally undertaken as the last unit in the first WIL Minor.
Credit points: 12 Campus: Gardens Point Teaching period: 2012 SEM-1 and 2012 SEM-2

BEB705 WORK INTEGRATED LEARNING 5
This unit is normally undertaken as the first unit of a second WIL Minor. While the first WIL Minor emphasises the context of practice and its relationship to academia, the second WIL Minor focuses on the participation of students in work in a more proactive and leading way thereby providing the opportunity for sophisticated, collaborative and reciprocal learning and outcomes for all concerned. In this context, this unit introduces students to the notion of practice-led research and research-led practice and provides them with the opportunity to use practice-based projects as vehicles for further developing discipline knowledge as well as advanced critical enquiry skills. In undertaking the unit, students will collaborate with a project supervisor and prepare an interim and final report and seminar on the project.
Credit points: 12 Campus: Gardens Point Teaching period: 2012 SEM-1 and 2012 SEM-2

BEB706 WORK INTEGRATED LEARNING 6
This unit is normally undertaken as the first unit of a second WIL Minor. While the first WIL Minor emphasises the context of practice and its relationship to academia, the second WIL Minor focuses on the participation of students in work in a more proactive and leading way thereby providing the opportunity for sophisticated, collaborative and reciprocal learning and outcomes for all concerned. In this context, this unit introduces students to the notion of practice-led research and research-led practice and provides them with the opportunity to use practice-based projects as vehicles for further developing discipline knowledge as well as advanced critical enquiry skills. In undertaking the unit, students will collaborate with a project supervisor and prepare an interim and final report and seminar on the project.
Credit points: 12 Campus: Gardens Point Teaching period: 2012 SEM-1 and 2012 SEM-2
BEB707 WORK INTEGRATED LEARNING 7
This unit is normally undertaken as the first unit of a second WIL Minor. While the first WIL Minor emphasises the context of practice and its relationship to academia, the second WIL Minor focuses on the participation of students in work in a more proactive and leading way thereby providing the opportunity for sophisticated, collaborative and reciprocal learning and outcomes for all concerned. In this context, this unit introduces students to the notion of practice-led research and research-led practice and provides them with the opportunity to use practice-based projects as vehicles for further developing discipline knowledge as well as advanced critical enquiry skills. In undertaking the unit, students will collaborate with a project supervisor and prepare an interim and final report and seminar on the project.

Credit points: 12  Campus: Gardens Point  Teaching period: 2012 SEM-1 and 2012 SEM-2

BEB801 PROJECT 1
This unit is usually taken in the final year of study. Students complete an individual project involving the application of skills and knowledge attained during the earlier years of their degree program. For some students, this unit will be taken one of two 'project' units related to the same student project; in such cases this unit may be a pre-requisite or co-requisite to the second unit (or a follow-on from the first unit). The final ‘deliverable’ for this unit may vary for each discipline and details will be provided in lectures/tutorials and on the Blackboard website.

Equivalents: CEB411, CEB420, CNB434, EEB781-1, EEB889-1  Credit points: 12  Contact hours: 2 per week  Campus: Gardens Point  Teaching period: 2012 SEM-1 and 2012 SEM-2

BEB802 PROJECT 2
This unit is usually taken in the final year of study, and is only taken by students completing a two unit project. Students complete an individual project involving the application of skills and knowledge attained during the earlier years of their degree program. This unit will be taken as the second of two 'project' units related to the same student project.

Equivalents: CEB415, EEB782-2, EEB889-2  Credit points: 12  Contact hours: 2 per week  Campus: Gardens Point  Teaching period: 2012 SEM-1 and 2012 SEM-2

BEB901 RETROFITTING FOR SUSTAINABILITY
This unit is offered in Odd-numbered years only.
This unit will provide students with an opportunity to examine in depth current data on the condition of built and natural environments and the wellbeing of people living within these environments, worldwide and in Australia. Special attention will be given to problems observed in the built environment, such as greenhouse gas emissions, population increase, over consumption and resource depletion including water shortages, coastal degradation and urban sprawl.

Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-1

BEB902 GREENING THE BUILT ENVIRONMENT
This unit is offered in Even-numbered years only.
This unit presents the challenges and opportunities for built environment professionals to contribute to a sustainable society. It introduces a paradigm shift in environmental design from reducing negative environmental impacts to generating net positive impacts. It shows how, with a new approach to design, development can be a sustainability solution. Positive Development would increase overall social and natural capital beyond that which existed on site before settlement. Building design principles and eco-technologies are surveyed that address sustainability issues at the level of buildings, building components and materials. In addition, green practitioners will explain how they have dealt with impediments to sustainable development in an evening lecture series.

Credit points: 12  Campus: Gardens Point  Teaching period: 2012 SEM-1

BEB903 GREENHOUSE SOLUTIONS
This unit is offered in Odd-numbered years only.
The unit aims to briefly 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

BEB904 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

BSB119 GLOBAL BUSINESS
This unit examines the drivers of globalisation and the diversity of country markets at an introductory level. It develops the skills and understanding to identify and respond to the opportunities, challenges and risks of conducting business across politically, economically and culturally diverse environments. An authentic country feasibility study is undertaken to help identify where a firm can find opportunities both in terms of actual and potential markets and the location for value-adding activities. The unit aims for students to have developed a comprehension of the nature and role of globalisation and the drivers of international business, a. knowledge of the competitive forces and challenges confronting all business as a consequence of globalisation processes and an awareness of the additional knowledge and skills required of management to operate business internationally across a diversity of environments.

Antirequisites: BSB116, BSB112, BSD119  Equivalents: BSX119, CTB119  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Caboolture  Teaching period: 2012 SEM-1, 2012 SEM-2 and 2012 SUM

EDB007 CULTURE STUDIES: INDIGENOUS EDUCATION
Numerous government reports and recent discussions about reconciliation have called for an increased commitment to Indigenous education in Australia. Teachers are increasingly being asked to improve their skill, knowledge and understanding to teach Indigenous students, and to teach curricula which incorporates Indigenous viewpoints on social, cultural and historical matters. This unit begins with an analysis of the students' own cultural place in the Australian context and afterwards moves towards an understanding of Aboriginal and Torres Strait Islander perspectives on history and contemporary issues, and an understanding of why Aboriginal and Torres Strait Islander students have been so disadvantaged by the Australian education system.

Credit points: 12  Contact hours: 3 per week  Campus: Internet, Kelvin Grove and Caboolture  Teaching period: 2012 6TP4 and 2012 SEM-2

EDB038 INDIGENOUS AUSTRALIAN CULTURE STUDIES
This unit encourages an appreciation of the two distinct indigenous cultures of Australia and how external forces to Aboriginal and Torres Strait Islander cultures caused social, economic and political changes. It looks at traditional family life and organisation.

Credit points: 12  Campus: Kelvin Grove  Teaching period: 2012 SEM-1

EDB039 INDIGENOUS POLITICS AND POLITICAL CULTURE
This unit examines issues and influences underlying the world of indigenous politics: political representation; land rights; health; education; community development; criminal justice; culture and heritage. This unit has an Australian focus with New Zealand and North American comparisons.

Credit points: 12  Campus: Kelvin Grove  Teaching period: 2012 SEM-2

EDB040 INDIGENOUS KNOWLEDGE: RESEARCH ETHICS AND PROTOCOLS
This unit provides students with a critical examination of the major ethical and moral issues arising from the designing and conducting of research 'on/in' Australian Indigenous people/communities or issues. The unit examines the calls by Indigenous researchers for the decolonising of research methods - a process which critically examines the historical and philosophical bases of Western research and the frustrations of Indigenous researchers with various Western paradigms, academic traditions and methodologies.

Credit points: 12  Campus: Kelvin Grove  Teaching period: 2012 SEM-2

EDB041 INDIGENOUS AUSTRALIA: COUNTRY, KIN AND CULTURE
This unit aims to expand understanding of issues of importance to Indigenous people and to relate those issues to the practices in human service agencies. The Oodgeroo staff and leaders from the Indigenous community will work with staff from Social Work and Human Services in presenting this unit.

Antirequisites: SWB109  Credit points: 12

EDN612 CONDUCTING INNOVATIVE EDUCATIONAL RESEARCH
The unit aims to enhance capacities for undertaking research in educational and other learning contexts that is innovative in both its focus and its approach. The unit engages students in a comprehensive examination of relevant research theory and practical application.

Prerequisites: EDN611  Credit points: 12  Campus: Internet and Kelvin Grove  Teaching period: 2012 SEM-1 and 2012 SEM-2

ENB110 ENGINEERING STATICS AND MATERIALS
This unit introduces you to forces and moments between rigid bodies and to the properties of steel. This knowledge will help you to understand how major infrastructure systems (e.g. bridges, skyscrapers, roads, factories), mechanical systems (e.g. engines, turbines, pumps, vehicles), and electrical systems (e.g. power stations,
transmission lines, motors) are designed and built. This unit is one of four first year units covering fundamental engineering principles that you will need in your profession. **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1 and 2012 SEM-2

**ENB120 ELECTRICAL ENERGY AND MEASUREMENTS**

This unit introduces you to basic electrical circuit concepts. It requires you to perform circuit analysis, circuit synthesis, and the measurement and testing of relevant quantities within circuits. **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2 and 2012 SUM

**ENB130 MECHANICAL AND THERMAL ENERGY**

Engineers work with numerous kinds of systems where consideration must be given to the motion within, and associated energy of, the system. This unit introduces the student to the concepts of mechanical and thermal energy in the context of real engineering systems. The inter-relationships of between forces, motion and energy is described as related to the flow of energy within these engineering systems. After an introduction to engineering units, concepts and data, Newton’s first and second laws are used in the description of system motion and the concepts of force and energy, conservation of momentum and conservation of energy are introduced and described. Thermodynamic processes, certain thermo-physical parameters and the first and second law of thermodynamics are introduced and used to describe simple engineering systems. This is then expanded to include the generation and transport of energy through these systems in terms of convection, conduction and radiation heat transfer. **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1

**ENB150 INTRODUCING ENGINEERING DESIGN**

This unit introduces you to engineering design. A multi-disciplinary approach is taken with an emphasis in engineering systems, technical design and project management. **Assumed knowledge:** ENB110 is assumed knowledge. **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

**ENB200 INTRODUCING ENGINEERING SYSTEMS**

This unit will enable you as a graduating Built Environment and Engineering professional to take active and positive steps to transform professional practice in ways that promote the sustainability of our planet, our economy and our society. As future professionals in the fields of Design, Urban Development and Engineering Systems, you will need to understand and apply the concepts of sustainability in your professional practice if we are to achieve sustainable development in the 21st Century. **Credit points:** 12  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

**ENB211 DYNAMICS**

Fundamental equations of particle kinetics; energy, power, impulse and momentum; kinematics of rigid bodies in plane motion, relative motion and motion relative to rotating axes; kinetics of rigid bodies, Basic machine components, (Gears, clutches, brakes etc.), Single degree of freedom system. **Prerequisites:** (MAB126 or MAB180 or MAB131) and (ENB130 or PCB136 or PCB150)  **Assumed knowledge:** ENB110 or ENB101 are assumed knowledge **Equivalents:** MMB112  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1

**ENB212 STRENGTH OF MATERIALS**

This unit introduces the analysis of stress and strain in simple engineering components and systems such as uniaxial and bending stresses, deflection of beams, torsion, thin walled structures, combined loading, yield criteria, and introduces the finite element method (FEA). **Prerequisites:** ENB110 or ENB101 and ENB104  **Credit points:** 12  **Contact hours:** 5 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1

**ENB215 FUNDAMENTALS OF MECHANICAL DESIGN**

Basic procedures of design, design for sustainability, universal design, Concept development, creative problem solving, Basic component design, computational scheme in design, manufacture & materials. **Assumed knowledge:** MAB126 or MAB180 or MAB131, and ENB101 or ENB110, and ENB104 or ENB110 are assumed knowledge. **Equivalents:** MMB281  **Credit points:** 12  **Contact hours:** 5 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

**ENB221 FLUID MECHANICS**

This unit introduces the basic concepts of fluid mechanics and applies them to some simple engineering problems. **Assumed knowledge:** MAB126 or MAB180 or MAB131, and ENB101 or ENB110 are assumed knowledge. **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

**ENB222 THERMODYNAMICS 1**

Thermodynamic behaviour of substances; theory and application of the 1st and 2nd laws of thermodynamics; thermodynamic cycles, including gas cycles, vapour power cycles and refrigeration cycles; gas-vapour mixtures and the principles of air-conditioning; fuels and combustion. **Assumed knowledge:** MAB127 or MAB182 or MAB132, and ENB130 or PCB136 are assumed knowledge. **Credit points:** 12  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2
ENB231 MATERIALS AND MANUFACTURING 1
Materials and their engineering applications, Manufacturing systems and technology, material properties and manufacturing, material selection, failure, graphical communication.
Assumed knowledge: ENB104 or ENB110 is assumed knowledge. Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-1

ENB244 MICROPROCESSORS AND DIGITAL SYSTEMS
ENB244 is an introduction to microcontrollers and will cover topics from binary numbers, logic gates, and architectures, to assembly language and basic C programming. After this course you’ll have a basic understanding of how computers work and you’ll be able to develop programs for a microcontroller based computer system.
Prerequisites: ENB240 Assumed knowledge: ENB246 or INB104 is assumed knowledge. Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-2

ENB245 INTRODUCTION TO DESIGN AND PROFESSIONAL PRACTICE
Introduction to general principles of electronic circuit and electrical equipment design and realisation; design and implementation of basic electronic circuits; experience in undertaking engineering projects, in report writing, and working in teams. The unit gives students the opportunity to apply their theoretical knowledge to real-life engineering problems.
Assumed knowledge: ENB240 and ENB246 or INB104 is assumed knowledge. Equivalents: EEB584 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-2

ENB246 ENGINEERING PROBLEM SOLVING
This unit introduces students to the use of computers as tools for solving engineering problems. MATLAB is introduced as a numerical computing environment with the capacity to support complex mathematics and to be programmed to solve specific engineering problems. Stand alone application development using C++ is introduced as a means of exposing students to the high and low level computer programming concepts that are necessary to the implementation of engineering solutions in hardware specific programming environments.
Assumed knowledge: MAB126 or MAB180 or MAB131, and ENB103 or ENB120 is assumed knowledge. Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-2

ENB250 ELECTRICAL CIRCUITS
This unit introduces you to electrical circuit analysis. It shows how to determine the transient and steady state solution in single and three phase circuits as well as the interaction of fluxes and currents in transformers and electrical machines.
Prerequisites: ENB120 Antirequisites: ENB103 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-1

ENB260 ENGINEERING MECHANICS OF MATERIALS
This unit introduces calculating the stress produced in various members of a structural system due to the forces applied to them, and how to determine the design
specifications (size and shape) of the members to withstand the forces to prevent the structural system failing. **Prerequisites**: ENB101 or ENB110  **Credit points**: 12  **Contact hours**: 4 per week  **Campus**: Gardens Point  **Teaching period**: 2012 SEM-1

**ENB272 GEOTECHNICAL ENGINEERING 1**

Soil mechanics is a part of geotechnical engineering, soil types, their description, classification and engineering properties. The unit includes the following: granular and cohesive soil classification systems; volume and mass components; density and air voids; determination of soil geostatic vertical pressures; pore water pressures and effective stress; permeability theory and fluid seepage in soil, with erosion and piping analysis; soil shear strength assessment and application to retaining wall lateral pressures; retaining wall design; slope stability analysis and stabilisation. Computer simulation and analysis programs are used where appropriate.  

**Assumed knowledge**: ENB102 or ENB270 are assumed knowledge  
**Equivalents**: CEB209, CEB232  
**Credit points**: 12  
**Contact hours**: 6 per week  
**Campus**: Gardens Point  
**Teaching period**: 2012 SEM-1

**ENB273 CIVIL MATERIALS**

The unit provides students with a sound and practical approach to material properties and selection so that they may adapt to scientific and technological changes in the variety of products entering the market. They understand where the engineer fits in a quality assurance program and become aware of the numerous components of quality assurance and the costs generated by quality control and assurance. Students become aware of the effect of the working environment on different engineering materials. Among other things, they study the behaviour of concrete from the time it is manufactured to the end of its life, and develop knowledge of the parameters involved in manufacturing good concrete, and the consequences of delivering poor concrete.  

**Prerequisites**: ENB270 or ENB102. ENB270 can be studied concurrently.  
**Credit points**: 12  
**Contact hours**: 5 per week  
**Campus**: Gardens Point  
**Teaching period**: 2012 SEM-1

**ENB274 DESIGN OF ENVIRONMENTALLY SUSTAINABLE SYSTEMS**

This unit extends and applies the knowledge developed in BEB200 Introducing Sustainability to important issues such as site investigation, development of site planning criteria, site planning, environmental management and quality, pollution prevention and control, and resources and waste management. BEB200 and ENB274 form the foundations of the civil and environmental degree. This unit builds upon generic competencies acquired in BEB100 Introducing Professional Learning and ENB271 Design of Structural Timber and Earthworks. It also provides transport planning fundamentals, which will be built upon in ENB372 Design and Planning of Highways and ENB379 Transport Engineering and Planning Applications.  

**Prerequisites**: BEB200 or ENB200 or ENB100 or UDB100 or SCB110  
**Assumed knowledge**: ENB271 is assumed knowledge.  
**Equivalents**: CEB214, UDB214  
**Credit points**: 12  
**Contact hours**: 4 per week  
**Campus**: Gardens Point  
**Teaching period**: 2012 SEM-2

**ENB275 PROJECT ENGINEERING 1**

The unit commences with the development of the construction techniques common to site investigation, earthworks, pile driving, deep foundations, reinforced and prestressed concrete and steel erection. This operational understanding is extended into a study of the practices used to estimate cost and to administer contracts, including planning and the legal implications of operating in a commercial environment. The unit concludes with the issues surrounding the uncertainty of weather and of operating in remote environs.  

**Assumed knowledge**: ENB271 and ENB273 are assumed knowledge.  
**Equivalents**: CEB216  
**Credit points**: 12  
**Contact hours**: 4 per week  
**Campus**: Gardens Point  
**Teaching period**: 2012 SEM-2

**ENB276 STRUCTURAL ENGINEERING 1**

This unit includes the following: development of the method of moment distribution and its application in analysis of continuous beams and frames; theory of influence lines and its application to determine the effects of moving loads on beams and trusses; ‘pattern loading’ on frames and continuous beams; behaviour of reinforced concrete members; applications in the design of beams and columns.  

**Prerequisites**: ENB102 or ENB270  
**Assumed knowledge**: ENB273 and ENB271 is assumed knowledge.  
**Equivalents**: CEB215  
**Credit points**: 12  
**Contact hours**: 4 per week  
**Campus**: Gardens Point  
**Teaching period**: 2012 SEM-2

**ENB277 CONSTRUCTION ENGINEERING LAW**

A study of the Workplace Health and Safety Act 1989/1990, the regulations applying and Codes of Practice. The application of this legislation to a Site Safety Management Plan. Basic understanding of negligence, duty of care, nuisance, fraud and conversion. Contract Law including elements of contract, content of a valid contract, collateral, contract misrepresentation, implied terms; formal requirements and part performance; contract documents and their interpretations; substantial performance and quantum meruit.  

**Credit points**: 12  
**Contact hours**: 4 per week  
**Campus**: Gardens Point  
**Teaching period**: 2012 SEM-1
ENB280 HYDRAULIC ENGINEERING
This unit primarily provide a basic understanding of hydraulic (fluid) principles and an understanding of the use of these principles in engineering applications. The main topics to be covered are: Units and properties of fluids, Forces in static fluids, Buoyancy, Kinematics and continuity, The energy equation and the momentum equation; Similitude and dimensional analysis, Lift and drag, Frictional flow in pipes, Application of pipe resistance formulae, Fitting.
Assumed knowledge: MAB126 or MAB180 or MAB131, and ENB101 or ENB110 are assumed knowledge Credit points: 12 Contact hours: 4 per week Campus: Gardens Point

ENB311 STRESS ANALYSIS
Further analysis of stress and strain; torsion of prismatic sections and thin-walled sections; axisymmetric problems; energy methods; thin plates. Introduction to FEA including the use of a FEA software.
Prerequisites: ENB102 or ENB212 Equivalents: MMB212 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 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: 2012 SEM-1

ENB345 ADVANCED DESIGN AND PROFESSIONAL PRACTICE
Detailed design and realisation of typical electronic subsystems used in all areas of electrical and electronic systems engineering. The unit enhances the student's ability in solving complex engineering problems. The design builds on the theoretical knowledge gained in other units. The student is required to write a detailed technical report and also give an oral presentation on her/his design.
Prerequisites: ENB245 Equivalents: EEB684 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-2

ENB371 GEOTECHNICAL ENGINEERING 2
This unit includes: further study on the behaviour of soil and rocks; determination of subsurface pressures from surface loadings; soil settlement including time related clay consolidation settlement and immediate settlements on sand and clay as related to shallow foundations; assessment of bearing capacity and allowable bearing pressures under shallow foundations; pile foundation systems and analysis for capacity and settlement; rock mass behaviour, classification and joint shear strength applied to slope stability assessment and stabilisation measures.
Prerequisites: ENB272 Equivalents: CEB322 Credit points: 12 Contact hours: 5 per week Campus: Gardens Point Teaching period: 2012 SEM-2

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: 2012 SEM-1

ENB373 DESIGN AND CONSTRUCTION OF STEEL STRUCTURES
This unit includes the study of steelwork: design and construction; structural systems; load paths; rules of thumb; building layout; function and form; cladding; element and wind loading evaluation; idealisation, analysis, design action effects; space gas, columns and rafters; trusses and bracing; connections; knee ridges; base plate design; procurement and fabrication; scheduling and erection.
Prerequisites: ENB375 Assumed knowledge: ENB271 is assumed knowledge. Equivalents: CEB329 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-2

ENB375 STRUCTURAL ENGINEERING 2
This unit considers the following: limit states design of steel structures; buckling and ultimate strength behaviour of steel structures; tension members, compression members; local and global buckling (flexural and flexural torsional buckling modes) concepts as applied to compression members and beams; effective lengths of compression members and beams; design of beams; effect of lateral restraints on buckling; web stresses including web crippling and buckling; beam-columns; bolted and welded connections; unsymmetric bending of beams including principal second moments of area; shear stresses in beams of thin-walled open cross-sections and their shear centres. Most cold-formed steel sections are unsymmetric and hence the latter topics are useful in steel design.
Prerequisites: ENB102 or ENB270 or ENB276
Assumed knowledge: ENB273 is assumed knowledge.
Equivalents: CEB318 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 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 multimodal 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: 2012 SEM-2

ENB378 WATER ENGINEERING
The main topics to be covered in this unit follow: the hydrologic cycle and its application to the estimation of runoff from small catchments; probability and risk and the selection of design floods; hydrologic data; estimation of peak runoff using the Rational Formula estimation of runoff hydrographs using rainfall-runoff routing models; the hydraulic characteristics of open channels; uniform flow, gradually varied flow and rapidly varied flow; the hydraulic characteristics of culverts and retention basins; the operation of urban drainage systems.
Prerequisites: ENB201 or ENB280 Equivalents: CEB319 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-1

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 overarched 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: 2012 SEM-1

ENB380 ENVIRONMENTAL LAW AND ASSESSMENT
The adverse consequences of human activity have resulted in the adoption of various international treaties, enactment of stringent legislative requirements, and a growing demand for improved management practices. Engineers need to be aware of the way in which the law works, to be able to communicate with lawyers, and to recognise the legal and political implications of their projects. An understanding of the local, state, and federal governments' power to regulate development and the legal and planning requirements and assessment procedures is essential for professional engineering practice.
Prerequisites: ENB383 Assumed knowledge: BEB200 or ENB200 are assumed knowledge. Equivalents: CEB416 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-2

ENB381 CIVIL ENGINEERING CONSTRUCTION
Detailed studies of the methods and equipment employed in the execution of civil engineering construction. Includes earthworks, heavy foundations, steel fabrication and erection, bridge construction, marine construction, water retaining structures, road and airfield construction and mechanical erection.
Assumed knowledge: ENB275 is assumed knowledge. Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-1

ENB382 ESTIMATING IN ENGINEERING CONSTRUCTION
The majority of the unit applies construction, planning and commercial understanding previously developed to fundamental estimating skills suited to firm bidding. The conversion of an estimate to a tender, includes the review process, the determination of risk and profit and the drafting of a tender letter conclude the critical content. A comparison with sub-contract pricing and the use of Bills of Quantity is studied and is linked to conceptual estimating, preliminary estimates for budgets and proposals.
Prerequisites: ENB381 Assumed knowledge: ENB271 and ENB273 are assumed knowledge. Equivalents: CEB513 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2012 SEM-2

ENB383 ENVIRONMENTAL RESOURCE MANAGEMENT
This unit addresses management of solids and hazardous wastes generated from domestic, commercial, and industrial sources. It includes the following: waste minimisation; promotion of efficient use of resources; promotion the use of waste through recycling and energy production; viewing waste as a resource; reducing the mass, volume and toxicity of the waste; disposing of waste in a socially and environmentally acceptable manner; waste avoidance; recycling; energy production; treatment; disposal. Waste
management is an important aspect of civil and environmental engineering education.

**Assumed knowledge:** ENB274 or ENB200 or BEB200 is assumed knowledge  
**Equivalents:** CEB418  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

### ENB441 APPLIED IMAGE PROCESSING

The aim of this unit is to introduce the fundamentals and applications of image processing to the students. The unit covers topics such as image acquisition, image representation, image enhancement, image segmentation, and image filtering. These topics will be introduced using a project-based approach with applications to engineering practical problems.

**Prerequisites:** ENB342  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

### 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 as 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:** 2012 SEM-2

### ENB471 DESIGN OF CONCRETE STRUCTURES AND FOUNDATIONS

Concrete design and construction; roles of building professionals; current structures; structural systems; load paths; rules of thumb; building layout, function and form, design effects; seismic and element loads; formwork and placement constraints; reinforced and prestressed concrete slabs, beams and columns; architectural issues, connections and detailing; site investigation, spread and pile footings and foundations; retaining walls.

**Prerequisites:** ENB276 and ENB371  
**Equivalents:** CEB424  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

### ENB474 FINITE ELEMENT METHODS

The Finite Element Method (FEM) is 20th century’s answer for treating complex problems, which had hitherto remained impossible to solve, in several areas of engineering such as structural, geotechnical, electrical, heat conduction, etc. The applications of this powerful computer based method has rapidly extended to cover several areas of engineering. In the structures area, the displacements and stresses in complex concrete connections, dams, deep beams with openings, shell structures, etc., can only be obtained by finite element analysis. Basic theory of FEM and its features such as engineering actions, modelling techniques, choice of elements, boundary conditions and input data will be covered in this unit. It aims in equipping engineers with skills to apply FEM effectively in structural, geotechnical and water engineering problems.

**Prerequisites:** ENB475  
**Assumed knowledge:** ENB102 or ENB270 are assumed knowledge.  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2

### KIB103 INTRODUCTION TO WEB DESIGN AND DEVELOPMENT

This unit provides an introduction to theories and skills underpinning the application of multimedia technology with the Creative Industries, providing a foundation of conceptual and practical skills related to contemporary modes of electronic hypermedia production, communication and publishing.

**Antirequisites:** INB271, KIP403  
**Equivalents:** KIB807, KKB007, KKB818  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2012 SEM-1

### MAB126 MATHEMATICS FOR ENGINEERING 1

Building upon the foundations established in MAB125 or Senior Maths C, this unit addresses the significant role of mathematical modelling using differential equations for the description and resolution of simple and complex problems relevant to the discipline of engineering. The formulation and solution of such problems is supported by appropriate advanced mathematical concepts used for function approximation, differentiation and integration. The unit is located in first year for application in core engineering units throughout the rest of the course. Undertaking this unit will allow you to develop your problem-solving skills, especially in the context of mathematical techniques applied to ordinary differential equations used to model engineering relevant problems.

**Antirequisites:** MAN121  
**Assumed knowledge:** Grade of at least Sound Achievement in Senior Mathematics C (or equivalent) or MAB125 or MAB180 or MAB120 is assumed knowledge  
**Equivalents:** MAB111, MAB121, MAB131, MAB182  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1, 2012 SEM-2 and 2012 SUM

### MAB127 MATHEMATICS FOR ENGINEERING 2

Building upon the foundations established in MAB125 or Senior Maths C, this unit addresses the significant role of mathematical modelling using vectors, matrices and
multivariable calculus for the description and resolution of simple and complex problems relevant to the discipline of engineering. The formulation and solution of such problems is supported by appropriate advanced mathematical concepts used for function approximation, differentiation and integration. You will complete this unit in first year or first semester of second year depending on your initial maths background. Undertaking this unit will allow you to develop your problem solving skills, especially in the context of mathematical techniques related multivariable functions, vectors and matrices used to model engineering relevant problems.

**Assumed knowledge:** Grade of at least Sound Achievement in Senior Mathematics C (or equivalent) or MAB125 or MAB120 or MAB131 or MAB182 is assumed knowledge. **Equivalents:** MAB112, MAB122, MAB132

**Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1, 2012 SEM-2 and 2012 SUM

**MAB210 STATISTICAL MODELLING 1**
This unit is intended for all mathematics degree students. all double degree students with mathematics, secondary education students with mathematics as a teaching area, and quantitatively-oriented students in other courses, particularly in Science, Information Technology, Engineering and areas of Business. The unit will provide you with fundamental skills and operational knowledge for all further study in statistics, and highly relevant foundations for other areas of mathematics such as mathematical modelling and operations research. The unit will also help you develop fundamental problem-solving skills in statistics and mathematics.

**Prerequisites:** MAB121 or MAB122. MAB121 or MAB122 can be studied in the same teaching period as MAB210  **Antirequisites:** MAN210  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point

**MAB314 STATISTICAL MODELLING 2**
This unit includes: models for stochastic processes and statistical methods, which have applications in engineering, information technology, finance, and physical and life sciences. Markov chains; random walks; branching processes; queueing processes; long-term behaviour of processes; use of generating functions; bivariate and conditional distributions; transformations of random variables; beta and gamma distributions; mixture distributions; order statistics, minimum and maximum.

**Prerequisites:** MAB122 and MAB210  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point

**MAB524 STATISTICAL INFERENCE**
This unit includes: maximum likelihood estimation, confidence intervals and hypothesis tests, introduction to Bayesian inference, prior and posterior distributions, Bayesian inference for binomial data, Poisson count data and normal data, simulation techniques for sampling from distributions. Use of software Matlab and R.

**Prerequisites:** MAB314  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1

**MAB536 TIME SERIES ANALYSIS**
Data in business, economics, engineering and the natural sciences often occur in the form of time series. Time Series Analysis provides models and methods for the analysis of such series of correlated observations. The ability to forecast optimally, to understand causal relationships between variables, and to analyse dynamic systems is of great practical importance. For example, optimal sales forecasts are needed for business planning, transfer function models are needed for improving the design and control of a process plant, and vector time series models are used to represent the relationships and interactions of macroeconomic variables in an economy. This unit is concerned with the building of time series models and the use of such models for practical applications such as optimal forecasting, simulation, causality analysis, and analysis of dynamic systems.

**Prerequisites:** MAB314 and MAB414  **Antirequisites:** MAN536, MAB526  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point

**MGB225 INTERCULTURAL COMMUNICATION AND NEGOTIATION SKILLS**
The course develops students' abilities to identify and resolve problems in cross-cultural communication or negotiation situations where cultural differences have created misunderstandings or undesirable or unexpected outcomes. It first explores the concept of 'national culture' by considering the work of major theorists of cultural value dimensions - from Hall to Schwartz. Students are encouraged to analyse communication/negotiation process issues in terms of these value dimensions and to practise managing the process of communication/negotiation to improve their outcomes.

**Prerequisites:** BSB115, CTB115, BSB119 or BSB124  **Antirequisites:** MGB312  **Equivalents:** IBB205, MGX225  **Credit points:** 12  **Contact hours:** 3  **Campus:** Gardens Point and Caboolture  **Teaching period:** 2012 SEM-1 and 2012 SEM-2

**PYB110 PSYCHOLOGICAL RESEARCH METHODS**
This unit includes the following: an overview of the purposes and strategies of research; elementary research design; operationalising variables; descriptive statistics; distributions; measures of central tendency and spread; standard scores and percentiles; understanding relationships between variables through correlation and
regression; an introduction to hypothesis-testing procedures using t-tests.

NOTE for Summer 2010 students:
Teaching will not commence until January 2011.
Students should set aside the full 2 weeks + 1 day for the unit. Final exam will be on Friday 28 January.

Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove  Teaching period: 2012 SUM-2 and 2012 SEM-2

UDB101 STEWARDSHIP OF LAND
This interdisciplinary unit will introduce students to the characteristics of land and land tenure with a focus on land use and property rights. The particular issues of native title, land contamination, heritage and alternative utility will be covered. Thereafter the property development process will be described in general terms and emphasis placed on the impact of environmental and social factors on the financial evaluation. The final component will cover the management of land, both urban and regional. Case studies will demonstrate the part that each discipline plays in the stewardship of land and its development.
Equivalents: CNB105  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2012 SEM-1

UDB102 APPLIED LAW
Introduces the fundamental principles and practices of Australian governance as they affect the built environment professions. The relevance of government policies, laws and regulations and aspects of Tort, Contract and Land and Environmental laws applicable to the Development and Construction processes are examined in context.
Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2012 SEM-2

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.

Antirequisites: BSB113, BSD113  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2012 SEM-2

UDB110 RESIDENTIAL CONSTRUCTION AND ENGINEERING
You learn to read plans and build a house by studying construction theory and legislation, visiting building sites, and sketching construction details. Focus on the four traditional methods of construction, brick veneer, cavity brick, block and timber, evolution of building, Building Code of Australia and Australian Standards; methods of construction; foundation and footings; linings; claddings; windows; doors; joinery; staircases; roof coverings; balanced cut and fill; services; retaining walls; acoustic and fire safety requirements; specifications for residential construction; protection to the public during construction; temporary support and demolition of structures; energy efficiency design; building defects and failures.
Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2012 SEM-1

UDB111 ENGINEERING CONSTRUCTION MATERIALS
The choice of material and the reliance on the material being “fit for purpose” is essential to the success of the building project. This unit provides you with an introduction to building materials. We will cover the structural and non-structural materials used in the construction process and focus on the basic properties, construction applications, behaviour, strength, durability, suitability, and limitations.
Equivalents: CNB102  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2012 SEM-1

UDB112 PROFESSIONAL STUDIES 1
Assignment-based project orientated group work where you design and document a new dwelling preparing a full design of a single level brick-veneer type dwelling to a standard appropriate for building approval including architectural and structural design; construction materials; building services; statutory obligations and the building approval process; measuring and cost planning; contract administration; construction planning and site layout.
Prerequisites: UDB110  Equivalents: CNB109  Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point  Teaching period: 2012 SEM-2

UDB113 MEASUREMENT 1
This unit introduces the scope of the role of the quantity surveyor working independently and for contractors. It examines the tendering process and the bill of quantities; the Australian standard method of measurement (rules, taking-off methodology, mensuration and formulae); measurement of various work sections (finishes, roofing, partitions, woodwork, metalwork, painting, doors, windows,
glazing, hardware, suspended ceilings and masonry). 
Prerequisites: UDB110  Equivalents: CNB110  Credit 
points: 12  Contact hours: 4 per week  Campus: 
Gardens Point  Teaching period: 2012 SEM-2

UDB140 PROPERTY VALUATION 1
This unit provides an introduction to property valuation 
fundamentals including value principles and concepts, 
market data and the methods of valuation, with particular 
focus on the valuation of residential property. 
Equivalents: CNB194  Credit points: 12  Contact 
hours: 4 per week  Campus: Gardens Point  Teaching 
period: 2012 SEM-1 and 2012 SEM-2

UDB161 INTRODUCTION TO PLANNING AND DESIGN
This unit introduces students to basic principles of planning 
and urban design. Students learn about urban design 
principles such as legibility, permeability, robustness and 
imageability of places. Students also investigate the 
planning issues facing cities and consider the complex 
problem-solving skills required to respond to these. 
Credit points: 12  Contact hours: 3 per week  Campus: 
Gardens Point  Teaching period: 2012 SEM-1

UDB162 HISTORY OF BUILT ENVIRONMENT
This unit uses examples from the global development of 
human settlement to demonstrate the importance of 
interactions between the environment, society, and 
technology in shaping the built environment. Students will 
gain an appreciation of the important role played by history in 
forming the context for contemporary society, policy 
making, and design. 
Credit points: 12  Contact hours: 3 per week  Campus: 
Gardens Point  Teaching period: 2012 SEM-1

UDB163 LAND USE PLANNING
The purpose of this unit is to examine the planning and 
management of public and private land. Unit topics include: 
different performance and prescriptive zoning methods; an 
overview of levels of planning agencies responsible for land 
use planning in Queensland; and the land development 
process and regulations that govern land use planning. 
Credit points: 12  Contact hours: 3 per week  Campus: 
Gardens Point  Teaching period: 2012 SEM-2

UDB164 POPULATION AND URBAN STUDIES
This unit introduces the students to the demographic, 
economic, social and physical aspects of our cities to help 
understand the nature of cities we live in. The topics 
covered include: demographic and economic changes in 
cities, theoretical models of cities, issues such as social 
diversity, gentrification, masterplanned communities, and 
public spaces in cities. 
Credit points: 12  Contact hours: 3 per week  Campus: 
Gardens Point  Teaching period: 2012 SEM-2

UDB181 GEOSPATIAL POSITIONING AND GPS
This unit will introduce students to skills and knowledge of 
spatial referencing, site measurement; use of maps and air 
photos. It will include introduction to map projections; 
concepts and theory of Global Positioning Systems; 
introduction to global and local coordinate systems; mission 
planning and data collection. The unit will highlight the 
importance of geospatial positioning applications in society. 
Credit points: 12  Contact hours: 3 per week  Campus: 
Gardens Point  Teaching period: 2012 SEM-1

UDB182 SURVEYING
This unit provides a foundation in field instrumentation and 
survey computations; a framework for acquisition of a high 
level of knowledge and practical competence in plane 
survey computations; use of optical and electronic 
theodolites; EDM and total electronic station systems, and a 
focus on collection/presentation of pre-design contour and 
detail spatial information. 
Equivalents: PSB640  Credit points: 12  Contact 
hours: 5 per week  Campus: Gardens Point  Teaching 
period: 2012 SEM-2

UDB202 BUSINESS SKILLS
This unit focuses on career preparation with a business 
orientation. Current popular business tools are assembled 
and critiqued. A sequential approach is used starting with 
characteristics of the Resume, business protocol and ethics, 
the business plan, assessing business risk and Professional 
Liability. 
Equivalents: CNB228  Credit points: 12  Contact 
hours: 3 per week  Campus: Gardens Point  Teaching 
period: 2012 SEM-2

UDB210 COMMERCIAL CONSTRUCTION AND 
ENGINEERING
The aim of this unit is to provide you with extensive 
theoretical knowledge to manage and supervise the 
construction of (1) low rise residential apartment buildings 
(2) commercial buildings i.e. shops, offices; and (3) 
industrial buildings. Focus on legislative requirements; on-
site inspections; site management techniques; temporary 
works & construction plant requirements, labour; In-ground 
construction; External treatments (cladding); formwork; 
bracing and stability; services co-ordination; Landscaping; 
Environmental, building defects, disabled access; universal 
design; load-bearing masonry; services co-ordination; 
internal fit-out; tilt panel construction; portal/steel frames. 
Prerequisites: UDB110  Equivalents: CNB107  Credit 
points: 12  Contact hours: 5 per week  Campus: 
Gardens Point  Teaching period: 2012 SEM-1

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  **Equivalents**: CNB305  
**Credit points**: 12  **Contact hours**: 3 per week  
**Campus**: Gardens Point  **Teaching period**: 2012 SEM-1

**UDB214 PROFESSIONAL STUDIES 2**
Assignment-based project orientated group work where you design and document a commercial development from a project management perspective considering constructability drawing on your skills in estimating; planning; scheduling; site organisation; environmental planning & sustainable urban development. Focus on special construction techniques; reuse of buildings and building materials; durability of materials, minimisation and disposal of construction waste; construction practice; planning and use of appropriate forms of construction for various building sizes and types; community negotiations; statutory responsibilities including access for people with a disability.

**Prerequisites**: UDB112 or BEB200 or ENB200  
**Assumed knowledge**: UDB210 is assumed knowledge.  
**Equivalents**: ENB274  
**Credit points**: 12  **Contact hours**: 3 per week  
**Campus**: Gardens Point  **Teaching period**: 2012 SEM-2

**UDB216 THE ENVIRONMENT AND THE QUANTITY SURVEYOR**
This unit will involve professional quantity surveying including image and status, fees, codes of ethics, professional competence and continuing professional development. In terms of employment, professional engagement in the workplace will be covered including terms of engagement, professional indemnity insurance, quality assurance and financial asset management. The work of quantity surveying takes place within a social and environmental context and this relates to the interactions between business and environmental interests including the natural environment, environment economics and ecologically sustainable development.

**Equivalents**: CNB209  
**Credit points**: 12  **Contact hours**: 3 per week  
**Campus**: Gardens Point  **Teaching period**: 2012 SEM-1

**UDB240 PLANNING THEORY AND PROCESSES**
This unit is an introduction to the fundamental principles of urban planning control and regulation in Queensland. Property economists need to be aware of the history, development and current impact of planning regulation on property development and investment. This unit covers current development planning approval, assessments, conditions and appeals processes. Integration of economics, equity and social responsibility which include conservation and heritage protection and its impact on development and land are also discussed.

**Antirequisites**: UD40MJR-URBPLAN - Urban and Regional Planning Major  
**Equivalents**: CNB295  
**Credit points**: 12  **Contact hours**: 3 per week  
**Campus**: Gardens Point  **Teaching period**: 2012 SEM-1

**UDB241 PROPERTY LAW 1**
A practicing property professional requires an understanding of real property law in order to optimise the utility of property assets and therefore the value of property assets. This unit covers aspects of real property law which impact on professional property practice in Queensland.

**Assumed knowledge**: UDB102 is assumed knowledge.  
**Equivalents**: CNB191  
**Credit points**: 12  **Contact hours**: 3 per week  
**Campus**: Gardens Point  **Teaching period**: 2012 SEM-1

**UDB242 PROPERTY VALUATION 2**
An understanding of valuation methodologies relating to commercial property assessment is central to the work of any property professional. This unit develops an understanding of the various methodologies and the application of these valuation methodologies to practical scenarios. This unit also further develops an understanding of the various market sectors and how the market impacts on the value of a property asset.

**Prerequisites**: UDB140  
**Equivalents**: CNB292  
**Credit points**: 12  **Contact hours**: 3 per week  
**Campus**: Gardens Point  **Teaching period**: 2012 SEM-1

**UDB243 PROPERTY ECONOMICS**
The unit will relate macro and micro economics to the broad property markets. It will consider the practical impact of supply and demand factors on the different market sectors. The nature and complexities of property cycles are covered with specific reference to commercial and industrial property in Australia.

**Prerequisites**: UDB104  
**Credit points**: 12  **Contact hours**: 4 per week  
**Campus**: Gardens Point  **Teaching period**: 2012 SEM-1

**UDB245 URBAN LAND STUDIES**
The aim of the unit is to take the students’ fundamental knowledge of economic theory developed in earlier units
and to apply that knowledge to the specific area of urban development. In particular we seek to develop in students an awareness of those economic imperatives which drive and shape urban form.  

**Prerequisites:** UDB243  
**Equivalents:** CNB291  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2  

**UDB246 PROPERTY FEASIBILITY STUDIES**  
Property economists play an important role in advising on the investment worth of property. As such the unit introduces students to assessment of property as an investment asset taking into account financing and taxation arrangements in addition to risk and return measures.  

**Prerequisites:** UDB242  
**Equivalents:** CNB392  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2  

**UDB247 PROPERTY VALUATION 3**  
It is part of the role of a Property Valuer to perform valuations for statutory purposes and to represent those valuations in the capacity of an expert witness. It is imperative that you have the necessary knowledge to undertake statutory valuations and have an understanding of the role of a Valuer as an expert witness. This unit will enhance the knowledge and skills you have developed in prior valuation units and apply this in the statutory and special use property valuation context.  

**Prerequisites:** UDB241 and UDB242  
**Equivalents:** CNB391  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2  

**UDB266 PLANNING PROCESSES AND CONSULTATIONS**  
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 professionals to develop and apply flexible and widely relevant planning processes.  

**Prerequisites:** (UDB163 and UDB164) or ENB274 or DE40MJR-LNDARCH - Landscape Architecture Major  
**Equivalents:** PSB433  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1  

**UDB267 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.  

**Prerequisites:** UDB163 or DE40MJR-LANDARC - Landscape Architecture Major  
**Equivalents:** PSB445  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2  

**UDB281 GEOGRAPHIC INFORMATION SYSTEMS**  
This unit investigates the basic concepts of geographic information systems. Topics to be covered include components of GIS, spatial databases, data acquisition, reference frameworks, use of photographs and images, spatial analysis and graphic output design issues. The unit will highlight the importance of geographic information systems the unit will highlight the importance of geospatial positioning applications in society.  

**Equivalents:** PSB631  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1  

**UDB282 REMOTE SENSING**  
This unit includes the following: history and principals of remote sensing; types of imagery, image interpretation, satellite systems; supervised and unsupervised image classification; interpretation, analysis and presentation of data; applications in the earth sciences.  

**Equivalents:** PSB655  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2  

**UDB302 DEVELOPMENT PROCESS**  
This unit brings together concepts gained on strategic evaluation, risk, time management, organisational behaviour, planning, construction and development feasibility analysis. It places this knowledge in a total project context and provides you with an understanding of the processes involved in property development from conception to completion and beyond.  

**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-2  

**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:** 2012 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:** 2012 SEM-1

UDB314 STATUTORY CONSTRUCTION LAW
Commercial Law. Sale of goods; Hire purchase; Trade practices; Negotiable instruments; Insurance law; Partnership law and company law; Bankruptcy and liquidation; Arbitration (the agreement, appointment of an arbitrator; Conduct of an arbitrator; Powers and duties; Enforcement of an award, costs; Alternative dispute resolution. Building Law; Study of the Building Code of Australia and Building Regulations, which control the design, construction of building works; emphasis on all building law; a study of the Acts Interpretation Act, Town Planning Acts; etc.
**Prerequisites:** UDB110, UDB210, UDB310, and UDB215  **Equivalents:** CNB309  **Credit points:** 12  **Contact hours:** 5 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

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 hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

UDB344 PROPERTY AND ASSET MANAGEMENT
With an increasing number of companies and institutions now leasing property rather than direct ownership, the management of these assets is becoming a crucial aspect of business practice. This unit will cover the physical and financial aspects of commercial, retail and industrial property management and the role of property as a strategic real estate asset. The area of Corporate Real estate and Asset management will also be covered in the unit.
**Prerequisites:** UDB242  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

UDB368 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.
**Prerequisites:** UDB265  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1

UDB369 NEGOTIATION AND CONFLICT RESOLUTION
This unit introduces planning students to the theory and practice of negotiation and conflict resolution. The aim is that students will develop their ability to change their perspective on conflict by seeing it as an inevitable and sometimes valuable part of planning. Students will learn to develop empathy for those they are in conflict with while also communicating their own needs assertively. Content includes key principles of conflict resolution, and practical mediation/negotiation techniques.
**Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1

UDB370 ENVIRONMENTAL PLANNING AND MANAGEMENT
This unit introduces environmental planning and management issues, policies, and methods relevant to your future practice as a planner, engineer, designer, or other built environment professional. As part of a multi-disciplinary
team, you will participate in investigation of a contemporary case study, engaging in creative problem-solving and synthetic thinking incorporating skills and knowledge from prior units framed within new perspectives. By the end of the unit, you will have a firm grasp on a range of current environmental planning and management issues, and a framework for assimilating and addressing environmental policy in your future practice.

Equivalents: PSB462  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2012 SEM-2

**UBD381 GEOSPATIAL MAPPING**

This unit will provide the student with a sound knowledge and understanding of image mapping principles (including photogrammetry) and processes as well as practical skills and understanding required to collect spatial information and to produce fundamental mapping products. In addition this unit will provide the skills and knowledge of the principles and characteristics of cartographic communication, surface modelling techniques and digital mapping.

**Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2012 SEM-1**

**UBD387 SPATIAL AND LAND INFORMATION MANAGEMENT**

This unit provides you with an understanding of the spatial data infrastructure that will increasingly underpin decision making in diverse areas of development including resource management; urban and rural planning; cadastral administration and facilities management. The unit will provide an introduction to the concepts of a spatial data system planning overview, system implementation, and standards, legal issues, and knowledge-based techniques.

**Prerequisites:** UDB281  **Equivalents:** PSB612  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1

**UBD388 SPATIAL ANALYSIS PRACTICE**

This unit expands a student’s knowledge in the field of spatial information science within the framework of a practical exercise focussing on advanced spatial analysis techniques. This approach facilitates exposure to and the incorporation of emerging processes of acquisition, validation, storage, extraction, analysis and presentation of spatial information. A geographic information system environment is utilised to provide a practical introduction to industry practices and client expectations. This unit will provide students with enhanced knowledge of the extent, theory and practice of spatial information science and an enhanced ability to define and solve problems associated with manipulation of spatial information systems to meet client expectations.

**Prerequisites:** UDB281  **Equivalents:** PSB654  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

**UBD471 URBAN PLANNING PRACTICE**

Students develop skills of interpretation and problem solving to plan the development of a locality or suburb with a population of up to fifteen thousand. Consulting with local governments, communities and stakeholders, and working in supervised multi-disciplinary teams, they produce a real-world local area plans, integrating a wide range of housing, access, work, play, community, cultural and environmental concerns.

**Prerequisites:** UDB266  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2

**UBD475 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.

**Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-2