Bachelor of Games and Interactive Entertainment (IT04)

Year offered: 2012
Admissions: Yes
CRICOS code: 059710E
Course duration (full-time): 3 years
Course duration (part-time): 6 years
Domestic Fees (indicative): 2012: CSP $3,875 (indicative) per Semester
Start month: February
QTAC code: 418102
Past rank cut-off: 73
Past OP cut-off: 13
OP Guarantee: Yes
IELTS (International English Language Testing System):
Overall: 6.5, Subscores: 6.0
Deferment allowed: Yes
Total credit points: 288
Course coordinator: Michael Docherty
Campus: Gardens Point
Attendance: Full-time

Assumed knowledge: English
Assumed knowledge notes: We assume that you have knowledge equivalent to four semesters at high school level (Years 11 and 12) with sound achievement (English (4, SA) and Maths A, B or C (4, SA)). For information on acquiring assumed knowledge visit http://www.qut.edu.au/assumed-knowledge

Course highlights
- Be a part of Queensland’s leading video game industry, responsible for titles such as Hellboy, Fruit Ninja, the children’s game Viva Pinata Party Animals and Star Wars: The Force Unleashed.
- Gain experience throughout the whole process of game and interactive media development.
- Specialise in animation, digital media, game design or software technologies.
- Combine your major study with a minor in animation, digital media, entrepreneurship, game design, mobile and network technologies, physics for games, software technologies or sound design.
- Complete a major group project in your third year, producing a significant piece of digital work using PC, mobile devices, consoles or virtual reality.

Details:
Choose your career path in this multibillion dollar industry. This degree allows the development of creative skills ranging from the technical to the artistic. You will gain experience in the whole process of game and interactive media development, from identification and evaluation of ideas, creation of design concepts, critique of existing and potential products, analysis of cultural impact and industry trends, through to the development and delivery of a final product.

You will learn about the games and interactive entertainment industries through interacting with industry members, reviewing the development process of games and related products, participating in class discussions and studying industry literature. You will discover visualisation, interaction and communication techniques as applied to games and interactive media. A strong foundation in both entertainment technology and creative skills is complemented with options in games programming, including graphics programming and game artificial intelligence. You will be introduced to generic programming concepts and problem-solving strategies, team work, and the ethical and social responsibilities of an interactive media professional.

Why choose this course?
This course is a collaboration between the faculties of Science and Engineering, and Creative Industries, allowing you to be taught design and technology skills from the experts in their field.

Massive cultural changes are occurring due to the advent of consumer 3D technology. This has changed the expectations and abilities of people, creating more jobs for the industry.

Queensland is leading the video game industry with figures showing the state earns more than any other from interactive entertainment. The state’s game developers generate approximately $55 million per year; a 40% slice of Australia’s video games earnings, according to an Australian Bureau of Statistics report. Queensland game companies also employ almost half of the video game industry’s workforce, with Brisbane becoming a hub of games talent, producing games for a worldwide audience.

Popular games titles produced in Queensland include Hellboy, Fruit Ninja, the children’s game Viva Pinata Party Animals and Star Wars: The Force Unleashed.

Career outcomes
Depending on your specialisation, graduates may find employment as a games/digital media programmer, game designer, simulation developer or designer, animator, film and television special effects developer, games/digital media reviewer, video game tester, sound designer, mobile entertainment and communications developer, web developer, digital product strategist, computer systems engineer, multimedia designer, software engineer, or technical officer.
Professional recognition
The software technologies major within this course is accredited by the Australian Computer Society (ACS). ACS accreditation is internationally recognised by the Seoul Accord.

Other study options
- Bachelor of Business/Bachelor of Games and Interactive Entertainment
- Bachelor of Games and Interactive Entertainment/Bachelor of Mathematics

Structures and Units
Course structure
The 24-unit degree comprises:
- five core units plus a 36-credit-point final-year project (three units equivalent)
- eight units in your chosen major
- four units in a secondary area of study, also known as your minor
- four optional units where you can choose units from across QUT to complement your studies.

Majors
Choose your primary area of study, also known as your major, from:

Animation
This major includes foundation studies in the production of animation and motion graphics; history of animation practices; and programming, which includes object orientation, 3D computer graphics and computer-generated art. You will develop skills enabling you to work in areas such as computer games, interactive media arts, web applications, sound design, adaptive music and interactive public art works.

Game Design
This major provides you with hands-on game design experience, as well as knowledge of narrative and immersion (drawing the player into the game), and game-level design to provide the skills necessary to create interesting and unique game worlds.

Software Technologies
This major will prepare you for careers in the game and simulation industries such as software tester, video game tester, game programmer and software tools developer. You will study technological aspects of computer games, games engine and tools development. Companies used to provide ‘in-house’ training for programming skills; however they are now turning to tertiary institutions to provide appropriately qualified graduates.

Minors
- Animation
- Advanced Animation*
- Digital Media
- Entrepreneurship
- Game Design
- Legal Issues
- Marketing
- Mathematics for Games
- Mobile and Network Technologies
- Physics for Games
- Software Technologies
- Advanced Software Technologies^
- Sound Design

Your course
Year 1
In your first year you will undertake five core units, consisting of:
- Computer Games Studies
- Building IT Systems
- Industry Insights
- Introducing Design
- Games Production.
You will also undertake three units within your chosen major or minor.

Year 2
Second year consists of units within your chosen major and minor together with optional units chosen from anywhere in the University.

Year 3
In your final year, you will extend your professional and technical skills by participating in a major group project to produce a significant piece of digital work using PC, mobile devices, consoles or virtual reality. You will also undertake a Bachelor of Games and Interactive Entertainment design project. You will complete your units for your chosen major, minor and optional units.
*Only available to those undertaking the animation major.
^Only available to those undertaking the software technologies major.

Bachelor of Games & Interactive Entertainment Part time structure

The course consists of four blocks of studies

Block A: Core Studies (7 units including a 24 credit point Project completed in Semester 12)
The course consists of four blocks of studies:

- **Block A: Core Studies (6 units plus a 24 credit point Project completed in Semester 6)**
- **Block B: Major (8 units) selected from Animation; Digital Media; Games Design; Software Technologies**
- **Block C: Minor (4 units)**
- **Block D: Electives (4 units)**

The Cooperative Education Programs are replacements for general IT electives.

### Year 1, Semester 1
- **INB180** Computer Games Studies
- **INB182** Introducing Design

### Year 1, Semester 2
- **INB181** Introduction to Games Production
- **INB104** Building IT Systems

### Year 2, Semester 1
- **INB103** Industry Insights
- **INB204** Special Topic 1

### Year 2, Semester 2
- **INB181** Introduction to Games Production
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB104** Building IT Systems
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB103** Industry Insights
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB204** Special Topic 1
  - Block B or Block C Unit
  - Block B or Block C Unit

### Year 3, Semester 1
- **INB180** Computer Games Studies
- **INB104** Building IT Systems
- **INB103** Industry Insights
- **INB204** Special Topic 1

### Year 3, Semester 2
- **INB181** Introduction to Games Production
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB104** Building IT Systems
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB103** Industry Insights
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB204** Special Topic 1
  - Block B or Block C Unit
  - Block B or Block C Unit

### Year 4, Semester 1
- **INB180** Computer Games Studies
- **INB104** Building IT Systems
- **INB103** Industry Insights
- **INB204** Special Topic 1

### Year 4, Semester 2
- **INB181** Introduction to Games Production
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB104** Building IT Systems
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB103** Industry Insights
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB204** Special Topic 1
  - Block B or Block C Unit
  - Block B or Block C Unit

### Year 5, Semester 1
- **INB180** Computer Games Studies
- **INB104** Building IT Systems
- **INB103** Industry Insights
- **INB204** Special Topic 1

### Year 5, Semester 2
- **INB181** Introduction to Games Production
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB104** Building IT Systems
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB103** Industry Insights
  - Block B or Block C Unit
  - Block B or Block C Unit
- **INB204** Special Topic 1
  - Block B or Block C Unit
  - Block B or Block C Unit

### Year 6, Semester 1
- **INB379** Game Project Design
  - Block B or Block C or Block D Unit

### Year 6, Semester 2
- **INB380** Games Project
  - Note: Coop Ed students replace INB380 with INS011 and INS012
Year 3, Semester 1
INB379 Game Project Design
Block B or Block C or Block D Unit
Block B or Block C or Block D Unit
Block B or Block C or Block D Unit

Year 3, Semester 2
INB380 Games Project
Block B or Block C or Block D Unit
Block B or Block C or Block D Unit
Note: Coop Ed students replace INB380 with INS011 and INS012

Bachelor of Games & Interactive Entertainment Majors
Course structure 2009

Animation
KIB105 Animation and Motion Graphics
KIB108 Animation History and Practices
KIB225 Character Development, Conceptual Design and Animation Layout
KIB203 Introduction to 3D Computer Graphics
KIB325 Real-Time 3D Computer Graphics
KIB316 Virtual Environments
KVB105 Drawing for Design
KVB106 Drawing for Animation

Digital Media
KIB101 Visual Communication
KIB102 Visual Interactions
INB385 Multimedia Systems
INB386 Advanced Multimedia Systems
INB345 Mobile Devices
KIB230 Interface and Information Design
KIB309 Embodied Interactions
KIB314 Tangible Media

Game Design
INB281 Advanced Game Design
INB280 Fundamentals of Game Design
INB272 Interaction Design
KIB201 Concept Development for Game Design and Interactive Media
KIB202 Enabling Immersion
KIB214 Design for Interactive Media

AND Two units selected from the following:
DEB201 Digital Communication
DAB110 Architectural Design 1
DTB101 Interior Design 1
DNB101 Industrial Design 1

Software Technologies*
* Requirements for this Major is a SA or better in Queensland Maths B (or equivalent)
INB270 Programming
INB210 Databases
INB250 Systems Architecture
INB371 Data Structures and Algorithms
INB381 Modelling and Animation Techniques
INB382 Real Time Rendering Techniques
INB370 Software Development
MAB281 Mathematics for Computer Graphics
OR
INB304 Special Topic 3

Bachelor of Games & Interactive Entertainment Minors
Course structure 2009

Students select a Minor from the following

Animation
KIB105 Animation and Motion Graphics
KVB105 Drawing for Design
KVB106 Drawing for Animation
KIB108 Animation History and Practices

Advanced Animation#
KIB212 Animation Studio 1: Preproduction
KIB213 Animation Studio 2: CG Toolkit
#Entry into this minor is limited to IT04 students enrolled in the Animation Major, who have completed at least 96 credit points of study, and have gained an average grade of 5.0 or above across the following units from the Animation Major: KIB105, KIB108, KVB105, KVB106.

Advanced Software Technologies #
INB365 Systems Programming
INB372 Agile Software Development
INB374 Enterprise Software Architecture
INB382 Real Time Rendering Techniques

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OR
INB304 Special Topic 3
# Only available to students doing the Software Technologies major

Digital Media
KIB101 Visual Communication
KIB102 Visual Interactions
INB385 Multimedia Systems
INB386 Advanced Multimedia Systems

Entrepreneurship
BSB115 Management
MGB223 Entrepreneurship and Innovation
MGB324 Managing Business Growth

Plus one from the following:
BSB126 Marketing
MGB200 Leading Organisations

Game Design
KIB201 Concept Development for Game Design and Interactive Media
KIB202 Enabling Immersion
INB280 Fundamentals of Game Design
INB281 Advanced Game Design

OR
INB272 Interaction Design

Legal Issues
LWB141 Legal Institutions and Method
LWB136 Contracts A
LWB137 Contracts B
LWB142 Law, Society and Justice
LWB480 Media Law
LWB482 Internet Law
LWB486 Intellectual Property Law

Marketing
BSB126 Marketing
AMB251 Innovation and Brand Management
AMB240 Marketing Planning and Management
AMB201 Marketing and Audience Research
AMB359 Strategic Marketing

Mathematics for Games#
MAB100 Mathematical Sciences 1A
MAB111 Mathematical Sciences 1B
MAB112 Mathematical Sciences 1C
MAB312 Linear Algebra

# Students who have completed Maths C can substitute MAB100 with one of the following units: MAB311, MAB481 or MAB422

Mobile and Network Technologies
INB102 Emerging Technology
INB251 Networks
INB280 Internet Protocols and Services
INB353 Wireless and Mobile Networks

Sound Design
KMB105 Music and Sound Technology
KMB106 Music and Sound for Multimedia
KMB107 Sound, Image, Text
KMB108 Sound Recording and Acoustics

Software Technologies
INB270 Programming
INB210 Databases
INB371 Data Structures and Algorithms

This minor is not available to students who are undertaking the Software Technologies Major

Physics for Games
MAB111 Mathematical Sciences 1B
PQB250 Mechanics and Electromagnetism
PQB251 Waves and Optics

Choose 1 from the following
PQB450 Energy, Fields and Radiation
PQB460 Astrophysics 1

PCB593 Digital Image Processing

Potential Careers:
UNIT SYNONSES

AMB201 MARKETING AND AUDIENCE RESEARCH
This unit provides an introduction to the conduct and evaluation of marketing and audience research across the disciplines of advertising, marketing and public relations. Class members explore how field studies, survey and experimental research are employed to support advertising, marketing and public relations information needs. The unit provides an overview of research process, research design, methods of data collection and analysis, and the development of research proposals to support decision making. Class members also explore issues related to research on media audiences, research ethics, and the management of client briefings.
Prerequisite(s): BSB126 or CTB126 or BSB116 or BSB117
Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1, 2009 SEM-2 and 2009 SUM  Incompatible with: MIB305, MGB220 or COB334 or CTB201

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.
Prerequisite(s): BSB126 or CTB126  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1 and 2009 SEM-2  Incompatible with: MIB217 or CTB240

AMB251 INNOVATION AND BRAND MANAGEMENT
This unit covers the dynamics of product and service innovation within the marketing function of an organisation. Products are defined in the broadest sense as both tangible and intangible and include the various categories of consumer and industrial products and services. The course covers product market analysis, the product/service development process, design, innovation, research and testing, new product financial analysis, branding and packaging, and new product commercialisation.
Prerequisite(s): BSB126 or BSB116 or CTB126  Corequisite(s): Nil  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-2  Incompatible with: MIB227

AMB359 STRATEGIC MARKETING
Emphasis of the capstone Marketing unit is on the role of marketing manager at the corporate and strategic business unit/division levels. Students are exposed to a variety of strategic marketing techniques and issues, and learn how to apply these in corporate planning and management. Topics include: developing and critiquing strategic marketing planning models; recognising the importance of market focus; determining what marketing strategy can realistically be accomplished for a business; identifying underlying factors that must be considered in developing marketing strategy for a market-oriented organisation; discussing problems in successful implementation of marketing strategy; and organising for successful strategy implementation.
Prerequisite(s): AMB340; and AMB335 or AMB241  Credit points: 12  Teaching period: 2009 SEM-1 and 2009 SEM-2  Incompatible with: AMB341

BSB115 MANAGEMENT
The unit provides an introduction to the theories and practice of management and organisations. Emphasis is on the conceptual and people skills that are needed in all areas of management and in all areas of organisational life. The unit acknowledges that organisations exist in an increasingly international environment where the emphasis will be on knowledge, the ability to learn, to change and to innovate. Organisations are viewed from individual, group, corporate and external environmental perspectives.
Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Caboolture  Teaching period: 2009 SEM-1, 2009 SEM-2 and 2009 SUM  Incompatible with: BSD115, CTB115

BSB126 MARKETING
This introductory subject examines the role and importance of marketing to the contemporary organisation. Emphasis is placed on understanding the basic principles and practices of marketing such as the marketing concept, market segmentation, management information systems and consumer behaviour. The unit explores the various elements of the marketing mix, with special reference to product, price, distribution, and promotion, including advertising and public relations. By way of introduction only, key issues relating to services marketing, e-marketing and strategic marketing are also canvassed.
Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point and Caboolture  Teaching period: 2009 SEM-1, 2009 SEM-2 and 2009 SUM  Incompatible with: BSD116, CTB126

DAB110 ARCHITECTURAL DESIGN 1
This unit offers a broad introduction to the field of design as applied to architecture. It uses developmental exercises to enhance student perceptions of the built environment in a problem based learning environment. Analysis of the
constructed environment leads to a number of design projects that engage with issues of context, tectonics, planning, form, and spatial quality. Orthogonal drawing exercises, freehand sketching, presentation graphics, and model making all form part of the unit content. Teaching and learning activities are spread across lectures, tutorials, and studio based activities.

**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1

### DEB201 DIGITAL COMMUNICATION

This unit introduces students to the foundational aspects of digital design communication, placing generic design in context and focusing on multidisciplinarity in the stages of the design process. This unit is an approach to the theory and practice of digital media, exploring the translation from manual to digital media in design communication and presentation.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-2

### DNB101 INDUSTRIAL DESIGN 1

Industrial design revolves around the creation of products that satisfy human needs within the constraints of industrial and commercial production. This involves the manipulation of form with an understanding of structure, function, and beauty. Through projects students will be exposed to: basic design elements and principles; introduction to product visualisation techniques including concept sketching and marker rendering; design process and concept development; basic model making techniques; design presentation.

**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1

### DTB101 INTERIOR DESIGN 1

This unit provides foundational material for the study of interior design. Students will be introduced to design theory, methodology and aesthetics. Design will be explored as an interpretive process. Topics covered in the context of projects for the unit include: The studio as a way of learning; Introductory design exercises exploring two dimensional elements as they relate to the interior design context; Freehand sketching, principles of perspective; Mechanical drawing, principles of scaled drawing; Presentation and visual communication skills; Environmental issues and sustainability.

**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2009 SEM-1

### INB102 EMERGING TECHNOLOGY

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

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

### INB103 INDUSTRY INSIGHTS

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

**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

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.

**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:** 2012 SEM-1 and 2012 SEM-2

**INB180 COMPUTER GAMES STUDIES**
This unit is designed to give you a clear understanding of the socio-cultural issues that affect the computer game industry. Through critical review of games and games industry literature, playing games and actively participating in classroom discussion you will develop your capacity to join in the discourse about the design, impact and future direction of computer games in our society.

**Antirequisites:** INN181  
**Equivalents:** ITB750

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**Prerequisite(s):** Nil  
**Corequisite(s):** Nil  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

**INB182 INTRODUCING DESIGN**
Please note: this unit is only available to BGIE (Bachelor of Games and Interactive Entertainment) students. The act of designing is a common link between many disciplines such as game design, software design, animation and character design, architecture, industrial design, etc. This unit offers a broad and generic introduction to the act of designing in a discipline context free environment.

This unit is designed to expose you to a range of experiences not possible within the confines of the usual university routine. It also calls upon you to exert physical and mental efforts that may be different in degree and nature to your usual coursework. Through these opportunities this unit seeks to introduce you to the ways of thinking like a designer.

**Antirequisites:** DEB101  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2012 SEM-1

**INB204 SPECIAL TOPIC 1**
This unit gives you the opportunity to apply, under appropriate guidance, the knowledge and skills gained in your course to date and to execute a substantial development project. The ability to apply technical knowledge and skills to real-life situations is essential for
information technology professionals. A substantial project, under academic supervision, will develop your initiative and ability to apply your knowledge and skills in a professional capacity. Completing the project will also enable you to appreciate the complementary nature of the course material in total, particularly the need for careful project management.

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: Nil

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

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

Prerequisite(s): Nil 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

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

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.

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

INB280 FUNDAMENTALS OF GAME DESIGN
Modern games production is a complex process involving various businesses and organisations, working with budgets in the tens of millions. One of the roles within a game production team is that of the game designer. It is crucial that a game designer understands how to create a game world, the rules that govern game play and other high level design tasks. This subject provides an introduction to game design, by starting with high level conceptual design tasks before moving to more concrete tasks.

Prerequisite(s): INB180 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: Nil

INB281 ADVANCED GAME DESIGN
This unit will provide you with theoretical and practical knowledge of advanced games design concepts; that is, specific activities undertaken by game designers and their purpose. By the end of this unit you will have the knowledge to identify problems and suggest solutions for innovative
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.

Prerequisite(s): INB251 Corequisite(s): Nil Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2009 SEM-1 Incompatible with: Nil

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.

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

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 software 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.

Prerequisite(s): INB270 or ITB003 & ITB005 Corequisite(s): nil Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2009 SEM-2 Incompatible with: ITB745 & ITB706

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.

**Prerequisite(s):** INB270  **Corequisite(s):** Nil  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2009 SEM-1  **Incompatible with:** Nil

**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.

**Prerequisite(s):** INB270 / ITB003 or equivalent  **Corequisite(s):** Nil  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2009 SEM-1  **Incompatible with:** ITB112(SD2), ITB711, ITB702

**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.

**Prerequisite(s):** INB370 or INB371  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2009 SEM-2  **Incompatible with:** ITB712, ITB612, ITB424

**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.

**Prerequisite(s):** INB270 or ITB003  **Corequisite(s):** Nil  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2009 SEM-2  **Incompatible with:** ITB717

**INB379 GAME PROJECT DESIGN**
INB379 BGIE Game Project Design (P1) extends your work on the role, design, and plan of a computer game concept. The unit covers the conceptualisation and game design stages up to the game design pitch. If the project is given a green light by the assessment panel, it may be developed later in the P2 unit.

**Prerequisites:** Completion of 144 credit points of study  **Antirequisites:** ITB009  **Assumed knowledge:** Completion of at least 144 credit points of IT04 units, including all first year core units is assumed  **Credit points:** 12  **Contact hours:** 1 hour lecture - 2 hour supervisor meetings  **Campus:** Gardens Point  **Teaching period:** 2012 SEM-1 and 2012 SEM-2

**INB380 GAMES PROJECT**
INB380 Games Project seeks to give you the opportunity to apply, under appropriate guidance, the knowledge and skills gained in your course to date and to execute a substantial related project. The unit also aims to allow you to develop the
critical professional skills of working within a cross-disciplinary team and, through implementation of your project, develop the understanding of the role of careful planning, scope control and task management in ensuring that the project is successful.

Prerequisite(s): Students undertaking this unit must be enrolled in the Bachelor of Games and Interactive Entertainment and have completed ITB009
Corequisite(s): Nil
Credit points: 24
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2009 SEM-1 and 2009 SEM-2
Incompatible with: ITB020

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.

Prerequisite(s): INB371, (ITB702 & ITB749) and MAB281
Corequisite(s): Nil
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2009 SEM-1
Incompatible with: ITB648, ITB649, ITB441, ITN440, ITB460, ITN460, ITB746, ITN746

INB382 REAL TIME RENDERING TECHNIQUES
This unit will provide you with knowledge and skills in 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.

Prerequisite(s): INB371, INB381 and MAB281
Corequisite(s): Nil
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2009 SEM-2
Incompatible with: Nil

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.

Prerequisite(s): INB271
Corequisite(s): INB272
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2009 SEM-1
Incompatible with: ITB257

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.

Prerequisite(s): Nil
Corequisite(s): Nil
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2009 SEM-2
Incompatible with: ITB259

KIB101 VISUAL COMMUNICATION
Communication Design deals with visual communication and the creation of meaning through images. This unit will introduce you to the principles, production and presentation of visual design and communication.

Credit points: 12
Contact hours: 4 per week
Campus: Kelvin Grove
Teaching period: 2009 SEM-1 and 2009 SEM-2
Incompatible with: KIB801, KIB101 Foundations of Communication Design 1

KIB102 VISUAL INTERACTIONS
This unit further develops interface design skills for communications technologies including design priorities, interaction, visual systems, refinement of concepts, project analysis and problem solving through presentation models.

Prerequisite(s): KIB101/KIB801
Credit points: 12
Contact hours: 3 per week
Campus: Kelvin Grove
Teaching period: 2009 SEM-2
Incompatible with: KIB802

KIB105 ANIMATION AND MOTION GRAPHICS
This unit provides an introduction to animation and motion graphics concepts and practices, with an emphasis on principles of design in motion

Credit points: 12
Contact hours: 3 per week
Campus: Kelvin Grove
Teaching period: 2009 SEM-1

KIB108 ANIMATION HISTORY AND PRACTICES
The unit is an introductory examination of the development of animation. It addresses social, cultural, economic and technological themes that have shaped notable practitioners and established animation as a significant medium for the
expression of popular culture, artistic experiment and philosophical, social and political comment.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2009 SEM-2  
**Incompatible with:** KIB825

**KIB201 CONCEPT DEVELOPMENT FOR GAME DESIGN AND INTERACTIVE MEDIA**
This unit addresses theoretical issues associated with non-linear story structures and interactive narratives through the analysis of game structures, the creation of original game ideas and the application of techniques of information design to the structuring of non-narrative content. Addressing the creative and analytical roles of writers, conceptual designers and information designers in the context of interactive digital media and the Creative Industries.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2009 SEM-1  
**Incompatible with:** KIB816

**KIB202 ENABLING IMMERSSION**
As creative practitioners within a highly networked technological society, it is important to develop a critical understanding of how the application of technology influences modes of communication, production processes and creative practices, particularly within the Creative Industries. This unit provides an introductory overview of the philosophies underlying applications of technology, and critically examines current applications in order to explore creative visions of future technology.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2009 SEM-2  
**Incompatible with:** KIB814

**KIB203 INTRODUCTION TO 3D COMPUTER GRAPHICS**
The field of 3D computer graphics has grown from being a highly specialist field, supported by large film studios, into a vast and growing industry. Throughout film and television, scientific visualization, industrial and architectural design, physical modelling, animation and gaming; 3D visualisation has become a significant contributor to the construction of virtual worlds and the simulation of physical environments. This unit provides an introduction to the world of 3D graphics, paying particular attention to pre-production techniques, project management, 3D modelling techniques, and designing virtual environments. It establishes a foundation for advanced study in subsequent units on Real-time Computer Graphics and Virtual Environments. Theoretical understandings gained through lectures will be supplemented with technical skills in workshops, and applied to the production of 3D environments in design studios.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2009 SEM-1

**KIB212 ANIMATION STUDIO 1: PREPRODUCTION**
Animation Studio 1: Preproduction is a studio unit where you come to grips with the basics of computer graphics production. The unit covers the basic elements of studio practices, networking, teamwork and collaboration as well as introducing character design, layout, conceptual development and the generation of ideas.

**Credit points:** 24  
**Contact hours:** 7 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2009 SEM-1

**KIB213 ANIMATION STUDIO 2: CG TOOLKIT**
CG Toolkit offers an in-depth look at the tools of animated production from within a studio setting. Continuing from Animation Studio 1: Preproduction, this unit looks at the tools and the processes involved in creating high level successful 3d computer animations for game development, film or television production, web or emergent media.

**Prerequisite(s):** KIB212  
**Credit points:** 24  
**Contact hours:** 7 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2009 SEM-2

**KIB214 DESIGN FOR INTERACTIVE MEDIA**
Designing for contemporary media requires a sophisticated understanding of how we effectively interact with new technologies, software applications, displays and environments. This unit focuses on the field of interaction design and user experience design. It develops an understanding of the theories, methods, and processes employed by Interaction Designers through a series of lectures and tutorials. These principles are then applied to authentic design briefs within design studios.

**Prerequisite(s):** KIB109  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2009 SEM-2  
**Incompatible with:** KIB210 or KIB102

**KIB225 CHARACTER DEVELOPMENT, CONCEPTUAL DESIGN AND ANIMATION LAYOUT**
This unit emphasizes production in practice. By considering type and generic attributes within a technological context, you will be guided through the key concepts involved in the development of working drawings and final artworks.

**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2009 SEM-2  
**Incompatible with:** KIB307

**KIB230 INTERFACE AND INFORMATION DESIGN**
With the advent of new technologies for communication, graphical user interfaces have become fundamental to the design of effective communication, and a key factor in the uptake, ease of use and experience of technology systems. This unit builds upon knowledge and skills acquired in units on visual communication and Web design to establish the knowledge and skills required to design and produce
effective visual interfaces for technology applications such as Web, small screens in mobile media, and interactive displays. It will cover theories and principles of visual communication, information architecture and user experience design, which will be applied in the production of interfaces for interactive media and digital projects. The unit will be taught through a combination of lectures, tutorials and practical classes, in which skills and knowledge will be applied.

Credit points: 12    Campus: Kelvin Grove    Teaching period: 2009 SEM-1

KIB309 EMBODIED INTERACTIONS
Interaction with technology has advanced beyond the desktop paradigm of mouse and keyboard to embodied interfaces that incorporate video tracking, audio input, and gestural interaction techniques. Applications range from wearable technology to tangible media installations. This unit introduces an experimental field of interactive media design through the practical application of the processes and techniques of tangible media applications. Lectures, which provide the theoretical grounding of the study area, methodologies and examples of the application of tangible media are complemented by practical classes which extend the technical skills acquired in Programming for Designers and Artists and support the development of tangible media outcomes within design studios.

Prerequisite(s): KIB205    Credit points: 12    Contact hours: 3 per week    Campus: Kelvin Grove    Teaching period: 2009 SEM-1

Incompatible with: KIB310

KIB314 TANGIBLE MEDIA
This unit extends the understandings of tangible media interfaces and applications gained in the embodied media unit. In this unit students will develop a tangible media project from concept through to design, production, evaluation, and exhibition. Theoretical understandings on tangible media object design, interaction and installation gained through lectures will be supplemented with production skills in workshops, and applied to the development of tangible media works in design studios. Finished works will be displayed in a final exhibition where members of the public will interact with them.

Contact hours: 3 per week    Campus: Kelvin Grove

KIB316 VIRTUAL ENVIRONMENTS
The field of 3D virtual environments, simulation, and visualization are used to produce sophisticated approaches to interaction design, social networking and game-play. This unit is designed to cater for both creative and technical practitioners. Extending the knowledge and skills developed in 3D Computer Graphics and Real-time environments, this unit develops an advanced understanding of virtual environments and 3D spaces. You will apply and extend principals of real-time modeling, texture acquisition for real-time environments, and interaction design in the 3D context. Students enrolled in this unit will work in project teams to produce a significant 3D interactive environment within the context of a design studio.

Prerequisite(s): KIB325    Credit points: 12    Contact hours: 3 per week    Campus: Kelvin Grove    Teaching period: 2009 SEM-2    Incompatible with: KIB310, KIB821

KIB325 REAL-TIME 3D COMPUTER GRAPHICS
This unit provides the opportunity for extending the principles of 3D computer graphics into the emerging field of virtual environments that respond to interaction in real time. In this unit you will cover the principals of real-time modeling; texture acquisition for real-time environments and interaction design in the 3D context. This unit provides an opportunity where students studying 3D computer graphics can apply animation and interactive design principles to real-time spaces. These principles can be applied to the fields of game design and interactive 3D environments.

Credit points: 12    Contact hours: 3 per week    Campus: Kelvin Grove    Teaching period: 2009 SEM-1

KMB105 MUSIC AND SOUND TECHNOLOGY
This is an introduction to the broad range of options available to the musician in the age of technology. You will explore sequencers and audio programs as tools, mediums and musical instruments, for performance, composition as well as the basics of sound design. NOTE: Semester 1 offered to KM32, IX07, KM35, KM36, KM42 ONLY. Semester 2 offered to all others except those mentioned above.

Credit points: 12    Contact hours: 3 per week    Campus: Kelvin Grove    Teaching period: 2009 SEM-1 and 2009 SEM-2    Incompatible with: KMB619

KMB106 MUSIC AND SOUND FOR MULTIMEDIA
This unit deals with studio recording techniques, computer-assisted composition, the role of music in non-linear structures, the effect of sound in digital media productions, sound effects and Foley techniques, musical acoustics, and digital sound theory.

Prerequisite(s): Assumed knowledge of sound recording and operation of audio editing software    Credit points: 12    Contact hours: 3 per week    Campus: Kelvin Grove    Teaching period: 2009 SEM-2    Incompatible with: KMB626

KMB107 SOUND, IMAGE, TEXT
This unit focuses on the rich and varied relationship between sound and image in a number of media and artforms, including film, music video, theatre, installation, mixed media performance and many more.

Credit points: 12    Contact hours: 3 per week    Campus:
KMB108 SOUND RECORDING AND ACOUSTICS
This is an introduction to the fundamentals of the physical world of sound, basic signal flow, sound recording and acoustics.

Credit points: 12  
Contact hours: 3 per week  
Campus: Kelvin Grove  
Teaching period: 2009 SEM-1 and 2009 SEM-2  
Incompatible with: KMB638

KVB105 DRAWING FOR DESIGN
This is a studio based unit that introduces you to media, processes, strategies and traditions of drawing and associated imagery for use in animated media. The development of critical/reflective frameworks of traditional and contemporary practice underpins studio development.

Credit points: 12  
Contact hours: 3 per week  
Campus: Kelvin Grove  
Teaching period: 2009 SEM-1  
Incompatible with: KVB755

KVB106 DRAWING FOR ANIMATION
This unit develops individual knowledge, concepts and skills to enable you to articulate and present capabilities of motion through drawing for contemporary animation practices.

Credit points: 12  
Contact hours: 3 per week  
Campus: Kelvin Grove  
Teaching period: 2009 SEM-2  
Incompatible with: KVB756

LWB136 CONTRACTS A
This unit includes the following: formation of contracts; equitable estoppel; privity of contract; formalities; express and implied terms; an examination of promises which are legally binding; how contractual promises may be characterised and the significance of that characterisation.

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

LWB137 CONTRACTS B
Legally binding promises pervade society, from uncomplicated bargains like riding on a bus to complex multi-million dollar transactions. The law of contract provides an understanding of promises which are legally binding, how contractual promises may be characterised and the significance of that characterisation, and how contractual promises may be discharged or invalidated. This is the second of two associated units which examine the law of contract, the focus of this unit being on the discharge of contracts, remedies for breach and the invalidation of contracts. The two units together provide the foundation for several units encountered later in the course.

Prerequisite(s): LWB136 CONTRACTS A  
Corequisite(s): Nil  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point and External  
Teaching period: 2009 SEM-1 and 2009 SEM-2  
Incompatible with: Nil

LWB141 LEGAL INSTITUTIONS AND METHOD
This unit introduces students to the building blocks of law: fundamental principles; legal terminology; legal institutions; legal methodology; sources of the law; ways to interpret the law including an introduction to policy and international considerations. The material is presented as an integrated whole so that students obtain a broad perspective and an ability to 'navigate the law' without artificially dividing any particular aspect. The unit also emphasises the joint responsibility of the teacher and the student for learning and to foster the development of skills in communication, comprehension and analysis.

Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point  
Teaching period: 2008 SEM-1 and 2008 SEM-2  
Incompatible with: LWB101, LWB135

LWB142 LAW, SOCIETY AND JUSTICE
This unit examines the basic tenets of our democratic liberal legal system, particularly the central concept, the rule of law. The unit begins with an historical development of rights and the rule of law. It looks at how law and values intertwine and how society at a particular time shapes notions of legal personality, the recognition of 'family' and human rights in law. It finally addresses the limitations of democratic liberalism and the rule of law by examining the reality of equality before the law in relation to such topics as gender and cultural neutrality, equal access to justice, and lawyers and the adversarial system.

Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point and External  
Teaching period: 2009 SEM-1  
Incompatible with: LWB101, LWB131

LWB480 MEDIA LAW
This unit examines the regulation and non-regulation of freedom of speech exercised by the media. In this regard various limitations imposed by the common law, statute and self-regulation will be examined, such as defamation, restrictions on reporting courts and politics, contempt, privacy and confidentiality.

Prerequisite(s): LWB147 & LWB148  
Corequisite(s): Nil  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point and External  
Teaching period: 2009 SEM-2  
Incompatible with: Nil

LWB482 INTERNET LAW
This unit addresses the idea that it is vital for any participant in the digital age to gain a thorough knowledge of the structure, governance and regulation of the Internet, digital intellectual property, and risk management strategies for stakeholders.

Prerequisite(s): Nil  
Corequisite(s): Nil  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point and External  
Teaching period: 2009 SEM-2  
Incompatible with: Nil
LWB486 INTELLECTUAL PROPERTY LAW
There have been significant developments in the field of intellectual property law in recent years and the area is undoubtedly one perceived by the practising profession as growing in importance. This unit will provide a foundation to those areas of intellectual property law that legal practitioners may encounter in their everyday practice. In so doing, it will provide an examination of each of the intellectual property regimes. The course will also consider some of the broader more general policy matters as they relate to the field of intellectual property law.
Prerequisite(s): 144 credit points of law units
Corequisite(s): Nil
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point and External
Teaching period: 2009 SEM-2
Incompatible with: Nil

MAB100 MATHEMATICAL SCIENCES 1A
To enrol you should have (1) at least Sound Achievement in 4 semesters of Mathematics B, or (2) a grade of at least 4 in MAB105, or (3) the equivalent. This unit will reinforce the notion of a function with particular emphasis on polynomial, trigonometric, exponential and logarithmic functions including arithmetic and geometric progressions and the binomial theorem. Calculus will be reviewed and expanded with an emphasis on integration and on integration techniques and applications. Vectors and matrices will be introduced with vectors interpreted geometrically and algebraically and matrices as representations of linear systems, with applications. If time permits, complex numbers will be introduced. This unit is incompatible with HA in Senior Mathematics C.
Prerequisite(s): MAB105 or SA in Senior Maths B (or equivalent)
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2009 SUM-2, 2009 SEM-1 and 2009 SUM
Incompatible with: Nil

MAB105 MATHEMATICAL SCIENCES 1B
Limits and continuity, including limits of rational functions, functions involving radicals, trigonometric functions; L'Hopital's Rule; differentiation techniques - parametric, logarithmic; inverse functions and their derivatives; partial derivatives. Introduction to differential equations and mathematical modelling. Riemann sums, fundamental theorems of integral calculus; applications including solids of revolution and first-order-separable differential equations. Taylor series, Fourier series and applications. Students must have completed four semesters of Senior Mathematics C with an exit level of Sound Achievement, or have passed MAB100 (or equivalent).
Prerequisite(s): MAB100 or SA in Senior Maths C
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2009 SUM-2, 2009 SEM-1 and 2009 SUM
Incompatible with: MAB131, MAB180

MAB112 MATHEMATICAL SCIENCES 1C
This unit includes the following: introduction to linear algebra including vectors, matrices and linear systems; the real and complex number systems; first and second order differential equations. Students must have completed four semesters of Senior Mathematics C with an exit level of Sound Achievement, or have passed MAB100 (or equivalent).
Prerequisite(s): MAB100 or Senior Mathematics C (or equivalent)
Corequisite(s): MAB111
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point

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).
Prerequisite(s): ITB003 and Senior Mathematics B or MAB105
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2009 SUM-2, 2009 SEM-1

MAB312 LINEAR ALGEBRA
This unit covers the following broad topics from linear algebra: matrix analysis; eigenvectors and eigenvalues; vector spaces; inner product spaces.
Prerequisite(s): MAB111, MAB112
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2009 SUM-2, 2009 SEM-1

MGB200 LEADING ORGANISATIONS
This unit introduces you to a range of perspectives in understanding human behaviour and its context within organisation structures. The unit also enables you to interpret, analyse, evaluate and explain conditions and consequences of work in organisations with a view to understanding and appreciating complex management issues in day to day experiences in business.
Prerequisite(s): BSB115 or CTB115
Credit points: 12
Contact hours: 3
Teaching period: 2009 SUM-2, 2009 SEM-1 and 2009 SUM
Incompatible with: MGB211, CTB211, MGB222, CTB232
MGB223 ENTREPRENEURSHIP AND INNOVATION
This unit introduces students to the nature and characteristics of entrepreneurship and innovation and explores the inter-relationship between the two within contemporary economies from a managerial perspective. Learning will be directed towards developing the theoretical and applied knowledge, skills, and attitudes that will support and enhance innovation and enterprise creation activity, through the development of a business plan. The unit is designed for those individuals interested in creating a new venture or working in industries as employees of venture owners or those that serve this sector. Students will have opportunity to build a comprehensive plan of their business concept.
Prerequisite(s): BSB115 or CTB115  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1 and 2009 SEM-2  Incompatible with: CTB223

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.
Prerequisite(s): MGB223  Credit points: 12  Contact hours: 3  Teaching period: 2009 SEM-1  Incompatible with: MGB218

PCB593 DIGITAL IMAGE PROCESSING
This unit provides students with a basic understanding of the computer techniques used in image processing and reconstruction. Specific areas of study include the following: the structure of a digital image; image display techniques; grey scale palettes and look-up tables; Fourier transform theory; convolution theory; image processing hardware; image processing techniques, eg analysis, enhancement and restoration; spatial filtering; Fourier space filtering; methods of image reconstruction; 3D volume and surface rendering; applications of image processing in medicine, astronomy and remote sensing, etc.
Prerequisite(s): PCB250 or PCB250 or PCB375 or PCB496  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2009 SEM-1

PQB250 MECHANICS AND ELECTROMAGNETISM
The experimental means by which we have arrived at our modern understanding of the universe is central to the scientific philosophy. Students of physics and physics related areas need to possess skills in quantitative handling, processing, communication and evaluation of data. Higher level studies in specialised areas of Physics require a familiarity with a range of fundamental topics in Physics and an ability to apply critical thinking and advanced mathematical techniques to the analysis and solution of Physical problems. This first-level unit lays the foundation for these higher level studies by introducing the fundamental topic areas of mechanics and electromagnetism.
Prerequisite(s): MAB100 or SA in Senior Maths B (assumed knowledge)  Corequisite(s): MAB111 and MAB112  Credit points: 12  Contact hours: 4.5 hours per week  Campus: Gardens Point  Teaching period: 2009 SEM-2  Incompatible with: PCB250, PQB123

PQB251 WAVES AND OPTICS
Wave phenomena are used to describe and explain many of the physical processes in the universe. Sound and light are the most commonly experienced of these and have far-reaching human applications, including their use as experimental tools for science. The study of wave phenomena has led to the development of quantum mechanics, a cornerstone of modern scientific thought. This first-level unit lays the foundation for discussion of wave phenomena in higher level studies, but will also be relevant to those not considering progressing to a Physics major but wishing to understand more of the Physical world in which we live.
Prerequisite(s): SA in Senior Maths B (assumed knowledge)  Credit points: 12  Contact hours: 4.5 hours per week  Campus: Gardens Point  Teaching period: 2009 SEM-2  Incompatible with: PCB260

PQB450 ENERGY, FIELDS AND RADIATION
The common theme of the topics covered in this unit is fields, the energy contained in these fields and the transfer of this energy. This theme is addressed in the specific topics of classical mechanics, electromagnetism and radiation physics. The classical mechanics and electromagnetism components build on material presented in introductory units and apply this to complex real world problems. The unit is designed to prepare students for more advanced studies in these areas but the unit will also provide a useful background for students undertaking a co-major in Physics or preparing for a career in secondary education.
Prerequisite(s): PCB250 and MAB311  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2009 SEM-2

PQB460 ASTROPHYSICS 1
This second level unit is one of the key units in the astrophysics co-major and introduces students to most of the main aspects of astrophysics. This unit is essential as it defines the connections between the supporting units of the co-major. Students are required to use the knowledge and skills developed in first level physics, maths and natural
resource units.

**Prerequisite(s):** SCB123 or PCB136 or PCB150    **Credit points:** 12    **Contact hours:** 4 per week    **Campus:** Gardens Point