Bachelor of Technology Innovation (Information Technology) (ST50)

Year offered: 2010
Admissions: Yes
CRICOS code: 070694G
Course duration (full-time): 4 years
Domestic fees (indicative): 2010: CSP $2,125 (indicative) per semester
International Fees (indicative): 2010: $11,750 (indicative) per semester
Domestic Entry: February
International Entry: February and July
Past rank cut-off: 77
Past OP cut-off: 12
Assumed knowledge: English (4, SA) and Maths B (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: 96
Course coordinator: Associate Professor Chris Collet
Campus: Gardens Point

Overview
Creative and innovative IT ideas that give rise to new products and processes have been a major driver of world economies for over forty years. Existing IT areas such as business process management, data warehousing, networking, web technologies information management and digital societies will merge with other sciences and technologies to forge a future of opportunities for IT savvy technoentrepreneurs.

Career Outcomes
Graduates can build companies around their own product ideas and take these to the global market. Or graduates could chart their careers in the world of commercialisation and technology transfer of IT research innovation. Potential careers include all aspects of the product development continuum including company owners and directors, business development officers, venture capital associates, investment analysts, commercialisation managers, technology transfer officers, intellectual property analysts, policy development officers and, of course, researchers.

Information Technology Major Course Structure

Year 1 Semester 1
INB101 Impact of IT
INB102 Emerging Technology

INB103 Industry Insights
INB104 Building IT Systems

Year 1 Semester 2
Choose THREE units from the IT Breadth Options List
Plus ONE unit which may be any Faculty of Science and Technology unit or a unit from another Faculty
Please note that students must take a total of TWO Faculty of Science and Technology Units and a total of TWO units from another Faculty

Year 2 Semester 1
INB201 Scalable Systems Development
Plus ONE unit from the IT Breadth Options List
Plus ONE unit which may be any Faculty of Science and Technology unit or a unit from another Faculty
Plus ONE unit from the IT Specialisation Options List
Please note that students must take a total of TWO Faculty of Science and Technology Units and a total of TWO units from another Faculty

Year 2 Semester 2
Choose ONE unit from the IT Specialisation Options List
Plus TWO units which may be any Faculty of Science and Technology unit or a unit from another Faculty
Plus ONE unit either from the IT Breadth Options List or the IT Specialisation Options List
Please note that students must take a total of TWO Faculty of Science and Technology Units and a total of TWO units from another Faculty

Year 3 Semester 1
BSB115 Management
STB551 Engaging with the Innovation Industry

Plus ONE unit from the IT Specialisation Options List
Plus ONE unit either from the IT Breadth Options List or the IT Specialisation Options List

Year 3 Semester 2
BSB126  Marketing
MGB223  Entrepreneurship and Innovation
  Plus ONE unit from the IT Specilisation Options List
  Plus ONE unit either from the IT Breadth Options List or the IT Specialisation Options List

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<th>Year 4 Semester 1</th>
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<tr>
<td>AMB240  Marketing Planning and Management</td>
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<td>LWS007  Introduction To Intellectual Property Law</td>
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<td>MGB324  Managing Business Growth</td>
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<th>Year 4 Semester 2</th>
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<td>MGB225  Intercultural Communication and Negotiation Skills</td>
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### Information Technology Breadth Options List
Students must complete FOUR units from the following list:

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

### Information Technology Specilisation Options List
Students must complete FOUR 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.

- ENTERPRISE SYSTEMS:
  - INB123  Project Management Practice
  - INB221  Technology Management
  - INB311  Enterprise Systems

- WEB TECHNOLOGIES:
  - INB312  Enterprise Systems Applications
  - INB313  Electronic Commerce Site Development
  - INB373  Web Application Development
  - INB374  Enterprise Software Architecture
  - INB385  Multimedia Systems
  - INB386  Advanced Multimedia Systems

- BUSINESS PROCESS MANAGEMENT:
  - INB320  Business Process Modelling
  - INB321  Business Process Management
  - INB322  Information Systems Consulting
  - INB323  Smart Services

- INFORMATION MANAGEMENT:
  - INB324  Management Issues for Information Professionals
  - INB325  Information Retrieval
  - INB326  Information Programs
  - INB327  Information Issues and Values
  - INB328  Information Resources

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

- NETWORK SYSTEMS:
  - INB344  Internet Protocols and Services
  - INB351  Computer Network Administration
  - INB352  Network Planning and Deployment
  - INB353  Wireless and Mobile Networks

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

- DIGITAL ENVIRONMENTS
UNIT SYNOPSES

**AMB240 MARKETING PLANNING AND MANAGEMENT**
This unit extends the student’s knowledge of the fundamental marketing concepts and theories introduced in the Faculty Core unit in Marketing, by adding further breadth and depth of knowledge of marketing and developing skills in the application of this knowledge to marketing planning and management within the business environment. Emphasis is on the role of the marketing manager at the product management level in undertaking analysis, planning, implementation and control of marketing activities. 

**Prerequisites:** BSB126 or CTB126  
**Equivalents:** CTB240  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**BSB115 MANAGEMENT**
The unit provides an introduction to the theories and practice of management and organisations. Emphasis is on the conceptual and people skills that are needed in all areas of management and in all areas of organisational life. The unit acknowledges that organisations exist in an increasingly international environment where the emphasis will be on knowledge, the ability to learn, to change and to innovate. Organisations are viewed from individual, group, corporate and external environmental perspectives. 

**Antirequisites:** BSD115  
**Equivalents:** CTB115  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**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.

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

**BSB311 INNOVATION COMMERCIALISATION STRATEGIES**
Students study strategies and approaches used in industry and government organisations for the research, development and commercialisation of biotechnology innovations. The unit offers the opportunity to read widely as well as in depth about the commercialisation of molecular biology and biotechnology research. Theoretical concepts are integrated with prepared case studies prior to guest speaker seminars. 

**Prerequisites:** BSB310 or MGB223  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**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.

**Antirequisites:** ITB005  
**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.

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

**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 the 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

**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

**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

**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 is aimed 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
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.

Prerequisites: INB103 or ITB002 or INB120 or ITB360
Antirequisites: ITN241, ITN251 and ITN366
Equivalents: ITB366, ITB241
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
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-1

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-2

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 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.

Equivalents: ITB298    Credit points: 12    Contact hours: 3 per week    Campus: Gardens Point    Teaching period: 2010 SEM-2

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 work    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-2
2010 SEM-1

INB323 SMART SERVICES
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.

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

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 to 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

INB331 MANAGEMENT ISSUES FOR INFORMATION PROFESSIONALS
The overall aim is to enable you to identify and resolve selected key management issues within a particular type of organisation of your choice. Using an integrated approach the subject draws from the field of organisational behaviour, business management literature, IT-management, and other readings appropriate to your interest. A further emphasis will be on case studies of actual practices in the type of organisation or enterprise environment setting that you have chosen to investigate.

Equivalents: ITN274  Credit points: 12  Contact hours: IT04, IT06, IT07, IT09, IF29, IX53, IF48, IF58, IF59, IF90, IX09, IX25, IX55, IX56, IX57, IX58, IX49, IX63, IX65, IX69  Campus: Gardens Point

INB332 INFORMATION RETRIEVAL
The ability to quickly learn and expertly use new information resources and concepts is a vital skill for the modern day library and information professional. 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 needs. The unit will also help you develop skills in teamwork and oral and written communication.

Corequisite(s): Nil  Contact hours: 3 per week  Campus: Gardens Point  Incompatible with: Nil

INB333 INFORMATION PROGRAMS
The unit encompasses the planning, implementation and evaluation of an information product or service for a particular community of use. The community may be anything from a specialised professional or business group, to community members with special needs etc. Emphasis is on identification of user needs, creating an information product or program and marketing or promoting its use. The unit also explores the impact of web 2.0 technologies (e.g. blogs, wikis, facebook, YouTube, flickr) and concepts such as creative commons and open access on program and product design and delivery are explored.

Prerequisite(s): Nil  Corequisite(s): Nil  Contact hours: 3 per week  Campus: Gardens Point  Incompatible with: ITN330

INB334 INFORMATION ISSUES AND VALUES
The overall aim is to enable you to identify and critically discuss key issues (ie social, economic, political, cultural, legal, psychological) that impact upon the role and use of information and IT in different contexts of the information society (ie academic, professional, personal). You will critically consider the role of information and IT professionals in dealing ethically and legally with the many issues evolving within the emerging information society. The unit draws from the fields of psychology, business, library and information science, IT, education, sociology and law.

Antirequisites: ITN330  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

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.
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.

Prerequisites: INB210 or ITB004    Antirequisites: 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.

Prerequisites: INB210 or INB204 or INB122
Equivalents: ITB223    Credit points: 12    Contact hours: 3 per week
Campus: Gardens Point    Teaching period: 2010 SEM-2

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

INB344 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

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

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
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
Credit points: 12
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-2

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

INB365 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  Antirequisites: 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

**LWS007 INTRODUCTION TO INTELLECTUAL PROPERTY LAW**

Intellectual property protection is undoubtedly of paramount importance in the research, development and commercialisation of emerging technologies. Managers and researchers need to be aware of the different types of property that can be protected and how the property needs to be protected. There have also been significant developments in the field of intellectual property law in recent years. The concepts taught in Introduction to Intellectual Property Law are of significant relevance to persons intending to practice in the emerging fields of science.

**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.

**Prerequisites:** MGB223  **Equivalents:** MGB218  **Credit points:** 12  **Contact hours:** 3  **Teaching period:** 2010 SEM-1

**MGB324 MANAGING BUSINESS GROWTH**

This unit is designed to provide skills in the analysis, solutions and implementation of the general management issues that SME owners have to manage in their growing operations. The unit brings together the different functional aspects of managing an established SME and how they are best managed from the owner's (general manager's) point of view. It also provides opportunity to bring students into contact with real world SME owners and their venture management issues.

**Prerequisites:** MGB223  **Equivalents:** MGB218  **Credit points:** 12  **Contact hours:** 3  **Teaching period:** 2010 SEM-1