Bachelor of Applied Science/Bachelor of Information Technology (IX26)

Year offered: 2010
Admissions: No
CRICOS code: 020327M
Course duration (full-time): 4 years
Domestic fees (indicative): 2010: CSP $3,370 (indicative) per semester
International Fees (indicative): 2010: $11,500 (indicative) per semester
QTAC code: 419302
Past rank cut-off: 74
Past OP cut-off: 13
OP Guarantee: Yes
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
Course coordinator: Dr Perry Hartfield (Science), Mr Richard Thomas (Information Systems)
Discipline coordinator: Dr Perry Hartfield (Biochemistry Major); Dr Marion Bateson (Biotechnology Major); Dr Robert Johnson (Chemistry Major); Dr Ian Williamson (Ecology Major); Dr Robin Thwaites (Environmental Science Major); Dr Emad Kiriakous (Forensic Science Major); Dr Gary Huftile (Geoscience Major); Dr Christine Knox (Microbiology Major); Dr Greg Michael (Physics Major)
Campus: Gardens Point

Network Systems Major

Compulsory Units
INB350 Internet Protocols and Services
INB351 Computer Network Administration
INB352 Network Planning and Deployment
INB255 Security

Electives
INB312 Enterprise Systems Applications
INB365 Systems Programming
INB353 Wireless and Mobile Networks
INB355 Cryptology and Protocols

Information Systems Major

Compulsory Units
INB311 Enterprise Systems
INB340 Database Design
INB220 Business Analysis

IS Elective Units
INB312 Enterprise Systems Applications
INB342 Enterprise Data Mining
INB313 Electronic Commerce Site Development
INB322 Information Systems Consulting
INB320 Business Process Modelling
INB124 Information Systems Development
INB221 Technology Management

Software Architecture Major

Compulsory Units
INB340 Database Design
INB371 Data Structures and Algorithms
INB372 Agile Software Development

Electives
Choose 3 Electives
INB341 Software Development With Oracle
INB311 Enterprise Systems
INB312 Enterprise Systems Applications
INB272 Interaction Design
INB313 Electronic Commerce Site Development
INB322 Information Systems Consulting
INB320 Business Process Modelling
INB370 Software Development
INB373 Web Application Development
INB374 Enterprise Software Architecture
INB381 Modelling and Animation Techniques
INB382 Real Time Rendering Techniques
MAB281 Mathematics for Computer Graphics
INB381 is only to be used as a prereq for
MAB281

IX26 - Bachelor of Applied Science/Bachelor of Information Technology Course Structure 2009

Course Structure 2009
From semester one, 2009 this course will not be available for commencing students. IX26
will only be available for continuing students. New students - please refer to IX55. Please contact enquiry.scitech@qut.edu.au for any enquiries.

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<th>Year 1, Semester 1</th>
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<tbody>
<tr>
<td>INB103</td>
<td>Industry Insights</td>
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<tr>
<td>INB250</td>
<td>Systems Architecture</td>
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<tr>
<td>INB210</td>
<td>Databases</td>
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<td>INB251</td>
<td>Networks</td>
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<tr>
<td>INB104</td>
<td>Building IT Systems</td>
<td>Choose one unit from: Intermediate Level Elective list. This choice will replace ITB008 from 2009 course summary.</td>
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<td>Programming</td>
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<td>INB271</td>
<td>The Web</td>
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<tbody>
<tr>
<td>INB301</td>
<td>The Business of IT</td>
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<tbody>
<tr>
<td>INB302</td>
<td>Capstone Project</td>
<td>IT Major Unit</td>
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<td>Year 1, Semester 1</td>
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<tbody>
<tr>
<td>ITB004</td>
<td>Database Systems</td>
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<td>ITB006</td>
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<td>ITB001</td>
<td>Problem Solving and Programming</td>
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<td>Modelling Analysis and Design</td>
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<td>Object Oriented Programming</td>
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<td>ITB007</td>
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**Potential Careers:**


**UNIT SYNOPSISES**

**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...

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<th>Course Code</th>
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introduce you the inter-disciplinary nature of ICT careers.

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

INB104 BUILDING IT SYSTEMS
This team-based unit is an integrated introduction to information technology designed to engage, inspire and inform and will demonstrate the important role that technical system design and development plays in achieving robust operation of a large variety of technological solutions. This unit will give you substantial hands-on, practical learning experiences and will motivate you through engagement in the creative, explorative and meaningful development of technological artefacts that operate in real world contexts.

Prerequisite(s): Nil  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1 and 2009 SEM-2  Incompatible with: ITB001 and ITB003

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

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

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.

Prerequisite(s): Nil  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-2  Incompatible with: ITB004 and ITB115

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-1

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

Prerequisite(s): INB124  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-2  Incompatible with: ITB005

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.

**Prerequisite(s):** Nil  
**Corequisite(s):** Nil  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1 and 2009 SEM-2  
**Incompatible with:** ITB006

**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.

**Prerequisite(s):** INB104  
**Corequisite(s):** Nil  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1 and 2009 SEM-2  
**Incompatible with:** ITB003, ITB112, ITB411 or 
equivalent

**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 
have 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.

**Prerequisite(s):** INB104 or equivalent  
**Corequisite(s):** Nil  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1 and 2009 SEM-2  
**Incompatible with:** ITB227 & ITB007

**INB272 INTERACTION DESIGN**

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

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

**INB301 THE BUSINESS OF IT**

This unit will prepare you for professional practice by giving 
you practical knowledge and skills about how to prepare a 
project plan and monitor its implementation. You will learn 
about the process of identifying a business opportunity and 
how to take advantage of that opportunity. You will learn 
about how to create successful entrepreneurial teams. You 
will gain an insight into the different challenges and 
approaches to funding a venture. You will learn how to 
break a project up into manageable tasks and estimate the 
duration of tasks to start planning a project schedule. You 
will be introduced to core strategic models, discuss typical 
strategy tools and then apply them to the 'Business of IT'. 
You will be introduced to techniques for conceptualising 
strategy, such as Strategy Maps / Balanced Scorecard. 
Different governance models would be introduced, with a 
focus on IT governance.

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

**INB302 CAPSTONE PROJECT**

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

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

**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

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

**Antirequisites:** ITB264, ITN264  
**Assumed knowledge:** Completion of 96 credit points of an Undergraduate study is assumed knowledge  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1

**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, backup/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:** 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:** INB212 or INB210 or INB340 or AYB114  
**Antirequisites:** INN342  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**INB350 INTERNET PROTOCOLS AND SERVICES**

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

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

**INB351 COMPUTER NETWORK ADMINISTRATION**

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

**Prerequisites:** INB350  
**Equivalents:** ITB721, ITB625, ITB535, ITB525  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**INB352 NETWORK PLANNING AND DEPLOYMENT**

The unit draws together subject matter from a number of different networking-related areas. The aim of the unit is to assemble the previously acquired knowledge and techniques and apply it in a cohesive fashion to the task of network planning.

**Prerequisites:** INB350  
**Antirequisites:** ITB551, ITB628, ITB722, INN352, ITN551, ITN722  
**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-1

**INB355 CRYPTOLOGY AND PROTOCOLS**

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

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

**INB365 SYSTEMS PROGRAMMING**

Systems programming is an essential part of any computer-science education. This unit uses operating system
Prerequisites: INB270  Antirequisites: INN365, ITB745, ITB706  
Assumed knowledge: Fundamentals of computer architecture; high level programming languages (such as C, C++, Java Python) is assumed knowledge.

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

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

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

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

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

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

Prerequisites: INB370  
Antirequisites: INN372, ITB612, ITB712  
Assumed knowledge: Good programming, debugging, testing and software development skills.

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

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

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

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

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

INB381 MODELLING AND ANIMATION TECHNIQUES
The unit will provide you with the knowledge and skills to use an industry standard graphics API to implement graphics applications and to develop a basic real time animation system using an industry standard language.

Prerequisites: INB371 and MAB281  
Equivalents: ITB746  
Credit points: 12  Contact hours: 3 per week  
Campus: Gardens Point  
Teaching period: 2010 SEM-1 and 2010 SEM-2

INB382 REAL TIME RENDERING TECHNIQUES
This unit will provide you with knowledge and skills in basic to advanced techniques in real-time rendering using shading languages. You will be able to implement a high-
quality real-time rendering system in an industry standard API.

**Prerequisites:** INB371, INB381 and MAB281
**Antirequisites:** ITB648 and ITB649  **Equivalents:** ITB747
**Credit points:** 12  **Contact hours:** 3 per week
**Campus:** Gardens Point  **Teaching period:** 2010 SEM-2

**ITB001 PROBLEM SOLVING AND PROGRAMMING**
This unit aims to give you a positive introduction to the analytical skills required in computer programming. It assumes you have little or no previous programming experience. The unit emphasises generic programming concepts and related problem-solving strategies. The skills you learn in the unit will be applicable to a wide variety of commonly-used, industrially-significant programming and scripting languages.

**Prerequisite(s):** Nil  **Corequisite(s):** Nil  **Credit points:** 12  **Contact hours:** 4  **Campus:** Gardens Point  **Teaching period:** 2008 SEM-1 and 2008 SEM-2  **Incompatible with:** ITB111

**ITB003 OBJECT ORIENTED PROGRAMMING**
Object Oriented Programming aims to develop your software design and development skills gained in ITB001, taking you from procedural programming and problem solving into an Object Oriented approach. This unit is required by all IT majors, and is designed to be complimentary to ITB008: Modelling, Analysis and Design. You will use industry standard design approaches coupled with an industrial strength OO programming language to design and implement a real-life software application. Along the way, you will gain a solid foundation in the principals of OOP, including encapsulation, polymorphism and inheritance, allowing you to solve real-world problems using the Object-Oriented design paradigm.

**Prerequisite(s):** ITB001  **Credit points:** 12  **Contact hours:** 4  **Campus:** Gardens Point and Carseldine  **Teaching period:** 2007 SEM-1 and 2007 SEM-2  **Incompatible with:** ITB112

**ITB002 IT PROFESSIONAL STUDIES**
This unit aims to develop your professional skills and capabilities by providing theoretical and practical opportunities in the following areas: how IT teams operate, effective oral and written communication, team meeting processes and procedures, ethical and social responsibilities of the IT professional, information literacy and traits for life long learning. Demonstrable competency in these areas will be an expectation in subsequent units and will be developed further in them.

**Prerequisite(s):** Nil  **Credit points:** 12  **Contact hours:** 3  **Campus:** Gardens Point and Carseldine  **Teaching period:** 2007 SEM-1 and 2007 SEM-2  **Incompatible with:** ITB116

**ITB004 DATABASE SYSTEMS**
The aim of this unit is to introduce you to the structure and role of databases in modern businesses.
Prerequisite(s): Nil Credit points: 12 Contact hours: 3
Campus: Gardens Point Teaching period: 2008 SEM-1 and 2008 SEM-2 Incompatible with: ITB115

ITB004 DATABASE SYSTEMS
The aim of this unit is to introduce you to the structure and role of databases in modern businesses.
Prerequisite(s): Nil Credit points: 12 Contact hours: 3
Campus: Gardens Point and Carsseldine Teaching period: 2007 SEM-1 and 2007 SEM-2 Incompatible with: ITB115

ITB005 SYSTEMS ARCHITECTURE
The aims of this unit are twofold. First is to introduce you to the challenging field of Systems Architecture and provide you with practical skills in using a range of modern computer operating systems through the presentation of case studies involving current technology and their relationship and interconnection within a contemporary computer systems architecture; and secondly, to provide you with sufficient knowledge to enable you at the completion of this unit, to make informed choices about areas of specialisation within your degree and be well prepared to undertake specialist units of your choice.
Prerequisite(s): Nil Credit points: 12 Contact hours: 3
Campus: Gardens Point and Carsseldine Teaching period: 2007 SEM-1 and 2007 SEM-2 Incompatible with: ITB115

ITB006 NETWORKS
The aim of the unit is to provide an introductory study of computer networks within the IT profession.
Prerequisite(s): Nil Credit points: 12 Contact hours: 3
Campus: Gardens Point Teaching period: 2008 SEM-1 and 2008 SEM-2 Incompatible with: ITB114

ITB007 WEB DEVELOPMENT
The aims of the unit are to give you a thorough understanding of what the web is, how it works and what is 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 b
Prerequisite(s): ITB001, ITB002, ITB004 Credit points: 12 Contact hours: 3
Campus: Gardens Point Teaching period: 2007 SEM-1 and 2007 SEM-2 Incompatible with: ITB227

ITB007 WEB DEVELOPMENT
The aims of the unit are to give you a thorough understanding of what the web is, how it works and what is 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 b
Prerequisite(s): ITB001, ITB002, ITB004 Credit points: 12 Contact hours: 3
Campus: Gardens Point Teaching period: 2007 SEM-1 and 2007 SEM-2 Incompatible with: ITB227

ITB008 MODELLING ANALYSIS AND DESIGN
The aim of this unit is to introduce students to the range of application systems found within organisations, the basic concepts of object orientation, the theory and practice of object modelling, analysis and design, the principles of software engineering and the team processes required to work in a modelling, analysis and design team.
Prerequisite(s): ITB002  
Credit points: 12  
Contact hours: 3  
Campus: Gardens Point  
Teaching period: 2008 SEM-1 and 2008 SEM-2  

ITB008 MODELLING ANALYSIS AND DESIGN
The aim of this unit is to introduce students to the range of application systems found within organisations, the basic concepts of object orientation, the theory and practice of object modelling, analysis and design, the principles of software engineering and the team processes required to work in a modelling, analysis and design team.

Prerequisite(s): ITB002  
Credit points: 12  
Contact hours: 3  
Campus: Gardens Point and Carseldine  
Teaching period: 2007 SEM-1, 2007 SEM-2 and 2007 SUMMER  

Incompatible with: ITB118

MAB281 MATHEMATICS FOR COMPUTER GRAPHICS
This unit introduces students to the mathematics involved in computer graphics, computer games and virtual reality. It is heavily reliant on analytic, Euclidean and projective geometries in 2D and 3D, elementary trigonometry, elementary linear algebra and elementary calculus. The unit will develop the mathematical concepts and where practicable show how these concepts are then applied in the field of computer graphics. Students must have completed four semesters of Senior Mathematics B with an exit level of Sound Achievement, or have passed MAB105 (or equivalent).

Assumed knowledge: Grade of at least Sound Achievement in Senior Mathematics B (or equivalent) or MAB105 is assumed knowledge.

Credit points: 12  
Contact hours: 4 per week  
Campus: Gardens Point  
Teaching period: 2010 SEM-2

ITB009 CORE PROJECT MANAGEMENT
This unit extends your development of the professional, technical and teamwork skills required by IT professionals in practise. It enables you to understand the process of project initiation and to build on this base in the following ITB010 Project 2 (or your Co-op appointment the following year).

Prerequisite(s): 144 cp overall including 96 cp of IT units  
Contact hours: 3  
Campus: Gardens Point  
Teaching period: 2008 SEM-1 and 2008 SEM-2  

Incompatible with: ITB613, ITB240

ITB009 CORE PROJECT INITIATION
This unit extends your development of the professional, technical and teamwork skills required by IT professionals in practise. It enables you to understand the process of project initiation and to build on this base in the following ITB010 Project 2 (or your Co-op appointment the following year).

Prerequisite(s): 144 cp overall including 96 cp of IT units  
Contact hours: 3  
Campus: Gardens Point  
Teaching period: 2007 SEM-1 and 2007 SEM-2  

Incompatible with: ITB613, ITB240

ITB010 CORE PROJECT IMPLEMENTATION
This capstone unit extends development of the professional, technical and teamwork skills required by IT professionals in practice. It enables you to understand the process of project implementation and to build on this base in your professional career.

Prerequisite(s): ITB009  
Credit points: 12  
Contact hours: 3  
Campus: Gardens Point  
Teaching period: 2008 SEM-1, 2008 SEM-2 and 2008 SUMMER

ITB010 CORE PROJECT IMPLEMENTATION
This capstone unit extends development of the professional, technical and teamwork skills required by IT professionals in practice. It enables you to understand the process of project implementation and to build on this base in your professional career.