Bachelor of Technology Innovation (Information Technology) (ST50)

Year offered: 2011
Admissions: Yes
CRICOS code: 070694G
Course duration (full-time): 4 years
Domestic Fees (indicative): 2011: CSP $2,178 (indicative) per semester
International Fees (indicative): 2011: $12,250 (indicative) per semester
Domestic Entry: February
International Entry: February and July
QTAC code: 418311
Past rank cut-off: 76
Past OP cut-off: 12
OP Guarantee: Yes
Assumed knowledge: English (4,SA), Maths B (4,SA), Chemistry (4,SA)
Preparatory studies: For information on acquiring assumed knowledge visit http://www.qut.edu.au/assumed-knowledge
Total credit points: 384
Standard credit points per full-time semester: 96
Course coordinator: Associate Professor Chris Collet
Campus: Gardens Point

Professional Recognition
On graduation, you will be eligible to join professional organisations relevant to your disciplinary specialisation, the Association of Professional Engineers, Scientists and Managers, Australia and the Australian Institute of Management.

Your Course
Year 1
You will be able to choose subjects from across a range of science and technology areas to help you define your choice of disciplinary major. The introductory core studies will provide you with a solid foundation in your chosen disciplinary skills and build the basis for future studies.

Year 2
You will be introduced to advanced theoretical concepts and practical skills that serve to build your expertise in the science and technology disciplines. A thorough understanding of science and technology theory and practice is necessary to understand, evaluate and communicate aspects of innovation to the business world.

Year 3
In third year, you will complete your science and technology disciplinary advanced studies and take basic and advanced business units that encompass the business of innovation, intellectual property law and professional skills development. Through the action learning framework of the Student Enterprise Scheme, professional skills development will concentrate on communication and team-building skills. These exercises will help prepare you for industry-based consultancy style projects and extra-curricular networking events and an industry career.

Year 4
You will undertake integrative business units that develop the entrepreneurial mindset needed for a career in innovation commercialisation. You will further develop your professional skills through networking events. Student teams will source an industry-based consultancy-style project that will serve to provide real world experience and ready you for your future career.

Information Technology Major Course Structure

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<tr>
<th>Year 1 Semester 1</th>
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<tbody>
<tr>
<td>INB101</td>
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<td>INB102</td>
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<td>INB103</td>
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<td>INB104</td>
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<th>Year 1 Semester 2</th>
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<tr>
<td>Choose THREE units from the IT Breadth Options List</td>
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<td>Plus ONE unit which may be any Faculty of Science and Technology unit or a unit from another Faculty</td>
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<tr>
<td>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</td>
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<th>Year 2 Semester 1</th>
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<td>INB201</td>
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<td>Plus ONE unit from the IT Breadth Options List</td>
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<td>Plus ONE unit which may be any Faculty of Science and Technology unit or a unit from another Faculty</td>
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<tr>
<td>Plus ONE unit from the IT Specialisation Options List</td>
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<tr>
<td>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</td>
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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

Year 3 Semester 2
BSB126 Marketing
MGB223 Entrepreneurship and Innovation

Year 4 Semester 1
AMB240 Marketing Planning and Management
LWS007 Introduction To Intellectual Property Law
MGB324 Managing Business Growth
STB709-1 Innovation and Commercialisation Project

Year 4 Semester 2
BSB311 Innovation Commercialisation Strategies
MGB225 Intercultural Communication and Negotiation Skills
STB709-2 Innovation and Commercialisation Project
STB709-3 Innovation and Commercialisation Project

Information Technology Breadth Options List
Students must complete FOUR units from the following list:
INB120 Corporate Systems
INB210 Databases
INB220 Business Analysis
INB250 Foundations of Computer Science
INB251 Networks
INB255 Security
INB270 Programming
INB271 The Web
INB272 Interaction Design

Information Technology Specialisation 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
INB312 Enterprise Systems Applications
WEB TECHNOLOGIES:
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
DATA WAREHOUSING:
INB340 Database Design
INB341 Software Development With Oracle
INB342 Enterprise Data Mining and Data Analysis
INB343 Advanced Data Mining and Data Warehousing

NETWORK SYSTEMS:
UNIT SYNOPSISES

INB350 Internet Protocols and Services
INB351 Unix Network Administration
INB352 Network Planning
INB353 Wireless and Mobile Networks
SOFTWARE ENGINEERING:
INB370 Software Development
INB371 Data Structures and Algorithms
INB372 Agile Software Development
INB374 Enterprise Software Development

DIGITAL ENVIRONMENTS
INB334 Information Issues and Values
INB345 Mobile Devices
INB346 Enterprise 2.0
INB347 Web 2.0 Applications

UNGROUPED UNITS:
INB355 Cryptology and Protocols
INB365 Systems Programming
INB860 Computational Intelligence for Control and Embedded Systems

UNIT SYNOPSISES

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: AMX240, CTB240  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Caboolture  Teaching period: 2011 SEM-1 and 2011 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: INN101  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Caboolture  Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM-1

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, BSD126  Equivalents: BSX126, CTB126  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point and Caboolture  Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 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: MGB223 or LSP127  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Caboolture  Teaching period: 2011 SEM-1, 2011 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: INN101  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching
**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.

**Equivalents:** ITB005  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 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.

**Equivalents:** ITB002  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 SEM-2

**INB104 BUILDING IT SYSTEMS**

Today's modern integrated technology is built on IT systems which run in a range of contexts (e.g. mobile computing, robotics, and web-based systems) using a range of technological solutions such as programming and scripting, databases, web development and network programming. This 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.

**Equivalents:** ITB001  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 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:** 2011 SEM-1

**INB123 PROJECT MANAGEMENT PRACTICE**

In your information technology career it is very likely that you will work on and lead project teams to achieve business outcomes. You will achieve more effective outcomes by employing a project management method. The aim of this course is to familiarise you with the PRINCE2® method so that you could successfully work within and lead project teams. At the conclusion of this unit you may be eligible to sit the externally provided PRINCE2® Foundation and Practitioner accreditation examinations.

**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:** 2011 SEM-1 and 2011 SEM-2

**INB201 SCALABLE SYSTEMS DEVELOPMENT**

Information technology is a key enabling tool in a rapidly evolving global economy. IT systems underpin innovation across a range of application areas including business, economics, science, engineering, education and the arts. In order to educate graduates in this climate, Scalable Systems Development adopts an integrated approach to provide broad hands-on experiences designed to orient students to the range of possibilities within the IT discipline.

This team-based unit is an extension of project work introduced in Building IT Systems. Within a concrete, project-based context students will encounter the practical challenges of designing and implementing a substantial IT system. The unit aims to increase students’ awareness of the potential of IT in enabling innovation through providing active, constructive and challenging problem-based learning experiences.

**Prerequisites:** (INB102 or ITB005) and (INB104 or ITB001)  
**Assumed knowledge:** Completion of 36cp of Breadth
units is assumed knowledge. **Equivalents:** ITB007

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

**INB210 DATABASES**

Databases and database systems are essential items that support many aspects of everyday life in modern society. All graduates from a course in Information Technology will be expected by employers to understand the concepts and terminology of databases. The aim of this unit is to introduce you to the structure and role of databases in modern organisations.

**Antirequisites:** INN210  **Equivalents:** ITB004  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 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).

**Antirequisites:** INN220  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 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:** 2011 SEM-1

**INB250 FOUNDATIONS OF COMPUTER SCIENCE**

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. Most of the techniques are derived from the field of Discrete Mathematics and are the foundation of the discipline called Computer Science.

**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

**Antirequisites:** INN210  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-1

**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:** INN220  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 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, ITN161 and INN255  **Equivalents:** ITB730  **Credit points:** 12

**Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 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 techniques.
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:** INN270  **Equivalents:** ITB003  **Credit points:** 12
**Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-1 and 2011 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:** 2011 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:** 2011 SEM-2

**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.

**Antirequisites:** INN311  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 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:** 2011 SEM-1

**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:** 2011 SEM-2

**INB320 BUSINESS PROCESS MODELLING**
The aim of this unit is to introduce you to modern methodologies of business process modelling. A main objective is to increase your awareness of the conceptual foundation of modelling and for the capabilities of BPMN and available tools. You will learn how to use grammars and tools to build, maintain and communicate practically relevant process models.

**Equivalents:** ITB298  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 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: 2011 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: 2011 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.

**Credit points:** 12  Contact hours: 3 per work  Campus: Gardens Point

**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

**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: 2011 SEM-1

**INB341 SOFTWARE DEVELOPMENT WITH ORACLE**
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 ITB004 or INB122  Equivalents: ITB223  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

**INB342 ENTERPRISE DATA MINING AND DATA ANALYSIS**
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:
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
Antirequisites: INN343
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2011 SEM-2

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: 2011 SEM-1

INB346 ENTERPRISE 2.0
Web technologies and applications are reshaping contemporary organisations. By 2009 it has been predicted that more than 80% of organisations will have blogs and more than 50% of organisations will have wikis as part of their business solutions and strategies. Furthermore, with the advent of Cloud Computing, many companies are outsourcing key business functions to external web applications. The successful contemporary organisation requires expertise in not just business and management practice but in the critical design, use and consequences of new and emerging technologies. This unit will explore the ways in which IT has impacted on how organisations design and deliver activities and services internally and externally. The aim of this unit is to provide you with an understanding of how web 2.0 is changing the way contemporary organisations function.

Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2011 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: 2011 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: ITB624, ITB629, ITB720, ITN525, ITN667, ITN720
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2011 SEM-1

INB351 UNIX 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: 2011 SEM-2

INB352 NETWORK PLANNING
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, ENN523
Credit points: 12
Contact hours: 3 per week
Campus:
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  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 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:** 2011 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:** 2011 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:**  
INN271, INN373  
**Equivalents:** ITB716 and ITN716  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 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:** 2011 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:** 2011 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, stand-alone 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:** 2011 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.

**Assumed knowledge:** Knowledge of a programming language like Python, Java or C is assumed.  
**Equivalents:** ITB847  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 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:** 2011 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:** BSB115 or CTB115  **Equivalents:** CTB223, MGX223  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point and Caboolture  **Teaching period:** 2011 SEM-1 and 2011 SEM-2

### MGB225 INTERCULTURAL COMMUNICATION AND NEGOTIATION SKILLS

The course develops students’ abilities to identify and resolve problems in cross-cultural communication or negotiation situations where cultural differences have created misunderstandings or undesirable or unexpected outcomes. It first explores the concept of ‘national culture’ by considering the work of major theorists of cultural value dimensions - from Hall to Schwartz. Students are encouraged to analyse communication/negotiation process issues in terms of these value dimensions and to practise managing the process of communication/negotiation to improve their outcomes.  **Prerequisites:** BSB115, CTB115, BSB119 or BSB124  **Antirequisites:** MGB312  **Equivalents:** IBB205, MGX225  **Credit points:** 12  **Contact hours:** 3  **Campus:** Gardens Point and Caboolture  **Teaching period:** 2011 SEM-1 and 2011 SEM-2

### 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, MGX324  **Credit points:** 12  **Contact hours:** 3  **Campus:** Gardens Point and Caboolture  **Teaching period:** 2011 SEM-1

### STB709 ENGAGING WITH THE INNOVATION INDUSTRY

Working in the innovation industry requires a suite of skills beyond an in depth technical and/or business knowledge of a disciplinary area. Successful facilitators of innovation exchange require well developed professional portfolios and high level capabilities in the generic or soft skills including communication (written, oral and aural), thinking approaches (analytical, critical and lateral), adaptability, flexibility, leadership, learning approaches and team-based skills. This unit helps prepare you to become a professional in the innovation industry whether as an entrepreneur seeking funding for development of intellectual property or as facilitator of innovation exchange between inventor, venture capital sources and the global marketplace.  **Credit points:** 12  **Teaching period:** 2011 SEM-1

### STB709 INNOVATION AND COMMERCIALISATION PROJECT

The Innovation and Commercialisation Project is a capstone unit that provides a concrete opportunity for students to consolidate and contextualise the knowledge and skills they have acquired in the course and apply them to a substantial project. The unit serves to provide work experience and link University study with the professional practice of innovation commercialisation context. New venture areas of industry, focussed as they often are on emergent technologies and the commercialisation of innovation, require graduates capable of high levels of critical thinking and evaluation coupled with a sound technical and business knowledge and skills base of relevance to the particular innovation context. The capacity to conduct rigorous analysis into the research, development and commercialisation of products and processes is a fundamental aspect of converting real-world science and technology into products for the global marketplace.  **Prerequisites:** STB551  **Credit points:** 12  **Teaching period:** 2011 SEM-1, 2011 SEM-2 and 2011 SUM

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**Prerequisites:** STB551  
**Credit points:** 12  
**Teaching period:** 2011 SEM-1, 2011 SEM-2 and 2011 SUM