Bachelor of Urban Development (Quantity Surveying) (UD40)

Year offered: 2011
Admissions: Yes
CRICOS code: 056387B
Course duration (full-time): 4 years
Domestic Fees (indicative): 2011: CSP $3,878 (indicative) per semester
International Fees (indicative): 2011: $11,375 (indicative) per semester
Domestic Entry: February
International Entry: February
QTAC code: 412312: students apply to study Bachelor of Urban Development (Construction Management)
Past rank cut-off: 81
Past OP cut-off: 10
OP Guarantee: Yes
Assumed knowledge: English (4, SA) and Maths A, B or C (4, SA)
Preparatory studies: For information on acquiring assumed knowledge visit http://www.qut.edu.au/assumed-knowledge
Total credit points: 384
Standard credit points per full-time semester: 48
Course coordinator: Dr John Hayes
Discipline coordinator: Dr Eric Too
Campus: Gardens Point

Why choose this course?
The Quantity Surveying graduates enjoy extremely high rates of employment. This course is also one of the highest for student satisfaction at QUT.

Career outcomes
Quantity Surveying involves providing advice to the construction industry on the financial and legal aspects of new constructions and operation of existing buildings. Quantity Surveyors usually work in offices but can also visit building sites, clients and members of teams. Graduates are employed by private quantity surveying firms, government departments and building companies.

Practical teaching
You will undertake a specified period of work experience and will also be offered opportunities such as field trips, site visits which will enhance your employment opportunities.

Industry links
Staff have excellent academic and industry track records and maintain strong links and cooperation with industry.

Course structure
The course provides integrated learning opportunities with allied disciplines of Spatial Science, Construction Management, Property Economics and Urban and Regional Planning.

Facilities / technology
You will have first-hand experience of the latest technologies used in the industry.

Convenience
You will study at QUT's Gardens Point campus in the centre of Brisbane, within easy walking distance to public transport, including buses, trains and ferries.

Who should do this course?
If you are interested in any of the following you may enjoy a career in Quantity Surveying:
- Working with a variety of people from a range of professions.
- Working in a team
- The building industry.

Overview
The course prepares students to work as quantity surveyors or building economists. The course covers building management, cost planning and control, building development techniques, building research, computer software application, measurement of construction, and legal issues. Applicants will be initially enrolled in the Bachelor of Urban Development (Construction Management) but will be directed to take suitable units to graduate with a Quantity Surveying primary major.

Special Course Requirements
You are required to gain a minimum of 80 days of approved employment in the final year of the course.

Professional Recognition
This course is fully accredited by the Australian Institute of Quantity Surveyors, The Royal Institution of Chartered Surveyors (Honours version only), and the Board of Quantity Surveyors Malaysia (with Property Economics second major).

International Student Entry
International students must maintain an enrolment program that will allow them to complete their course within the specified timeframe of their eCoE (electronic Confirmation of Enrolment).

**Second Majors and Minors**
You will have the opportunity to undertake a second major (8 units) or 2 minors (4 units each) to enhance and broaden your knowledge in a related field or area of interest.

Please refer to your course rules before making your selection.

**QUANTITY SURVEYING Second Major and Minor Options**

**Second Major:**
*Choose one second major from the following options:*

- Property Economics Development
- Property Economics Investment
- Property Economics Valuation
- Urban and Regional Planning
- Architectural Studies

**OR**

**Minors:**
*Choose two minors from the following options. Remember, if you take two Minors, one Minor must be from outside your course:*

- Property Economics Development
- Property Economics Investment
- Property Economics Valuation
- Urban and Regional Planning
- Architectural Studies
- BEE Work Integrated Learning Minor
- BEE Sustainability Minor
- BEE International Minor
- BEE Indigenous Studies Minor
- BEE Research Minor
- BEE Project Collaboration Minor
- BEE Collaborative Digital Design Minor

**Limits on grades of 3**
A new policy concerning grades of 3 came into effect from 1 January 2009 (QUT MOPP C/5.2). With effect from this date grades of 3 are no longer considered a conceded or low pass but are classified as a fail grade. Any grades of 3 awarded prior to 1 January 2009 retain the conceded pass status and will be counted for graduation purposes up to the maximum number of grades of 3 permitted for your course.

Grades of 3 incurred in units that commence after 1 January 2009 will not count towards your degree. Further information is available on the Student Services website.

**Further Information**
School of Urban Development - Phone +61 7 3138 2678, Fax +61 7 3138 1515, email: bee.enquiries@qut.com

**Full-time Course Structure - Commencing February 2010 onwards**

**Year 1 - Semester 1**
- UDB100 Urban Development and Sustainability
- UDB101 Stewardship of Land
- UDB110 Residential Construction and Engineering
- UDB111 Engineering Construction Materials

**Year 1 - Semester 2**
- UDB200 Project Planning in Urban Development
- UDB104 Urban Development Economics
- UDB112 Professional Studies 1
- UDB113 Measurement 1

**Year 2 - Semester 1**
- UDB210 Commercial Construction and Engineering
- UDB212 Measurement 2
- UDB213 Construction Estimating
- UDB216 The Environment and the Quantity Surveyor

**Year 2 - Semester 2**
- UDB102 Applied Law
- UDB202 Business Skills
- UDB215 Building Services Engineering
- UDB315 Measurement 3

**Year 3 - Semester 1**
- UDB310 Highrise Construction and Engineering
- UDB312 Contract Administration
- UDB315 Measurement 3

**Year 3 - Semester 2**
- UDB314 Statutory Construction Law
- UDB316 Cost Planning and Control

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Year 4 - Semester 1

BEB701 Work Integrated Learning 1
UDB301 Research Methods
Second Major/Minor unit
Second Major/Minor unit

Year 4 - Semester 2

BEB801 Project 1
UDB302 Development Process
Second Major/Minor unit
Second Major/Minor unit

Second Major and Minor Options

Please refer to Second Major and Minor information under Course Summary.

Potential Careers:
Estimator, Manager, Quantity Surveyor.

UNIT SYNOPSISES

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: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

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: 2011 SEM-1 and 2011 SEM-2

UDB100 URBAN DEVELOPMENT AND SUSTAINABILITY
This unit introduces you to the essential professional skills and practises common to the fields and disciplines of urban development.

Through this unit you will have an opportunity to develop and demonstrate professional knowledge in your specialized area while also developing foundation academic and university skills that you will use to enhance and support your further studies. Concepts relating to professional practice, ethics, information management and sustainability will be addressed throughout the unit. Information from this unit will be consolidated in UDB200.

Antirequisites: DEB100 and ENB100 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2011 SEM-1

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: 2011 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: 2011 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.
Prerequisites: UDB110
Equivalents: CNB109
Contact hours: 12 Contact hours: 5 per week Campus: Gardens Point Teaching period: 2011 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: 2011 SEM-1

UDB111 ENGINEERING CONSTRUCTION MATERIALS
Structural and non structural materials used in the construction process are examined focusing on the basic properties, construction applications, behaviour, strength, durability, suitability, and limitations. Material manufacture; acoustic and thermal properties; fire tests and fire hazard properties; issues such as cleaning, maintenance, corrosion protection, deterioration and ageing; Sustainable development; Material recycling, Storage on site, Installation processes; identification and causes of building defects and recommendations for potential remedies.
Equivalents: CNB102
Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2011 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
Contact hours: 12 Contact hours: 5 per week Campus: Gardens Point Teaching period: 2011 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: 2011 SEM-2

UDB200 PROJECT PLANNING IN URBAN DEVELOPMENT
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 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2011 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: 2011 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; Energy, 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:** 2011 SEM-1

**UDB212 MEASUREMENT 2**
Measurement is a core skill among building professionals. This skill is particularly important in relation to the production of quantified documents for the purposes of tendering and estimating. This unit covers the following: measurement of various work sections (concrete, formwork, reinforcement, groundworks, underpinning, tanking, structural steelwork, exterior elements, and bored piers); and the development and application of builders’ quantities.

**Prerequisites:** UDB113  **Equivalents:** CNB204
**Credit points:** 12  **Contact hours:** 5 per week  **Campus:** Gardens Point  **Teaching period:** 2011 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:** 5 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-1

**UDB215 BUILDING SERVICES ENGINEERING**
Fire Services: Fire detection, suppression and extinguishment; statutory requirements for maintenance of essential active fire services; Hydraulics Services: Building hydraulic services including water supply, fire protection and sanitary waste disposal systems. Mechanical Services: Air movement; Types of ventilation; Air-conditioning systems and heating; Installation procedures and the issue of confined spaces; Basis of design and effect of architectural style; Electrical Services: Transformers, sub-stations, switchboards, protection devices, lighting systems, stand-by generators, security systems; systems monitoring and energy management; vertical transportation systems. Energy Efficient Services: Examination of energy efficient design on services.

**Equivalents:** CNB203  **Credit points:** 12  **Contact hours:** 5 per week  **Campus:** Gardens Point  **Teaching period:** 2011 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:** 5 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-1

**UDB301 RESEARCH METHODS**
Research Methods will introduce students to the range of methods and techniques that may be utilised in examining questions related to professional practice. A comprehensive overview of research methods will be provided in order that students are able to contribute to research as a part of their professional practice, and to enable them to critically analyse research findings and publications.

**Equivalents:** CNB395  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-1

**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:** 2011 SEM-2

**UDB310 HIGHRISE CONSTRUCTION AND ENGINEERING**
Students learn how to construct a high rise structure from the basement to the roof. Focus on protection to the public during construction, temporary support; demolition; temporary services; deep excavation and foundations; retention and shoring systems; structural components;
multilevel formwork; interaction of building components, systems and services; common building faults and failures and rectification; alternative forms of external cladding; waterproofing problems.

**Prerequisites:** UDB210  
**Equivalents:** CNB201  
**Credit points:** 12  
**Contact hours:** 5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1

### UDB312 CONTRACT ADMINISTRATION

The administration of construction contracts represents one of the core applications for both construction managers and quantity surveyors. In order to appreciate some of the commercial implications of contract administration you will study administrative implications for both parties to the contract.

**Equivalents:** CNB302  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 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:** 2011 SEM-2

### UDB315 MEASUREMENT 3

Measurement is a core skill among building professionals. This skill is particularly important in relation to the production of quantified documents for the purposes of tendering and estimating. This unit covers measurement of building services (hydraulics, drainage, electrical and mechanical works).

**Prerequisites:** UDB212  
**Equivalents:** CNB310  
**Credit points:** 12  
**Contact hours:** 5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1

### UDB316 COST PLANNING AND CONTROL

Interrelationship between construction industry and economy; Fundamental principles of cost management (design and construction cost planning and cost control); Nature and purpose of cost planning and cost control systems; Contract costing (historical accounting) and anticipatory (forecast final cost / value); Design economics, cost and value concepts, cost information systems, cost modelling, cost analyses, cost indices, cost data, cost implications of design variables; Life cycle costing and modelling including design knowledge in virtual environments; Value management, including energy efficiency in buildings, and value alignment process for project delivery; Asset management and building maintenance; Risk management in cost planning and cost control.

**Equivalents:** CNB307  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-2