Bachelor of Corporate Systems Management/Bachelor of Information Technology (IT07)

Year offered: 2010
Admissions: Yes
CRICOS code: 063028M
Course duration (full-time): 4 years
Domestic fees (indicative): 2010: CSP $3,890 (indicative) per semester
International Fees (indicative): 2010: $10,500 (indicative) per semester
Domestic Entry: February
International Entry: February
QTAC code: 416932
Past OP cut-off: 74
Past OP cut-off: 13
OP Guarantee: Yes
Assumed knowledge: English (4,SA), Maths A, B or C (4,SA)
Preparatory studies: For information on acquiring assumed knowledge visit http://www.studentservices.qut.edu.au/apply/ug/info/knowledge.jsp
Total credit points: 384
Standard credit points per full-time semester: 48
Course coordinator: Richard Thomas (Information Systems), Dr Taizan Chan (Corporate Systems Management)
Campus: Gardens Point

Course Description

This degree equips you to build and apply creative, innovative IT solutions across diverse industries. A hands-on, real world based curriculum gives you the opportunity to explore a wide range of areas within the two strands of this degree, and gain deep understanding within your chosen area speciality, such as networking, software engineering, data warehousing, business process modelling, enterprise systems, information management, web technologies, or digital societies. You will experience an innovative, hands-on approach to learning through projects where you develop IT systems. You will be able to gain entrepreneurial skills if you wish to learn how to develop an idea into a commercial opportunity. You learn to harness your creativity and people skills to maximise the impact of your technical know-how in the booming IT marketplace. It positions you for a challenging and rewarding career within the global economy. Full-time students are eligible for the Cooperative Education Program; paid industry work experience with credit towards your degree. Students are also offered many other work-integrated learning opportunities where you receive first-hand industry experience.

Study Areas

IT07 will not have nominated majors and minors and consequently there will not be a Study Area A shown on a graduate's parchment. Instead, IT07 will have specialisations. The specialisation areas that will be available for students will include:

- Business Process Management
- Data Warehousing
- Digital Societies
- Enterprise Systems
- Information Management
- Network Systems
- Software Engineering
- Web Technologies

Entry Requirements

Year 12 or equivalent
Prerequisites: Nil
Assumed Knowledge: English (4,SA), Maths A, B or C (4,SA)
Primary Fields: B or C
Secondary Fields: B or C
OP Guarantee: Yes

International Students

English language requirements
In addition to the above academic entry requirements, international students must meet the University’s English language requirements of IELTS of 6.5 (with no lower than 6.0 for any one band).

Pathways to Further Studies

In 2001, the Faculty introduced an accelerated Honours program to increase the number of Bachelor of Information Technology students continuing their studies to complete the Honours year. The program allowed selected high achieving students the opportunity to undertake one postgraduate unit in the final semester of their a BIT degree (or double degree) which would be counted both for completion of the degree and towards the Honours program. The program also provided students with the opportunity to commence their Honours studies over the Summer Semester.

An alternative to the Honours program is the Master of Information Technology (Research). Students who complete a BIT degree (or double degree) with a grade point average equal to, or greater than 5 (7 point scale) and who have decided against enrolling in an Honours program, could undertake this course. In addition, students may wish to enrol in the re-designed postgraduate coursework Masters...
which has ten specialisations allowing students to either extend their area of interest or specialise in other areas at the Masters level.

Cooperative Education

Cooperative Education Program
The School of IT’s Cooperative Education Program gives you the opportunity of 10-12 months paid industry placement during your course where you can integrate real experience with what you’re learning in your degree. Companies that QUT’s Coop Ed students have worked with include Energex, Boeing, CITEC, CSC Mining, Environmental Protection Agency, Dialog, UNiTAB, RACQ and many Queensland Government departments. The Coop Ed Program is available to Australian citizens and permanent residents only.

Find out more about the Cooperative Education Program.

Further Information
For further information about this course, please contact:

Course Coordinator
Dr Taizan Chan or Mr Richard Thomas
Phone: (07)3138 2782
Email: enquiry.scitech@qut.edu.au

IT07 - Course Structure for students who commenced in 2010

IT07 Course Outline 2010

Year 1, Semester 1
INB120 Corporate Systems
INB122 Organisational Databases
INB101 Impact of IT
INB102 Emerging Technology

Year 1, Semester 2
INB123 Project Management Practice
BSB115 Management
INB103 Industry Insights
INB104 Building IT Systems

Year 2, Semester 1
INB220 Business Analysis
BSB126 Marketing

IT Specialisation Option

Year 2, Semester 2
INB124 Information Systems Development
MGB223 Entrepreneurship and Innovation

IT Breadth Option

Year 3, Semester 1
INB322 Information Systems Consulting
INB221 Technology Management
INB201 Scalable Systems Development

IT Specialisation Option

Year 3, Semester 2
INB300 Professional Practice in IT
INB313 Electronic Commerce Site Development

General Elective

IT Specialisation Option

Year 4, Semester 1
INB312 Enterprise Systems Applications
INB325 Corporate Systems Management Project
INB301 The Business of IT

IT Specialisation Option

Year 4, Semester 2
INB320 Business Process Modelling
INB302 Capstone Project

IT Specialisation Option

IT Specialisation Option

IT07- Bachelor of Corporate Systems Management/Bachelor of Information Technology

IT07 Course Outline 2009

Year 1, Semester 1
INB120 Corporate Systems
INB122 Organisational Databases
INB101 Impact of IT
INB102 Emerging Technology

Year 1, Semester 2
INB123 Project Management Practice
BSB115 Management
INB103 Industry Insights
## IT Specialisation Option Unit List

**IT Specialist Option Units**

You must complete four (4) units from the following list. Please ensure you have completed a minimum of 36 credit points (3 units) of IT Breadth Option Units before commencing these units. The units are grouped in areas to assist you in focusing your studies.

<table>
<thead>
<tr>
<th>Year 2, Semester 1</th>
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<tbody>
<tr>
<td>INB104</td>
<td>Building IT Systems</td>
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<tr>
<td>INB220</td>
<td>Business Analysis</td>
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<tr>
<td>BSB126</td>
<td>Marketing</td>
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<td>IT Breadth Option</td>
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<th>Year 2, Semester 2</th>
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<tr>
<td>INB124</td>
<td>Entrepreneurship and Innovation</td>
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<td>MGB223</td>
<td>IT Breadth Option</td>
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<tr>
<td>INB322</td>
<td>Information Systems Consulting</td>
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<td>INB221</td>
<td>Technology Management</td>
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<tr>
<td>INB201</td>
<td>Scalable Systems Development</td>
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<th>Year 3, Semester 2</th>
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<tr>
<td>INB300</td>
<td>Professional Practice in IT</td>
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<tr>
<td>INB313</td>
<td>Electronic Commerce Site Development</td>
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<td>General Elective</td>
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<th>Year 4, Semester 1</th>
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<tr>
<td>INB312</td>
<td>Enterprise Systems Applications</td>
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<tr>
<td>INB325</td>
<td>Corporate Systems Management Project</td>
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<tr>
<td>INB301</td>
<td>The Business of IT</td>
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<th>Year 4, Semester 2</th>
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<tr>
<td>INB320</td>
<td>Business Process Modelling</td>
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<tr>
<td>INB330</td>
<td>Information Management</td>
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<tr>
<td>INB302</td>
<td>Capstone Project</td>
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<td>Special Option</td>
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### 1. BUSINESS PROCESS MANAGEMENT:

- INB320 Business Process Modelling
- INB321 Business Process Management
- INB322 Information Systems Consulting
- INB123 Project Management Practice

### 2. DATA WAREHOUSING:

- INB340 Database Design
- INB341 Software Development With Oracle
- INB342 Enterprise Data Mining
- INB343 Advanced Data Mining and Data Warehousing

  Please note: INB343 not offered in 2010

### 3. DIGITAL ENVIRONMENTS:

- INB345 Mobile Devices
- INB346 Enterprise 2.0
- INB347 Web 2.0 Applications
- INB335 Information Resources

### 4. ENTERPRISE SYSTEMS:

- INB123 Project Management Practice
- INB221 Technology Management
- INB311 Enterprise Systems
- INB312 Enterprise Systems Applications

### 5. NETWORK SYSTEMS:

- INB350 Internet Protocols and Services
- INB351 Computer Network Administration
- INB352 Network Planning and Deployment
- INB353 Wireless and Mobile Networks

### 6. SOFTWARE ENGINEERING:

- INB370 Software Development
- INB371 Data Structures and Algorithms
- INB372 Agile Software Development
- INB374 Enterprise Software Architecture

### 7. WEB TECHNOLOGIES:

- INB313 Electronic Commerce Site Development
- INB373 Web Application Development
- INB374 Enterprise Software Architecture
- INB385 Multimedia Systems

### 8. UNGROUPED:

- INB204 Special Topic 1
- INB205 Special Topic 2
- INB304 Special Topic 3
INB305  Special Topic 4
INB306  Project 1
INB307  Project 2
INB308  Project 3
INB355  Cryptology and Protocols
INB365  Systems Programming
INB860  Computational Intelligence for Control and Embedded Systems

Please note:
INB343 & INB323 are not offered in 2010

**IT Breadth Option Unit List**

**IT Breadth Option Units**

You must complete four (4) units from the following list. You should not commence these units until you have completed INB101, INB102, INB103 and INB104.

INB120  Corporate Systems
INB210  Databases
INB220  Business Analysis
INB250  Systems Architecture
INB251  Networks
INB255  Security
INB270  Programming
INB271  The Web
INB272  Interaction Design

**UNIT SYNOPSES**

**BSB115 MANAGEMENT**

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

**Credit points:** 12  **Contact hours:** 3 per week **Campus:** Gardens Point and Caboolture **Teaching period:** 2009 SEM-1, 2009 SEM-2 and 2009 SUM  **Incompatible with:** BSD115, CTB115

**BSB126 MARKETING**

This introductory subject examines the role and importance of marketing to the contemporary organisation. Emphasis is placed on understanding the basic principles and practices of marketing such as the marketing concept, market segmentation, management information systems and consumer behaviour. The unit explores the various elements of the marketing mix, with special reference to product, price, distribution, and promotion, including advertising and public relations. By way of introduction only, key issues relating to services marketing, e-marketing and strategic marketing are also canvassed.

**Credit points:** 12  **Contact hours:** 4 per week **Campus:** Gardens Point and Caboolture **Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM  **Incompatible with:** BSB116, CTB126

**INB101 IMPACT OF IT**

You will gain an appreciation of the massive and positive impact that IT has had on a wide range of fields including business, science, engineering, education and health. You will learn about the benefits of increased productivity due to IT. You will consider ethical issues and possible negative impacts of IT. You will raise your awareness of the social
implications of IT systems for society at the global, local and personal levels. You will develop an informed position on issues, and justify your reasoning with considered supportive arguments.

Prerequisite(s): NIL  Corequisite(s): NIL  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1 and 2009 SEM-2  Incompatible with: ITB361

INB101 IMPACT OF IT
You will gain an appreciation of the massive and positive impact that IT has had on a wide range of fields including business, science, engineering, education and health. You will learn about the benefits of increased productivity due to IT. You will consider ethical issues and possible negative impacts of IT. You will raise your awareness of the social implications of IT systems for society at the global, local and personal levels. You will develop an informed position on issues, and justify your reasoning with considered supportive arguments.

Antirequisites: ITB361, INN101  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1 and 2010 SEM-2

INB102 EMERGING TECHNOLOGY
The aim of this unit is to provide you with a conceptual framework so that you clearly identify Information Technologies and their purpose. This task will be fun as it covers a wide spectrum of ideas and allows us to examine some currently popular technologies. Information Technology has become so entwined with everyday life that identifying its scope is difficult, which also makes it difficult to identify opportunities where IT might further infiltrate into our daily lives for work and play. To achieve these aims, the unit introduces you to some of the theories and engineering practicalities that have already resulted in technological advances in the area of information technology. Concepts leading to existing technologies are introduced during lectures, which are followed by laboratory sessions where students will be encouraged to discuss social change, future information tools and explore the concepts required for constructing these technologies.

Prerequisite(s): NIL  Corequisite(s): NIL  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1 and 2009 SEM-2  Incompatible with: ITB005

INB103 INDUSTRY INSIGHTS
This unit aims to develop your awareness of the career possibilities in the ICT industry and to equip you with some of the essential skills required of an ICT professional. The unit helps you to derive a roadmap for your career; to enable you to identify the qualities, skills and interests you need to possess, to plan your career path. The unit will also introduce you the inter-disciplinary nature of ICT careers.

Antirequisites: ITB002  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1 and 2010 SEM-2

INB103 INDUSTRY INSIGHTS
This unit aims to develop your awareness of the career possibilities in the ICT industry and to equip you with some of the essential skills required of an ICT professional. The unit helps you to derive a roadmap for your career; to enable you to identify the qualities, skills and interests you need to possess, to plan your career path. The unit will also introduce you the inter-disciplinary nature of ICT careers.

Prerequisite(s): NIL  Corequisite(s): NIL  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1 and 2009 SEM-2  Incompatible with: ITB002

INB104 BUILDING IT SYSTEMS
This team-based unit is an integrated introduction to information technology designed to engage, inspire and inform and will demonstrate the important role that technical system design and development plays in achieving robust operation of a large variety of technological solutions. This unit will give you substantial hands-on, practical learning experiences and will motivate you through engagement in the creative, explorative and meaningful development of technological artefacts that operate in real world contexts.
Prerequisite(s): Nil  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  
Teaching period: 2009 SEM-1 and 2009 SEM-2  Incompatible with: ITB001 and ITB003

**INB104 BUILDING IT SYSTEMS**

This team-based unit is an integrated introduction to information technology designed to engage, inspire and inform and will demonstrate the important role that technical system design and development plays in achieving robust operation of a large variety of technological solutions. This unit will give you substantial hands-on, practical learning experiences and will motivate you through engagement in the creative, explorative and meaningful development of technological artefacts that operate in real world contexts.

**Antirequisites:** ITB001  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  
Teaching period: 2010 SEM-1 and 2010 SEM-2

**INB120 CORPORATE SYSTEMS**

Corporate Systems Management is a growing area where people can make a difference to the way organisations and societies operate. In key business domains, such as Government, Health, Finance, Utilities and Primary Industries, Corporate Systems Managers play a vital role in directing the socio-technical systems that affect everyone’s lives. This unit will help students to gain an overview of these major roles and key business domains in order to set the scene for their future studies and help them to match their emerging professional interests with potential career directions.

**Antirequisites:** ITB360  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  
Teaching period: 2010 SEM-1

**INB120 CORPORATE SYSTEMS**

Corporate Systems Management is a growing area where people can make a difference to the way organisations and societies operate. In key business domains, such as Government, Health, Finance, Utilities and Primary Industries, Corporate Systems Managers play a vital role in directing the socio-technical systems that affect everyone’s lives. This unit will help students to gain an overview of these major roles and key business domains in order to set the scene for their future studies and help them to match their emerging professional interests with potential career directions.

**Prerequisite(s):** Nil  **Corequisite(s):** Nil  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1  **Incompatible with:** ITB360

**INB122 ORGANISATIONAL DATABASES**

Databases are a key feature in modern organisational systems. Stores of data are the prerequisite for organisational knowledge and are the substance of technology applications. Databases underpin all technologies, platforms and application areas such as online transactions (e.g. shopping), health information systems, web services, e-government, banking and geographical information systems. Corporate Systems Managers understand how databases are used in business domains and the benefits gained from capturing, storing and retrieving quality data to assist organisational planning and decision making. Professionals who understand the privacy and legislative requirements as they pertain to database security and management are increasingly in demand.

**Antirequisites:** INN122  **Equivalents:** ITB362  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1

**INB122 ORGANISATIONAL DATABASES**

Databases are a key feature in modern organisational systems. Stores of data are the prerequisite for organisational knowledge and are the substance of technology applications. Databases underpin all technologies, platforms and application areas such as online transactions (e.g. shopping), health information systems, web services, e-government, banking and geographical information systems. Corporate Systems Managers understand how databases are used in business domains and the benefits gained from capturing, storing and retrieving quality data to assist organisational planning and decision making. Professionals who understand the privacy and legislative requirements as they pertain to database security and management are increasingly in demand.

**Prerequisite(s):** Nil  **Corequisite(s):** Nil  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1  **Incompatible with:** ITB362

**INB123 PROJECT MANAGEMENT PRACTICE**

Successful businesses use Project Management (PM) processes to structure the implementation, upgrades and process improvement activities undertaken within organisations. This unit investigates project management processes and analyses, combines and applies the basic elements and tools of successful projects to ICT cases. With a focus on contemporary organisations, the unit covers activities such as communication and risk management, change management, recording keeping and project reporting. The unit covers practical, relevant and topical PM issues delivered as a complex project activity.
Antirequisites: INN500  
Assumed knowledge: Completion of 48 credit points of an Undergraduate study is assumed knowledge.  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point  
Teaching period: 2010 SEM-2

INB123 PROJECT MANAGEMENT PRACTICE
Successful businesses use Project Management (PM) processes to structure the implementation, upgrades and process improvement activities undertaken within organisations. This unit investigates project management processes and analyses, combines and applies the basic elements and tools of successful projects to ICT cases. With a focus on contemporary organisations, the unit covers activities such as communication and risk management, change management, recording keeping and project reporting. The unit covers practical, relevant and topical PM issues delivered as a complex project activity.

Prerequisite(s): Nil  
Corequisite(s): Nil  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point  
Teaching period: 2009 SEM-2  
Incompatible with: NIL

INB124 INFORMATION SYSTEMS DEVELOPMENT
IT professionals work with a wide variety of information systems and are increasingly required to interact with other professionals and understand business domains. In many cases it is necessary to develop custom systems to satisfy business requirements. Problem solving and communication skills and an understanding of programming concepts and logic are required to effectively work with information systems developers. In this dynamic industry, self-managed learning is necessary to remain abreast of technology innovations.

Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point  
Teaching period: 2010 SEM-2

INB201 SCALABLE SYSTEMS DEVELOPMENT
Not offered in 2009

Prerequisite(s): Nil  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point

INB201 SCALABLE SYSTEMS DEVELOPMENT TBA

Prerequisites: (INB102 or ITB005) and (INB104 or ITB001)  
Assumed knowledge: Completion of 36cp of Breadth units is assumed knowledge  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point  
Teaching period: 2010 SEM-1

INB204 SPECIAL TOPIC 1

This unit gives you the opportunity to apply, under appropriate guidance, the knowledge and skills gained in your course to date and to execute a substantial development project. The ability to apply technical knowledge and skills to real-life situations is essential for information technology professionals. A substantial project, under academic supervision, will develop your initiative and ability to apply your knowledge and skills in a professional capacity. Completing the project will also enable you to appreciate the complementary nature of the course material in total, particularly the need for careful project management.

Prerequisites: INB371  
Assumed knowledge: 
Knowledge of programming in Java, C# or C++. Knowledge of basic data structures (stacks, queues, trees, linked lists, hash tables), complexity analysis  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point

INB205 SPECIAL TOPIC 2
This unit gives you the opportunity to apply, under appropriate guidance, the knowledge and skills gained in your course to date and to execute a substantial development project. The ability to apply technical knowledge and skills to real-life situations is essential for information technology professionals. A substantial project, under academic supervision, will develop your initiative and ability to apply your knowledge and skills in a professional capacity. Completing the project will also enable you to appreciate the complementary nature of the course material in total, particularly the need for careful project management.

Prerequisites: INB255, INB351 and INB365  
Assumed knowledge: Basic computer security knowledge, a good understanding of the use of Unix operating systems, computer networking and Programming experience (such as Python, C#, C, Java).  
Other requisites: Students must have completed 192 credit points towards their bachelor degree. Students must have a GPA of 5.5  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point

INB210 DATABASES
The aim of this unit is to help you develop your knowledge, understand a formal specification tool (ORM) for modelling information systems unambiguously and to apply this formal technique to conceptualise information systems found in many real world application domains.

Assumed knowledge: Students are expected to have solid IT background knowledge (e.g., completion of at least 192 credit points)  
Equivalents: ITB004, ITB115  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point  
Teaching period: 2010 SEM-2
INB220 BUSINESS ANALYSIS
This unit aims to give you an introduction to the role, knowledge, and skills required of a business analyst. This unit focuses on both the trades—tools and methods used by a business analyst, as well as the soft skills—creativity and communication, both of which are critical to successful business and requirements analysis. Through lectures, cases studies and role playing activities, you will develop basic knowledge and skills required for introductory business analysis (BA).

Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

INB220 BUSINESS ANALYSIS
This unit aims to give you an introduction to the role, knowledge, and skills required of a business analyst. This unit focuses on both the trades—tools and methods used by a business analyst, as well as the soft skills—creativity and communication, both of which are critical to successful business and requirements analysis. Through lectures, cases studies and role playing activities, you will develop basic knowledge and skills required for introductory business analysis (BA).

Prerequisite(s): Nil  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1  Incompatible with: ITN272

INB221 TECHNOLOGY MANAGEMENT
This unit presents operational, tactical and strategic insights that support the activities central to the leadership and management of technology. These insights include project management, organisational leadership, outsourcing, planning, governance and millennium technologies. Such insights are used to inform decision-making - the core skill of any manager. Technology managers must understand the factors influencing any decision point. This unit equips students for the challenges of management and to contribute to the decision-making faced by managers and the staff who advise on these issues.

Prerequisite(s): ITB002 or INB103, ITB360 (or it’s equivalent)  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1  Incompatible with: ITB366, ITB241, ITN241 and ITN251

INB221 TECHNOLOGY MANAGEMENT
This unit presents operational, tactical and strategic insights that support the activities central to the leadership and management of technology. These insights include project management, organisational leadership, outsourcing, planning, governance and millennium technologies. Such insights are used to inform decision-making - the core skill of any manager. Technology managers must understand the factors influencing any decision point. This unit equips students for the challenges of management and to contribute to the decision-making faced by managers and the staff who advise on these issues.

Prerequisite(s): ITB002 or INB103, ITB360 (or it’s equivalent)  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1  Incompatible with: ITB366, ITB241, ITN241 and ITN251

INB250 SYSTEMS ARCHITECTURE
Contemporary computer-based systems are built from a wide range of technologies working at different levels of abstraction, from microprocessor hardware, to operating system and application software, to entire communications networks. At each abstraction level different techniques are needed to understand emergent properties of the system. This unit introduces some of the foundational principles commonly used to reason about the behaviour of computer-dependent systems at different levels of abstraction. Such techniques are especially important in the context of safety-, security- or mission-critical systems.

Assumed knowledge: Basic familiarity with set theory (Venn diagrams and set operators), elementary algebra (polynomial and summation expressions, exponents and logarithms, etc) and simple probability concepts (permutations and combinations).  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB251 NETWORKS
Computer systems and communications networks are essential to the activities of modern organisations. When you graduate from a course in Information Technology, employers expect you to have a sound understanding of the terminology and concepts of computer systems, communications networks, and network services. This unit provides you with an introductory study of communications network technologies and network applications. The unit serves as an entry point to further specialised studies in the field of computer network systems.

Antirequisites: ITB006  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB255 SECURITY
This unit aims to give you an understanding of the major issues in information security. You will be able to identify critical information security concepts and determine the
information security implications of interactions between entities. You will have knowledge of a range of techniques for protecting information, and understand the limitations of these techniques. You will be aware of international information security management standards.

**Antirequisites:** ITB161, ITB523, ITB623 and ITN161  
**Equivalents:** ITB730  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1

**INB270 PROGRAMMING**
This unit aims to give you a positive introduction to the skills required in solving computational problems and implementing solutions in a programming or scripting language. Although some theoretical aspects of computer programming are introduced briefly, the overall emphasis of the unit is programming practice. The unit emphasises generic programming concepts and related problem-solving strategies. The skills you learn in this unit will be applicable to a wide variety of commonly-used, industrially-significant programming and scripting languages.

**Prerequisites:** INB104 or ENB246  
**Antirequisites:** ITB003, ITB112, ITB411, INN270  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**INB271 THE WEB**
The aims of the unit are to give you a thorough understanding of what the web is, how it works and what it has to offer. Additionally, the unit aims to give you a general understanding and basic skills in developing dynamic web applications, including an appreciation of the variety of implementation technologies available. Through an understanding of how web technologies have evolved to date, you will appreciate the necessity for lifelong learning and become an insightful predictor of future developments in this area. You will learn to critically analyse technological alternatives in order to adapt to and innovate with technologies that presently do not exist. You will appreciate the business or organizational context within which web applications exist and be skilled in communicating within that environment. You will appreciate the social and ethical issues relating to web based systems including accessibility, globalization, privacy, and piracy.

**Prerequisites:** INB104  
**Antirequisites:** INB373 and INN373 and ITB007 and ITB227 and ITN007 and ITN227  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1

**INB272 INTERACTION DESIGN**
The aim of this unit is to provide you with an understanding of the theory, practices and challenges associated with the development of creative interactive design and human computer interaction.

**Prerequisites:** INB103 or INB181  
**Equivalents:** ITB254  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**INB300 PROFESSIONAL PRACTICE IN IT**
In this unit you will have the opportunity to experience real world work experiences and to reflect on how your studies have prepared you for the work environment. This will give you the opportunity to plan on how to best take advantage of your remaining studies to prepare for your planned career. To help you to understand your future career you will be working in a team and/or group environments, seeing firsthand the challenges and constraints that arise during professional practice in a real world industry environment. You will develop a richer appreciation of the graduate capabilities required of all information technology professionals, particularly skills such as communication, negotiation and problem-solving strategies.

**Antirequisites:** ITS020, INS010, INS011, INS012, INS020  
**Assumed knowledge:** Completion of 168 credit points within BIT is assumed  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**INB300 PROFESSIONAL PRACTICE IN IT**
In this unit you will have the opportunity to experience real world work experiences and to reflect on how your studies have prepared you for the work environment. This will give you the opportunity to plan on how to best take advantage of your remaining studies to prepare for your planned career. To help you to understand your future career you will be working in a team and/or group environments, seeing firsthand the challenges and constraints that arise during professional practice in a real world industry environment. You will develop a richer appreciation of the graduate capabilities required of all information technology professionals, particularly skills such as communication, negotiation and problem-solving strategies.

**Prerequisite(s):** Having completed at least 168 credit points within the BIT  
**Corequisite(s):** Nil  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Incompatible with:** ITS010

**INB301 THE BUSINESS OF IT**
This unit will prepare you for professional practice by giving you practical knowledge and skills about how to prepare a project plan and monitor its implementation. You will learn about the process of identifying a business opportunity and how to take advantage of that opportunity. You will learn about how to create successful entrepreneurial teams. You
will gain an insight into the different challenges and approaches to funding a venture. You will learn how to break a project up into manageable tasks and estimate the duration of tasks to start planning a project schedule. You will be introduced to core strategic models, discuss typical strategy tools and then apply them to the 'Business of IT'.

You will be introduced to techniques for conceptualising strategy, such as Strategy Maps / Balanced Scorecard. Different governance models would be introduced, with a focus on IT governance.

**Prerequisite(s):** Completion of at least 120 credit points of IT units  
**Corequisite(s):** Nil  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1 and 2009 SEM-2  
**Incompatible with:** ITB009

**INB301 THE BUSINESS OF IT**

As an IT professional you are more and more evaluated in terms of the business value that you produce. This unit will prepare you for professional practice by making you "business savvy," i.e. giving you the business knowledge and skills that will help you with your future career and job. In particular the unit will address three themes: (1) career planning and job applications, (2) entrepreneurship & innovation, and (3) business and IT strategy. You will be introduced to career development tools that enable you to self-manage your career and life. You will learn how to critically think about the requirements of a job and reflect upon your own experiences and learn how to communicate them. You will also learn about the entrepreneurial process of identifying a business opportunity and how to take advantage of that opportunity. In addition, you will gain an understanding of core strategic concepts and models, discuss typical strategy tools and then apply them to the 'Business of IT'.

**Antirequisites:** ITB009  
**Assumed knowledge:** Completion of 120 credit points within BIT is assumed  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**INB302 CAPSTONE PROJECT**

Students are to work together in a team of 4-5 on a project that addresses one of the following three types of problems: real business problems, real market needs, real research problems. This unit extends students' development of the professional, technical and teamwork skills required by IT professionals in practice. Students will extend their knowledge and skills in the areas of IT project management through completing professional project documentation and managing the team project. Students will also gain a greater understanding and skill level in analysis and design, and their significance in delivering successful business or research outcome. The unit also focuses on furthering students' professional skills in report writing, oral communication, and visual communication.

**Prerequisites:** INB301  
**Assumed knowledge:** Students are expected to have a solid IT background knowledge (e.g., completion of at least 192 credit points)  
**Equivalents:** ITB010  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**INB302 CAPSTONE PROJECT**

Students are to work together in a team of 4-5 on a project that addresses one of the following three types of problems: real business problems, real market needs, real research problems. This unit extends students' development of the professional, technical and teamwork skills required by IT professionals in practice. Students will extend their knowledge and skills in the areas of IT project management through completing professional project documentation and managing the team project. Students will also gain a greater understanding and skill level in analysis and design, and their significance in delivering successful business or research outcome. The unit also focuses on furthering students' professional skills in report writing, oral communication, and visual communication.

**Prerequisites:** ITB009 or INB301  
**Corequisite(s):** Nil  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Incompatible with:** ITB010

**INB304 SPECIAL TOPIC 3**

Traditional Artificial Intelligence (AI) aims at satisfying the Turing test, that is, it aims at making computers indistinguishable from humans. Computer games AI aims at giving Non-Player Characters (NPC) behavioural artefacts that complement a game narrative. Computer game AI is a special area of study that deals with algorithmic approaches to entertainment affects in NPC. Students will develop in this unit an understanding of problems, solutions and algorithms that generally defines the current state of computer game AI. The aim of this unit is to provide students with an intermediate level course in computer game AI that involves a set of the most relevant algorithms and their applications in the interactive entertainment and game industries.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**INB305 SPECIAL TOPIC 4**

INB305 BGIE Project Design Phase (P1) extends your work on the role, design, and plan of a computer game concept. The unit covers the conceptualisation and game design stages up to the game design pitch. If the project is given a green light by the assessment panel, it may be developed later in the P2 unit.
Prerequisites: INB371  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB306 PROJECT 1
This unit gives you the opportunity to apply, under appropriate guidance, the knowledge and skills gained in your course to date and to execute a substantial development project. The ability to apply technical knowledge and skills to real-life situations is essential for information technology professionals. A substantial project, under academic supervision, will develop your initiative and ability to apply your knowledge and skills in a professional capacity. Completing the project will also enable you to appreciate the complementary nature of the course material in total, particularly the need for careful project management.

Prerequisites: INB101, INB102, INB103, INB104 and INB201  Assumed knowledge: As a minimum requirement you must have completed at least 132 credit points of IT units, including INB101, INB102, INB103, INB104, INB201, four breadth units, and at least two specialisation units.  Equivalents: ITB230  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1, 2010 SEM-2 and 2010 SUM

INB307 PROJECT 2
This unit gives you the opportunity to apply, under appropriate guidance, the knowledge and skills gained in your course to date and to execute a substantial development project. The ability to apply technical knowledge and skills to real-life situations is essential for information technology professionals. A substantial project, under academic supervision, will develop your initiative and ability to apply your knowledge and skills in a professional capacity. Completing the project will also enable you to appreciate the complementary nature of the course material in total, particularly the need for careful project management.

Assumed knowledge: Assumed knowledge is completion of 192cp of which at least 144cp must be IT units  Equivalents: ITB791  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1, 2010 SEM-2 and 2010 SUM

INB311 ENTERPRISE SYSTEMS
The unit presents and discusses the Enterprise Systems Lifecycle model, orienting students to the requirements of addressing total cost of ownership, change management requirements and process modelling requirements in order to achieve business benefits. Concepts of Enterprise Systems success and associated enablers and barriers are also introduced. This unit introduces the technical architecture of complex 3-tiered client server environments. It seeks to show how an integrated complex database environment meets common business needs, and yet fails to meet the total Information Systems requirements.

Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB312 ENTERPRISE SYSTEMS APPLICATIONS
The aim of this unit is to introduce one of the more complex and comprehensive Enterprise Systems applications. This unit introduces the business perspective and application processes of modules (such as FI, CO, PP, MM and S&D) and investigates the support provided by these systems and the integration between modules by following some of the major processes in a business. The unit enables you to experience both the business analyst view and the user's view of the system across a number of business processes.

Antirequisites: ITB233, INN312  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

INB312 ENTERPRISE SYSTEMS APPLICATIONS
The aim of this unit is to introduce one of the more complex and comprehensive Enterprise Systems applications. This unit introduces the business perspective and application processes of modules (such as FI, CO, PP, MM and S&D) and investigates the support provided by these systems and the integration between modules by following some of the major processes in a business. The unit enables you to experience both the business analyst view and the user's
view of the system across a number of business processes.

Prerequisite(s): Nil  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1  Incompatible with: ITB233

INB313 ELECTRONIC COMMERCE SITE DEVELOPMENT
This unit will enable you to specify, design, implement and maintain effective e-commerce applications. You will obtain a broad understanding of the potential of e-commerce and how it can be employed to benefit an organisation. You will get direct experience of creating an e-commerce storefront following a business to business (B to B) or business to consumer (B to C) model. You will also have an understanding of the computer systems that underpin e-commerce including payment systems and secure transactions.

Prerequisite(s): INB271 or INB210  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-2  Incompatible with: Nil

INB313 ELECTRONIC COMMERCE SITE DEVELOPMENT
This unit will enable you to specify, design, implement and maintain effective e-commerce applications. You will obtain a broad understanding of the potential of e-commerce and how it can be employed to benefit an organisation. You will get direct experience of creating an e-commerce storefront following a business to business (B to B) or business to consumer (B to C) model. You will also have an understanding of the computer systems that underpin e-commerce including payment systems and secure transactions.

Equivalents: ITB260  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB320 BUSINESS PROCESS MODELLING
The aim of this unit is to introduce you to modern methodologies of business process management. These skills will be applied to the most complex, comprehensive and relevant IT applications. This unit also seeks to develop logical thinking and the capability to understand and deal with complex systems, within a business management framework. The content will focus strongly on business process modelling, as a fundamental technique to manage the complexity associated with process management tasks within various contexts.

INB320 BUSINESS PROCESS MODELLING
The aim of this unit is to introduce you to modern methods and tools of business process management. These skills will be applied to the most complex, comprehensive and relevant IT applications. This unit also seeks to develop logical thinking and the capability to understand and deal with complex systems, within a business management framework. The content will focus strongly on business process modelling, as a fundamental technique to manage the complexity associated with process management tasks within various contexts.

Prerequisite(s): Nil  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-2  Incompatible with: Nil

INB321 BUSINESS PROCESS MANAGEMENT
The aim of this unit is to introduce you to modern methodologies of Business Process Management. A main objective is to increase your awareness of the close link between business requirements and IT capabilities, and the related fundamental role of business processes. This unit also seeks to develop logical thinking, an appreciation for conceptual models, and the capability to understand and deal with complex systems.

Antirequisites: INN321  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

INB322 INFORMATION SYSTEMS CONSULTING
The aim of the unit is to develop your skills in the consulting engagement process. This unit will give you an appreciation of the management of consulting practices and an understanding of the consulting sector generally. This unit presents the tactical and strategic issues involved in management consulting, and in particular: client engagement. In the unit there is an emphasis on Information Systems (IS) related work. IS constitutes a substantial portion of consulting activity and cuts across all areas of business expertise. The unit examines the dynamics of IS consulting within the context of large consulting firms and familiarises students with the consulting engagement lifecycle.

Antirequisites: ITB264, ITN264  Assumed knowledge: Completion of 96 credit points of an Undergraduate study is assumed knowledge  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1
INB322 INFORMATION SYSTEMS CONSULTING
The aim of the unit is to develop your skills in the consulting engagement process. This unit will give you an appreciation of the management of consulting practices and an understanding of the consulting sector generally. This unit presents the tactical and strategic issues involved in management consulting, and in particular: client engagement. In the unit there is an emphasis on Information Systems (IS) related work. IS constitutes a substantial portion of consulting activity and cuts across all areas of business expertise. The unit examines the dynamics of IS consulting within the context of large consulting firms and familiarises students with the consulting engagement lifecycle.

Prerequisite(s): INB103 or equivalent  Corequisite(s): Nil  
Credit points: 12  Contact hours: 3 per week  
Campus: Gardens Point  Teaching period: 2009 SEM-1 and 2009 SEM-2  
Incompatible with: ITB264 and ITN264

INB330 INFORMATION MANAGEMENT
The aim of this unit is to provide you with an awareness of the activities in which IM professionals are engaged within various organisational contexts. You will use case studies and introduce yourself to the strategic and analytic elements that comprise information management activities. These activities include the alignment of enterprise information and business planning, enterprise information policy, evaluation of information resources & systems and applications of the information inventory.

Prerequisite(s): Nil  Corequisite(s): Nil  
Credit points: 12  Contact hours: 3 per week  
Campus: Gardens Point  Teaching period: 2009 SEM-2  
Incompatible with: Nil

INB335 INFORMATION RESOURCES
This unit will help you to understand the structure of the information environment, to reflect upon the information resources you discover, and to develop the ability to find appropriate information for future problem solving. You will develop your skills in identifying, accessing, evaluating and retrieving information resources to meet specific information needs. The unit will also help you develop skills in teamwork and oral and written communication.

Equivalents: ITB322  Credit points: 12  Contact hours: 3 per week  
Campus: Gardens Point  Teaching period: 2010 SEM-2

INB340 DATABASE DESIGN
The aim of this unit is to help you develop your knowledge, understand a formal specification tool (ORM) for modelling information systems unambiguously and to apply this formal technique to conceptualise information systems found in many real world application domains.

Prerequisite(s): INB210 or ITB004  Antirequisite(s): ITB229  
Credit points: 12  Contact hours: 3 per week  
Campus: Gardens Point  Teaching period: 2010 SEM-1

INB341 SOFTWARE DEVELOPMENT WITH ORACLE
Oracle Corporation is the leading supplier of database software. This unit aims to develop a sound understanding of database creation, installation, administration, management, security, back up/recovery and application development. The unit aims to develop practical skills in each of these elements, using appropriate Oracle software.

It is expected that students undertaking this unit will have prior knowledge of relational database terminology and concepts, be thoroughly able to develop SQL for querying, updating and creating tables, and have a sound knowledge of database design.
INB342 ENTERPRISE DATA MINING
This unit will provide a comprehensive theoretical coverage of various topics in data and web mining. In addition there will be a significant practical component using hands on tools to solve real-world problems. Specifically, we will consider techniques from machine learning, data mining, text mining, and information retrieval to extract useful knowledge from data which are used for business intelligence, document databases, site management, personalization, and user profiling. This unit will first cover a detailed overview of the mining process and techniques, and then concentrate on applications of these techniques to web, e-commerce, document databases and data from advanced applications.

Prerequisites: INB122 or INB210 or INB340 or AYB114
Antirequisites: INN342  Equivalents: ITB239  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB343 ADVANCED DATA MINING AND DATA WAREHOUSING
Data warehousing and mining have been well recognized as the dominating techniques for using databases in the future. This unit discusses the concepts, structures and algorithms of data warehousing and mining, e.g., data architecture and quality, data warehouse and data mart, data cubes, OLAP, patterns, association rules and decision tables. Through this study, students will be able to demonstrate knowledge and skills of designing, developing and implementing data warehousing components in SQL environments. It also enables students to design systems and tools that provide services to data management and analysis, such as data warehouses, data mining tools, business intelligence based systems, smart information use systems, and data processing systems.

Prerequisites: INB210  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point

INB345 MOBILE DEVICES
This unit provides the opportunity for exploring new and emerging mobile devices and wireless technology including iPhone, Netbook, 3G, WiMax, and RFID. Students will critically review and understand how they can be used for current contexts such as government, business, education and social community, as well as emerging ‘wilderness’ environments with no power and wired communication. Students will appreciate the impacts of these devices and be inspired for the current and future opportunities in ICT usage trends.

Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB346 ENTERPRISE 2.0
This unit will help you to acquire the skills and knowledge required to critically explore and utilise applications within diverse contexts and organisations.

Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB347 WEB 2.0 APPLICATIONS
Web 2.0 applications enable the user to be control. The unit will provide the opportunity for students to explore web 2.0 applications including blogs, wikis, social networking, social tagging, podcasts, gaming, storytelling and virtual worlds such as second life. Students will critically consider the many and varied web applications and how they can be used in different contexts such as government, small and medium size businesses, non-profit organisations, educational institutions and community groups.

Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB350 INTERNET PROTOCOLS AND SERVICES
An understanding of the theoretical and practical concepts of network protocols and services is highly useful and relevant to network engineers and others working in the Information Processing industries. This unit introduces you to Internet protocols and the design, implementation and operation of network based applications. Theory and practical skills taught in this unit will be useful if you intend undertaking further networking units.

Prerequisites: INB251 or ITB006 or ITB510  Antirequisites: ITB264, ITB629, ITB720, ITN525, ITN667, ITN720  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

INB351 COMPUTER NETWORK ADMINISTRATION
The aim of this unit is to provide students with a working knowledge of the technical aspects and theory of network administration and management. The unit uses the Unix environment as the learning platform for attaining technical skills and for the development of problem solving skills necessary to be a successful networking professional.

Prerequisites: INB350  Equivalents: ITB721, ITB625, ITB535, ITB525  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2
INB352 NETWORK PLANNING AND DEPLOYMENT
The unit draws together subject matter from a number of different networking-related areas. The aim of the unit is to assemble the previously acquired knowledge and techniques and apply it in a cohesive fashion to the task of network planning.

Prerequisites: INB350  Antirequisites: ITB551, ITB628, ITB722, INN352, ITN551, ITN722  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB353 WIRELESS AND MOBILE NETWORKS
This unit provides you with the skills to be able to design and understand the issues involved with different types of wireless communications systems. It develops your knowledge of Wide Area Networks (WANs), Local Area Networks (LANs) and Personal Area Networks (PANs) as well as skills in programming for mobile handsets. You will also develop knowledge of the different types of wireless communications technologies available and when each is most applicable in a particular situation.

Prerequisites: INB251 or ITB006  Antirequisites: ITN723  Assumed knowledge: Networks or equivalent networking knowledge is assumed knowledge  Equivalents: ITB723  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

INB355 CRYPTOLOGY AND PROTOCOLS
Cryptographic techniques are widely used to implement computer and network security. As an IT security professional you may be required either to evaluate or implement information systems using cryptographic algorithms and protocols. This elective unit covers the main cryptographic technical concepts including encryption, digital signatures and cryptographic protocols.

Antirequisites: ITB646, ITB548, ITB566  Assumed knowledge: Maths B or equivalent is assumed knowledge  Equivalents: ITB732  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

INB356 SYSTEMS PROGRAMMING
Systems programming is an essential part of any computer-science education. This unit uses operating system concepts to teach the foundations of systems programming and advanced concepts for producing softwares that provide services to computer hardware. Through this study, you will be able to demonstrate knowledge of the principles and techniques of process management, memory and file management, protection & security, and distributed systems.

Prerequisites: INB270  Antirequisites: INN365, ITB745, ITB706  Assumed knowledge: Fundamentals of computer architecture; high level programming languages (such as C, C++, Java Python) is assumed knowledge.  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

INB370 SOFTWARE DEVELOPMENT
Understanding software development is an integral part of the IT industry for software engineers. Software development relies on object technologies, programming techniques and numerous code libraries provided by language developers and third party vendors. Integrated Development Environments, unit testing frameworks, automated and continuous build tools and versioning systems are all becoming part of the tool set modern software developers must be familiar with. This unit is designed to introduce these technologies and techniques to show how software can be rapidly developed.

Prerequisites: INB270 or ITB003 or INN270  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

INB371 DATA STRUCTURES AND ALGORITHMS
The purpose of this unit is to ensure that you have a sound knowledge of modern programming techniques and their use in providing medium-scale software solutions. This unit will teach you to decompose a problem and produce a modular solution to a programming task. The principles to analyse algorithms for efficiency will also be introduced. In addition, you will acquire the necessary skills for you to use the tools available in common development environments, such as Microsoft Visual Studio.

Prerequisites: INB270 or ITB003  Antirequisites: ITB711, ITB702, INN371  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

INB372 AGILE SOFTWARE DEVELOPMENT
This unit introduces you to the software development process. You will look at each of the major activities involved in developing a software system. You will also learn how to manage and control the software development process for a large project when a number of team members are involved in the development. This unit develops the professional practice of working on large software systems.

Prerequisites: INB370  Antirequisites: INN372, ITB612, ITB712  Assumed knowledge: Good programming, debugging, testing and software development skills.  Credit points: 12  Contact hours: 3 per week  Campus:
Gardens Point  **Teaching period:** 2010 SEM-2

**INB373 WEB APPLICATION DEVELOPMENT**
This unit will provide you with an understanding of the issues, structure and technologies used for developing web-based systems. The unit will provide you with the theoretical and practical skills needed to develop enterprise critical applications designed with an n-tier architecture using state of the art technologies. A comparative technology approach is taken, including an analysis of how web technologies have evolved to date, in order to identify common themes and to better enable you to comprehend and critically evaluate future web technology offerings.

**Prerequisites:** INB271 or ITB007  **Antirequisites:** INN373  **Equivalents:** ITB716 and ITN716  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2010 SEM-1

**INB374 ENTERPRISE SOFTWARE ARCHITECTURE**
This unit aims to introduce you to the field of enterprise architecture. It attempts to give you a grounding in the basic knowledge and skills required by an enterprise architect. This includes a solid understanding of the IT challenges currently facing medium to large size organizations, the theory and technologies currently used to address them and an appreciation of the business imperative for which they are utilized.

**Prerequisites:** INB270 or ITB003  **Equivalents:** ITB717  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2010 SEM-2

**INB385 MULTIMEDIA SYSTEMS**
This unit will explore the concepts underpinning multimedia systems and the role played by these technologies in the overall knowledge of a computer professional. You will learn to: design and develop different kinds of interactive multimedia applications; understand the bank of knowledge in cultural developments surrounding the emergence of multimedia technologies; analyse design and processes that contribute to the production of a creative work, using contemporary hardware and software technologies; develop the creative potential of temporal media forms and their placement and use within new media works; understand principles and conventions associated with the interpretation and production of meaning through interactive visual representation.

**Prerequisites:** INB103 or ITB002  **Antirequisites:** ITB257  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2010 SEM-1

**INB386 ADVANCED MULTIMEDIA SYSTEMS**
This advanced level unit will give you high level design and development skills in some of the current and emerging areas of the new media. Web delivered applications, standalone systems and installations will be included. It will endeavour to give you an in-depth understanding of interactive Multimedia Systems. You will be given the theoretical basis and practical skills to motivate you in the design and creation of a state-of-the-art system in this discipline. In the process it will encourage a professional team approach appropriate to the industry environment.

**Prerequisites:** INB385 (Special considerations may apply)  **Equivalents:** ITB259, ITN259  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2010 SEM-2

**INB860 COMPUTATIONAL INTELLIGENCE FOR CONTROL AND EMBEDDED SYSTEMS**
This is a specialisation unit in the area of Infomechatronics that introduces five methods from the field of computational intelligence and relates them to applications on real time control and embedded systems. The methods are: Knowledge Base Systems, Fuzzy Control, Neural Networks, Reinforcement Learning and Evolutionary Computation. The unit is also intended to teach the specific design and programming skills that will enable you to solve problems using computational intelligence methods in real-time embedded systems. It is assumed that you already have knowledge of programming.

**Antirequisites:** ITB847  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2010 SEM-1

**MGB223 ENTREPRENEURSHIP AND INNOVATION**
This unit introduces students to the nature and characteristics of entrepreneurship and innovation and explores the inter-relationship between the two within contemporary economies from managerial perspective. Learning will be directed towards developing the theoretical and applied knowledge, skills, and attitudes that will support and enhance innovation and enterprise creation activity, through the development of a business plan. The unit is designed for those individuals interested in creating a new venture or working in industries as employees of venture owners or those that serve this sector. Students will have opportunity to build a comprehensive plan of their business concept.

**Prerequisite(s):** BSB115 or CTB115  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2009 SEM-1 and 2009 SEM-2  **Incompatible with:** CTB223

**MGB223 ENTREPRENEURSHIP AND INNOVATION**
This unit introduces students to the nature and characteristics of entrepreneurship and innovation and explores the inter-relationship between the two within contemporary economies from a managerial perspective. Learning will be directed towards developing the theoretical and applied knowledge, skills, and attitudes that will support and enhance innovation and enterprise creation activity, through the development of a business plan. The unit is designed for those individuals interested in creating a new venture or working in industries as employees of venture owners or those that serve this sector. Students will have opportunity to build a comprehensive plan of their business concept.

**Prerequisites:** BSB115 or CTB115  
**Equivalents:** CTB223  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2