Bachelor of Applied Science / Bachelor of Business (IX31)

Year offered: 2010
Admissions: Yes
CRICOS code: 042263G
Course duration (full-time): 4 years
Domestic fees (indicative): 2010: CSP $3,300 (indicative) per semester
International Fees (indicative): 2010: $10,500 (indicative) per semester
Domestic Entry: February
International Entry: February
QTAC code: 419832
Past rank cut-off: 79
Past OP cut-off: 11
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

Total credit points: 384
Standard credit points per full-time semester: 48
Course coordinator: Dr Perry Hartfield (Science and Technology); Dr Erica French (Business)
Discipline coordinator: Ms Ros Kent (Accountancy); Ms Gayle Kerr (Advertising); Dr Tommy Tang (Economics); Dr Anup Basu (Finance); Dr Robert Thompson (Human Resource Management); Mr Michael Cox (International Business); Dr Kavoos Mohannak (Management); Mr Bill Proud (Marketing); and Ms Amisha Mehta (Public Relations). Science Discipline Coordinator details are listed under further information.
Campus: Gardens Point

Career Opportunities
By combining your science studies with the Bachelor of Business you will develop the entrepreneurial skills necessary to sell your abilities to a range of employers. As a graduate of the Bachelor of Applied Science/Bachelor of Business, you will be able to work at the cutting edge of scientific innovation within a range of public, private and non-profit industries. As well as the range of science-based careers available, you could expect to gain employment as a consultant, marketer, or project manager within firms developing and taking scientific research to the marketplace.

Course Design
The Bachelor of Applied Science allows multi-disciplinary programs of study to help position you within the broad range of science disciplines and qualify you as a competent professional within your chosen field. You can specialise in one of the major areas of study available in the Bachelor of Applied Science course (Biochemistry, Biotechnology, Chemistry, Ecology, Environmental Science, Forensic Science, Geoscience, Microbiology or Physics). See the Bachelor of Applied Science (SC01) course for more details.

To allow you to complete the double degree in a shorter period of time, your co-major will be taken from the business program therefore it is not possible to choose any of the co-majors listed under the Bachelor of Applied Science course.

Business students will complete sixteen (16) units consisting of eight (8) Faculty Core Units (7 prescribed BSBxxx units and MGB223) and an eight (8) unit major. Students are not required to complete BSB123 Data Analysis or BSB122 Quantitative Analysis and Finance, this unit has been replaced by MGB223 Entrepreneurship and Innovation. Students must choose a major from the following: Accounting, Advertising, Economics, Finance, Human Resource Management, International Business, Management, Marketing, or Public Relations. For professional recognition, the Accountancy structure differs from the normal structure. Accountancy students will complete 10 major units and 6 Faculty core in order to meet professional recognition requirements.

Professional Recognition
Graduates will satisfy the requirements for membership of the relevant professional body for their chosen science major. See the Bachelor of Applied Science (SC01) course for details.

Business component: Students may be eligible for membership to a number of professional bodies depending on choice of major and unit selection. Details on professional recognition can be found under the individual majors of the Bachelor of Business (BS05).

Deferment
QUT allows current Year 12 school leavers to defer their undergraduate admission offer for one year, or for six months if offered mid-year admission, except in courses using specific admission requirements such as questionnaires, folios, auditions, prior study or work experience.

Non-year 12 students may also request to defer their QTAC offer on the basis of demonstrated special circumstances.

Find out more on deferment.

Further Information
For further information about this course, please contact the following:
**Science Coordinator**  
Dr Perry Hartfield  
Phone: +61 7 3138 2984  
Email: p.hartfield@qut.edu.au

**Business Coordinator**  
Dr Erica French  
Phone: +61 7 3138 2050  
Email: bus@qut.edu.au

**Science Discipline Coordinators**

**Biochemistry**  
Dr Perry Hartfield  
Phone: +61 7 3138 2984  
Email: p.hartfield@qut.edu.au

**Biotechnology**  
Dr Marion Bateson  
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Email: m.bateson@qut.edu.au

**Chemistry**  
Dr Robert Johnson  
Phone: +61 7 3138 2016  
Email: r.johnson@qut.edu.au

**Ecology**  
Dr Ian Williamson  
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Email: i.williamson@qut.edu.au

**Environmental Science**  
Dr Robin Thwaites  
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Email: r.thwaites@qut.edu.au

**Forensic Science**  
Dr Emad Kiriakous  
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Email: e.kiriakous@qut.edu.au

**Geoscience**  
Dr Gary Huftile  
Phone: +61 7 3138 4470  
Email: g.huftile@qut.edu.au

**Microbiology**  
Dr Christine Knox  
Phone: +61 7 3138 2304  
Email: c.knox@qut.edu.au

**Physics**  
Dr Greg Michael

Phone: +61 7 3138 1584  
Email: g.michael@qut.edu.au

**Full Time Course structure**

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### Accountancy Major

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<td>AYB200 Financial Accounting</td>
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<td>AYB230 Corporations Law</td>
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<td>AYB301 Audit and Assurance</td>
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### Advertising Major

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<td>AMB339 Advertising Campaigns</td>
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### Economics Major

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<td>EFB201 Financial Markets</td>
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<td>EFB307 Finance 2</td>
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**Human Resource Management Major**

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<tr>
<td>MGB207 Human Resource Issues and Strategy</td>
<td>MGB200 Leading Organisations</td>
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<td>MGB220 Business Research Methods</td>
<td>MGB201 Contemporary Employment Relations</td>
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<td>MGB331 Learning and Development in Organisations</td>
<td>MGB339 Performance and Reward</td>
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MGB320  Recruitment and Selection
MGB370  Personal and Professional Development

**International Business Major**

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<td>BSB126  Marketing</td>
<td>BSB111  Business Law and Ethics</td>
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<td>MGB201  Contemporary Employment Relations</td>
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<td>MGB223  Entrepreneurship and Innovation</td>
<td>MGB210  Managing Operations</td>
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<td>MGB200  Leading Organisations</td>
<td>MGB225  Intercultural Communication and Negotiation Skills</td>
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<td>AMB200  Consumer Behaviour</td>
<td>MGB309  Strategic Management</td>
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<td>AMB201  Marketing and Audience Research</td>
<td>MGB324  Managing Business Growth</td>
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<td>MGB310  Sustainability in A Changing Environment</td>
<td>MGB335  Project Management</td>
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<td>MGB340  International Business in the Asia-pacific</td>
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<td>AMB369  International Business Strategy</td>
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**Management Major**

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<td>BSB115  Management</td>
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### AMB202 Integrated Marketing Communication
### AMB240 Marketing Planning and Management

**Year 4 Semester 1**

- AMB335 E-marketing Strategies
- AMB340 Services Marketing

**Public Relations Major**

**Year 1 Semester 1**

- BSB119 Global Business
- BSB126 Marketing

**Year 1 Semester 2**

- BSB110 Accounting
- BSB115 Management

**Year 2 Semester 1**

- BSB113 Economics
- BSB124 Working in Business

**Year 2 Semester 2**

- AMB263 Introduction To Public Relations
- AMB264 Public Relations Techniques

**Year 3 Semester 1**

- AMB201 Marketing and Audience Research
- BSB111 Business Law and Ethics

**Year 3 Semester 2**

- AMB372 Public Relations Planning
- AMB373 Corporate Communication

**Year 4 Semester 1**

- AMB374 Global Public Relations Cases
- AMB375 Public Relations Management

**Year 4 Semester 2**

- AMB379 Public Relations Campaigns
- MGB223 Entrepreneurship and Innovation

**Course structure - Major in Biotechnology**

**Year 1, Semester 1**

- SCB111 Chemistry 1
- SCB112 Cellular Basis of Life

**Year 1, Semester 2**

- SCB120 Plant and Animal Physiology
- SCB121 Chemistry 2

**Year 2, Semester 1**

- SCB110 Science Concepts and Global Systems
  
  Plus either:
  
  - MAB101 Statistical Data Analysis 1
  - Or
  
  - MAB105 Preparatory Mathematics

**Year 2, Semester 2**

- SCB122 Cell and Molecular Biology
- SCB123 Physical Science Applications

**Year 3, Semester 1**

- LQB381 Biochemistry: Structure and Function
- LQB383 Molecular and Cellular Regulation

**Year 3, Semester 2**

- LQB481 Biochemical Pathways and Metabolism
- LQB483 Molecular Biology Techniques

**Year 4, Semester 1**

- LQB581 Functional Biochemistry
- LQB582 Biomedical Research Technologies

**Year 4, Semester 2**

- LQB681 Biochemical Research Skills
- LQB682 Protein Biochemistry and Bioengineering

**Course structure - Major in Biochemistry**

**Year 1, Semester 1**

- SCB110 Science Concepts and Global Systems
  
  Plus either:
### Course structure - Major in Chemistry

**Year 1, Semester 1**
- SCB111 Chemistry 1

**Year 2, Semester 1**
- SCB120 Plant and Animal Physiology
- SCB122 Cell and Molecular Biology

**Year 2, Semester 2**
- MAB120 Algebra and Calculus
- SCB110 Science Concepts and Global Systems

**Year 3, Semester 1**
- SCB123 Physical Science Applications
- SCB131 Experimental Chemistry

**Year 3, Semester 2**
- PQB312 Analytical Chemistry For Scientists and Technologists
- PQB331 Structure and Bonding

**Year 4, Semester 1**
- PQB502 Advanced Physical Chemistry
- PQB531 Organic Mechanisms and Synthesis

**Year 4, Semester 2**
- PQB631 Advanced Inorganic Chemistry
- PQB642 Chemical Research

### Course structure - Major in Ecology

**Year 1, Semester 1**
- SCB111 Chemistry 1
- SCB112 Cellular Basis of Life

**Year 2, Semester 1**
- SCB110 Science Concepts and Global Systems

**Year 2, Semester 2**
- NQB201 Planet Earth
- NQB202 History of Life on Earth

**Year 3, Semester 1**
- NQB302 Earth Surface Systems
- NQB321 Ecology

**Year 3, Semester 2**
- NQB421 Experimental Design
### Course structure - Major in Environmental Science

#### Year 1, Semester 1
- SCB111  Chemistry 1
- SCB112  Cellular Basis of Life

#### Year 1, Semester 2
- SCB120  Plant and Animal Physiology
- SCB121  Chemistry 2

#### Year 2, Semester 1
- SCB110  Science Concepts and Global Systems  
  Plus either:  
  - MAB101  Statistical Data Analysis 1  
  - MAB105  Preparatory Mathematics

#### Year 2, Semester 2
- NQB202  History of Life on Earth
- SCB123  Physical Science Applications

#### Year 3, Semester 1
- NQB302  Earth Surface Systems
- NQB321  Ecology

#### Year 3, Semester 2
- NQB403  Soils and the Environment
- NQB421  Experimental Design

#### Year 4, Semester 1
- NQB501  Environmental Modelling  
- NQB502  Field Methods in Natural Resource Sciences

#### Year 4, Semester 2
- NQB601  Sustainable Environmental Management
- NQB602  Environmental Chemistry

### Course structure - Major in Geoscience

#### Year 1, Semester 1
- SCB111  Chemistry 1
- SCB112  Cellular Basis of Life

#### Year 1, Semester 2
- SCB121  Chemistry 2
- SCB122  Cell and Molecular Biology

#### Year 2, Semester 1
- SCB110  Science Concepts and Global Systems  
  Plus either:  
  - MAB101  Statistical Data Analysis 1  
  - MAB105  Preparatory Mathematics

#### Year 2, Semester 2
- SCB123  Physical Science Applications
- SCB131  Experimental Chemistry

#### Year 3, Semester 1
- LQB383  Molecular and Cellular Regulation  
- SCB384  Forensic Sciences - From Crime Scene to Court

#### Year 3, Semester 2
- JSB979  Forensic Scientific Evidence
- PQB312  Analytical Chemistry For Scientists and Technologists

#### Year 4, Semester 1
- PQB513  Instrumental Analysis
- PQB584  Forensic Physical Evidence

#### Year 4, Semester 2
- LQB680  Forensic DNA Profiling
- PQB684  Forensic Analysis

### Course structure - Major in Forensic Science

#### Year 1, Semester 1
- SCB111  Chemistry 1
- SCB112  Cellular Basis of Life

#### Year 1, Semester 2
- SCB121  Chemistry 2
- SCB122  Cell and Molecular Biology

#### Year 2, Semester 1
- SCB110  Science Concepts and Global Systems  
  Plus either:  
  - MAB101  Statistical Data Analysis 1  
  - MAB105  Preparatory Mathematics

#### Year 2, Semester 2
- SCB123  Physical Science Applications
- SCB131  Experimental Chemistry

#### Year 3, Semester 1
- LQB383  Molecular and Cellular Regulation  
- SCB384  Forensic Sciences - From Crime Scene to Court

#### Year 3, Semester 2
- JSB979  Forensic Scientific Evidence
- PQB312  Analytical Chemistry For Scientists and Technologists

#### Year 4, Semester 1
- PQB513  Instrumental Analysis
- PQB584  Forensic Physical Evidence

#### Year 4, Semester 2
- LQB680  Forensic DNA Profiling
- PQB684  Forensic Analysis
### Course structure - Major in Microbiology

#### Year 1, Semester 1
- SCB111  Chemistry 1
- SCB112  Cellular Basis of Life

#### Year 1, Semester 2
- SCB120  Plant and Animal Physiology
- SCB121  Chemistry 2

#### Year 2, Semester 1
- SCB110  Science Concepts and Global Systems
  - Plus either:
  - MAB101  Statistical Data Analysis 1
  - Or
  - MAB105  Preparatory Mathematics

#### Year 2, Semester 2
- SCB122  Cell and Molecular Biology

### Course structure - Major in Physics

#### Year 1, Semester 1
- MAB121  Calculus and Differential Equations
- SCB111  Chemistry 1

#### Year 1, Semester 2
- MAB122  Algebra and Analytic Geometry
- PQB250  Mechanics and Electromagnetism

#### Year 2, Semester 1
- SCB110  Science Concepts and Global Systems
- SCB112  Cellular Basis of Life

#### Year 2, Semester 2
- MAB220  Computational Mathematics 1
- PQB251  Waves and Optics

#### Year 3, Semester 1
- MAB311  Advanced Calculus
- PQB350  Thermodynamics of Solids and Gases

#### Year 3, Semester 2
- PQB450  Energy, Fields and Radiation
- PQB451  Electronics and Instrumentation

#### Year 4, Semester 1
- PQB550  Quantum and Condensed Matter Physics
- PQB551  Physical Analytical Techniques

#### Year 4, Semester 2
- PQB686  Microbial Technology and Immunology
- PQB687  Applied Microbiology 2: Food and Quality Assurance
UNIT SYNOPSISES

AMB200 CONSUMER BEHAVIOUR
This unit provides students with the fundamental theories and models to develop a sound understanding of consumers, their needs, and behaviours. It provides a detailed examination of the consumer decision process and the internal and external influences on this core decision process. The unit also assists students in applying this knowledge to the development, implementation, and evaluation of marketing activities within an organisation.

Prerequisites: BSB126, CTB126, BSB116, or BSB117
Antirequisites: MIB204

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

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.

Prerequisites: BSB126, CTB126, BSB116, or BSB117
Antirequisites: MIB305, MGB220, COB334

Equivalents: CTB201
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point and Caboolture
Teaching period: 2010 SEM-1, 2010 SEM-2 and 2010 SUM

AMB202 INTEGRATED MARKETING COMMUNICATION
In past decades many organisations separated the different forms of marketing communication that convey their corporate and marketing messages. They developed separate plans for their advertising, public relations, direct marketing, personal selling and sales promotion with separate goals, objectives, strategies and budgets. Today many companies recognise the concept of integrated marketing communication which integrates these different functions along with other aspects of the marketing mix that communicate with stakeholders and customers. Integrated marketing communication requires a ‘total’ approach to planning marketing communication programs and coordinating communication strategies in support of overall brand and product/service marketing objectives.

Prerequisites: BSB126, CTB126, BSB116, or BSB117
Antirequisites: COB207, MIB309
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2010 SEM-1 and 2010 SEM-2

AMB210 IMPORTING AND EXPORTING
Trade has become fundamental to the survival and growth of many businesses in Australia as well as other economies. International business students need an understanding of the many challenges involved in the management of trade. Import and export practice is an applied, technical and evolving area of international business operations that reflects the dynamic nature of trans-national trade in the global economy. This unit examines the importance of importing and exporting for Australia's economic development.

It provides key information related to importing and exporting, uses industry perspectives on issues of current importance in international trade and provides a structured tutorial programme to achieve this.

Prerequisites: BSB119 or CTB119
Equivalents: IBB210

Credit points: 12
Campus: Gardens Point
Teaching period: 2010 SEM-1 and 2010 SEM-2

AMB220 ADVERTISING THEORY AND PRACTICE
This unit serves as an introduction to later units in the advertising major and gives learners an overview of the advertising industry and the management of the advertising function. The unit traverses the interrelationship of the...
institutions of advertising, the advertisers, the advertising agencies and the media. It introduces research and details methods of determining advertising objectives, budgets, establishing target audiences, interpreting audience ratings and circulation figures, and enables learners to gain a preliminary understanding of the creative functions of the advertising industry. It also shows the ethical and legal side of advertising and its important role in society and the economy.

**Prerequisites:** BSB126, CTB126, BSB116, or BSB117
**Antirequisites:** COB308
**Credit points:** 12
**Contact hours:** 3 per week
**Campus:** Gardens Point
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**AMB220 MARKETING PLANNING AND MANAGEMENT**
This unit extends the student’s knowledge of the fundamental marketing concepts and theories introduced in the Faculty Core unit in Marketing, by adding further breadth and depth of knowledge of marketing and developing skills in the application of this knowledge to marketing planning and management within the business environment. Emphasis is on the role of the marketing manager at the product management level in undertaking analysis, planning, implementation and control of marketing activities.

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

**AMB221 MEDIA PLANNING**
This unit introduces students to the theory and practice of public relations, the discipline that deals with the creation, maintenance, and enhancement of relationships between organisations and their publics. Topics covered include publicity, events, and public opinion. This unit may be taken concurrently with AMB264 Public Relations Techniques especially by students undertaking a public relations major. However, it may also be taken by those students doing a public relations minor, or as a stand alone unit by those students in a wide variety of study disciplines who wish to improve and enhance their communication skills.

**Prerequisites:** BSB126, CTB126, BSB116, or BSB117
**Antirequisites:** AMB261, AMB262
**Credit points:** 12
**Campus:** Gardens Point
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**AMB222 PUBLIC RELATIONS TECHNIQUES**
This unit offers an introduction to the main tactics and techniques used in public relations. Topics covered include the development of message strategies as well as a specialised focus on the production of examples of a variety of written public relations genres such as brochures, speeches, and media releases. This unit may be taken concurrently with AMB263 Introduction to Public Relations especially by students undertaking a public relations major.

**Prerequisites:** (AMB318 or AMB221) and (AMB319 or AMB222)
**Credit points:** 12
**Contact hours:** 3 per week
**Campus:** Gardens Point
**Teaching period:** 2010 SEM-1

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

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

**AMB261 INTRODUCTION TO PUBLIC RELATIONS**
This unit introduces students to the theory and practice of public relations, the discipline that deals with the creation, maintenance, and enhancement of relationships between organisations and their publics. Topics covered include publicity, events, and public opinion. This unit may be taken concurrently with AMB264 Public Relations Techniques especially by students undertaking a public relations major. However, it may also be taken by those students doing a public relations minor, or as a stand alone unit by those students in a wide variety of study disciplines who wish to understand more about this important area of business.

**Prerequisites:** BSB126, CTB126, BSB116, or BSB117
**Equivalents:** AMB260
**Credit points:** 12
**Campus:** Gardens Point
**Teaching period:** 2010 SEM-1 and 2010 SEM-2
and 2010 SEM-2

**AMB330 ADVERTISING PLANNING PORTFOLIO**
This advanced unit builds on the theoretical perspectives and applied skills introduced to students in copywriting, media and advertising management. It explores important issues such as the contribution of research to the creation of advertising; the hierarchical development of strategy from marketing and IMC strategy through to advertising, media and creative strategy; the role of the strategic planner in advertising; the use of planning to deliver more effective advertising solutions. Using problem-based learning, students establish benchmarks to evaluate advertising, develop advertising briefs and devise strategies for on-time and on-budget process management.

**Prerequisites:** AMB318 or AMB221, and AMB319 or AMB222  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**AMB335 E-MARKETING STRATEGIES**

**Prerequisites:** AMB240 or CTB240, and AMB201 or CTB201  
**Equivalents:** AMB241  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**AMB336 INTERNATIONAL MARKETING**

**Prerequisites:** AMB240, CTB240, AMB210, or IBB210  
**Equivalents:** IBB213  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**AMB339 ADVERTISING CAMPAIGNS**

**Prerequisites:** AMB320 and AMB330  
**Equivalents:** AMB321  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**AMB340 SERVICES MARKETING**

This unit explores the special characteristics of services that distinguish the marketing of services from goods. Topics include: the distinctive aspects of consumer decision-making relative to services and the implications for marketing strategy formation; the management of demand and supply; customer services and its influence on service satisfaction; service quality management and measurement; internationalisation of the service sector and distribution modes for services that reflect the significant impacts of new technologies on service delivery.

**Prerequisites:** AMB240 or CTB240, and AMB201 or CTB201  
**Antirequisites:** MIB311  
**Equivalents:** CTB340  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**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.

**Prerequisites:** AMB340, and AMB335 or AMB241  
**Equivalents:** AMB341  
**Credit points:** 12  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**AMB369 INTERNATIONAL BUSINESS STRATEGY**

‘This unit focuses on the definition and implementation of corporate strategy for worldwide operations. As the capstone unit in the International Business major, it is designed to build upon the knowledge base of previous units, introducing you to the strategic management of firms, and engage you in the strategic choices which international managers face in the international environment.’

**Prerequisites:** AMB336, AMB303, IBB303, or IBB213  
**Equivalents:** IBB300  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**AMB372 PUBLIC RELATIONS PLANNING**

This unit introduces students to the public relations planning process. Students build skills in planning by analysing the components, execution and evaluation of contemporary public relations campaigns. The public relations planning process, partnered with theoretical concepts and ethical considerations, is examined across practice contexts and areas.

**Prerequisites:** ((AMB263 or AMB260) and AMB264)) or (AMB261 and AMB262)  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**AMB373 CORPORATE COMMUNICATION**

Corporate Communication provides students with the opportunity to build on and apply their understanding of public relations to an in-house corporate role. Students gain an overview of an organisation relevant to the practice of public relations at a senior level in organisations by investigating internal communication processes, corporate reputation, corporate social responsibility, organisational culture and change and issues and crisis management.

**Prerequisites:** (AMB263 or AMB260 and AMB264) or
AYB219 TAXATION LAW
This unit introduces students to the statutory framework of the Australian taxation system. Elements in the determination of taxable income and the levy of income tax are examined including general and specific categories of assessable income and allowable deductions, capital gains tax and administration aspects of the tax system. The taxation of fringe benefits is also examined. The unit concludes with a brief overview of the taxation of partnerships, trusts and companies and the goods and services tax. Emphasis is placed on developing students' skills in problem solving through research and analysis of taxation issues.
Prerequisites: BSB111 or CTB111 Antirequisites: LWB364 Equivalents: AYB325 Credit points: 12 Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

AYB221 COMPUTERISED ACCOUNTING SYSTEMS
This unit provides an examination of the concepts, processes and issues relevant to computerised accounting systems including: accounting information systems; internal controls; design and development of computerised accounting systems including general ledger and reporting cycle, revenue cycle, expenditure cycle and payroll cycle; computer fraud, security and crime; accessing accounting information; and accounting in an electronic environment. Practical application of these concepts is enhanced by the use of accounting software such as MYOB, spreadsheet software such as Excel, database software such as Access, and interactive multimedia software such as Accounting Information Systems Cycles.
Prerequisites: BSB110 or CTB110 Antirequisites: AYN443 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

AYB225 MANAGEMENT ACCOUNTING
This unit introduces students to accounting systems and techniques that provide management at all levels with information for use in planning, controlling and decision making. This can be contrasted with financial accounting, which provides summary financial information principally for external users (ie shareholders, creditors, banks, etc). Emphasis is placed on developing a range of accounting systems (in particular product costing) which may be used in manufacturing firms, although the principles and concepts used to develop such systems can be adapted to service organisations.
Prerequisites: BSB110 or CTB110 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2
AYB227 INTERNATIONAL ACCOUNTING
International Accounting is designed to provide students with an insight into, and an appreciation of, many of the accounting problems and issues faced in an international business environment. Issues examined include: comparative international accounting systems and practices; cultural influences on accounting; international financial reporting issues such as international business combinations, intangibles, foreign currency transactions and translation, comparative international analysis of financial statements; and global accounting issues in the twenty-first century. The unit also examines the impact of international harmonization of accounting standards on multinational corporations and the investment communities worldwide.
Prerequisites: BSB110 or CTB110, and BSB119 or CTB119 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

AYB230 CORPORATIONS LAW
The unit is intended to equip students with a basic understanding and knowledge relevant to the environment of legal entities, particularly corporations. It also seeks to provide students with sufficient basic understanding of the legal structure of business associations to enable them to recognise the appropriate structure for particular commercial situations.
Prerequisites: BSB111 or CTB111 Credit points: 12 Teaching period: 2010 SEM-1 and 2010 SEM-2

AYB301 AUDIT AND ASSURANCE
This unit enables students to comprehend the key concepts of auditing as a discipline, to demonstrate the relationship between auditing and the systems of accountability and to demonstrate the differences between manual and EDP audit processes. The unit builds on the knowledge of accounting and accounting standards acquired in prior units by enabling students to understand in detail the audit process (including professional auditing standards and techniques) which leads to the auditor providing an opinion on the financial reports of various types of entities. Ethics and auditor’s liability are also covered.
Prerequisites: AYB221, and AYB340 or AYB220 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2010 SEM-1, 2010 SEM-2 and 2010 SUM

AYB311 FINANCIAL ACCOUNTING ISSUES
This unit introduces students to the nature of accounting theory and integrates theory with practice to assist in the understanding of major Australian and International accounting issues. The following topics are addressed: positive and normative theories of accounting; the external reporting framework including international harmonisation and the conceptual framework; definition, recognition and measurement of assets, liabilities, equity, revenues and expenses; asset revaluations; intangibles; leases and employee entitlements. Accounting in specific industries such as construction, extractive industries and superannuation funds is also examined. This unit complies with the new international accounting standards. Contracting theory is used.
Prerequisites: AYB340 or AYB220 Credit points: 12 Contact hours: 3.5 per week Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

AYB321 STRATEGIC MANAGEMENT ACCOUNTING
Strategic management accounting develops a theory of organisations that provides an understanding of the information requirements of management to facilitate the strategic planning, decision-making and control necessary for the achievement of their objectives. Topics include: developing effective performance-evaluation systems and compensation plans; examining how managers can design organisations to motivate individuals to make choices that increase firm value; managing transfer-pricing disputes among divisions; developing an understanding of new management accounting practices, including activity-based costing (ABC), the balanced scorecard (BSC), and economic value added (EVA); and appreciating the research on the benefits and problems with ABC, BSC and EVA.
Prerequisites: AYB225 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

AYB340 COMPANY ACCOUNTING
This unit includes: the preparation of consolidated financial statements; an overview of the statutory requirements that dictate the format and content of published financial reports of companies; the requirements of the Corporations Act 2001 and the major disclosure orientated accounting standards; accounting for income tax; accounting for the acquisition of assets (including entities); accounting for investments in associates; accounting for foreign currency transactions arising from international trading and financing; and the translation of the results of foreign operations.
Prerequisites: AYB200 or AYB121 Credit points: 12 Campus: Gardens Point Teaching period: 2010 SEM-1 and 2010 SEM-2

BSB110 ACCOUNTING
Accounting data is the basis for decision making in any organisation. Accordingly, the aim of this unit is to provide students with a basic level of knowledge of modern financial and managerial accounting theory and practice so that they can understand how accounting data is used to help make decisions in organisations. The unit covers financial procedures and reporting for business entities, analysis and interpretation of financial statements and planning, control and business decision making.
**BSB111 BUSINESS LAW AND ETHICS**
This unit integrates the concepts and principles of business law with the theories and applications of business ethics. The unit makes extensive use of cases in law and ethics to develop knowledge and skills that enable students to analyse, apply and evaluate the legal principles and ethical decision-making processes relevant to modern business practice.

**Antirequisites:** BSD110, CNB293, UDB342  
**Equivalents:** CTB110  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**BSB113 ECONOMICS**
This unit introduces students to the key economic concepts and their practical applications. It comprises twelve topics each focusing on a current economic issue. Microeconomic topics include demand and supply, elasticity, production and cost theory and market structure. Macroeconomic topics include measuring GDP, inflation and unemployment, money and banking, and fiscal and monetary policy.

**Antirequisites:** BSD113  
**Equivalents:** CTB113  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

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

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

**BSB119 GLOBAL BUSINESS**
This unit examines the drivers of globalisation and the diversity of country markets at an introductory level. It develops the skills and understanding to identify and respond to the opportunities, challenges and risks of conducting business across politically, economically and culturally diverse environments. An authentic country feasibility study is undertaken to help identify where a firm can find opportunities both in terms of actual and potential markets and the location for value-adding activities. The unit aims for students to have developed a comprehension of the nature and role of globalisation and the drivers of international business, a. knowledge of the competitive forces and challenges confronting all business as a consequence of globalisation processes and an awareness of the additional knowledge and skills required of management to operate business internationally across a diversity of environments.

**Antirequisites:** BSB116, BSB112  
**Equivalents:** CTB119  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**BSB124 WORKING IN BUSINESS**
This unit will help you to kickstart your study and your career in business regardless of your specific discipline. Not only does "Working in Business" give you an understanding of where business has come from and where it is headed, but you will also gain insights into yourself and how you can develop as both a student and professional in the business world. It covers an overview of business, the important issues for working as a professional in an organisation, and also gives you the opportunity to reflect on your own skills, preferences and career options so you can plan a future that suits you.

**Antirequisites:** BSB114, CTB114, HHB113  
**Credit points:** 12  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**BSB126 MARKETING**
This introductory subject examines the role and importance of marketing to the contemporary organisation. Emphasis is placed on understanding the basic principles and practices of marketing such as the marketing concept, market segmentation, management information systems and consumer behaviour. The unit explores the various elements of the marketing mix, with special reference to product, price, distribution, and promotion, including advertising and public relations. By way of introduction only, key issues relating to services marketing, e-marketing and strategic marketing are also canvassed.

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

**EFB201 FINANCIAL MARKETS**
This unit introduces students to the institutional structure of global financial markets, and thereby complements the understanding of theoretical finance gained in either BSB122 or EFB210. Topics covered include the functions of financial markets, the banking and payments system,
financial system deregulation, non-bank financial institutions, stock exchange operations, debt markets, foreign exchange markets and markets for financial derivatives.

**Prerequisites:** BSB113 or CTB113  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**EFB210 FINANCE 1**
This unit covers the following topics: an introduction to the financial institutional framework; an introduction to debt and equity instruments; financial mathematics applied to the pricing of debt and equity securities; a firm's investment decision including Net Present Value (NPV) and Internal Rate of Return (IRR); introduction to risk and uncertainty using the Capital Asset Pricing Model (CAPM) and Weighted Average Cost of Capital (WACC) concept and risk management.

**Prerequisites:** BSB123 or BSB122 or MAB126 or (BSB110 and BSB113)  
**Antirequisites:** EFB206  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**EFB222 QUANTITATIVE METHODS FOR ECONOMICS AND FINANCE**

**Prerequisites:** BSB122 or CTB122, or BSB123 or MAB101 or MAB233  
**Antirequisites:** EFB101  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**EFB223 ECONOMICS 2**
Consumer behaviour, the role of the government in market intervention, allocative efficiency and market structure are some of the fundamental issues in microeconomics addressed in this unit. Business cycles and the related issue of macroeconomic stabilisation policy are analysed and explained within the Australian context. The significance of the international economy is described through a discussion of foreign exchange markets, the Australian dollar and the terms of trade.

**Prerequisites:** BSB113 or CTB113  
**Equivalents:** EFB102  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**EFB240 FINANCE FOR INTERNATIONAL BUSINESS**
In this unit students analyse the way international operations and performance of business can be put at risk by changing financial and regulatory conditions across borders and determine how best to manage the exposure to this risk. This unit examines the following: the evolution of the international financial system; the foreign exchange market; the types of foreign exchange rate exposures; managing exchange; translation and consolidation risks; assessing foreign direct investment targets; comparing the performance of foreign affiliates; operations exposure to regulatory risk of tax; investment and competition policy changes; country risk assessment and managing country risk exposure.

**Prerequisites:** (BSB119 or CTB119) or BSB116, and (BSB113 or CTB113) or (BSB122 or CTB122)  
**Antirequisites:** EFB312, MIB202  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**EFB307 FINANCE 2**
This unit includes the following topics: the financing decision - capital structure, debt versus equity, lease versus debt, term structure versus default structure of interest rates; the dividend decision - dividends versus capital gains, franked versus unfranked income; firm valuation; free cash flow model; evaluation of takeovers; Risk and Return - diversification, the CAPM model, its practical application and its relationship to efficient market hypothesis; introduction to forwards, futures, options, warrants, convertibles and risk management using financial derivatives.

**Prerequisites:** EFB210  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**EFB312 INTERNATIONAL FINANCE**
This unit examines the theory and practice of international finance, including the mechanics and uses of the spot, forward, swap, futures and options markets in foreign exchange; the relationship between domestic and international capital markets; interest rate and exchange rate determination; risk management of foreign exchange; international trade finance; evaluation of offshore investment.

**Prerequisites:** EFB210  
**Antirequisites:** EFB212, IBB202, EFB240  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**EFB330 INTERMEDIATE MACROECONOMICS**

**Prerequisites:** EFB223 or EFB102  
**Equivalents:** EFB202  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1

**EFB331 INTERMEDIATE MICROECONOMICS**

**Prerequisites:** EFB223 or EFB102  
**Equivalents:** EFB211  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1

**EFB332 APPLIED BEHAVIOURAL ECONOMICS**

**Prerequisites:** EFB223 or EFB102  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1

**EFB333 INTRODUCTORY ECONOMETRICS**
Economics and finance graduates require some knowledge of econometrics to assist them in the application and testing of behavioural models and to provide quantitative forecasts.
for informed decision making. This unit aims to provide an introduction to a range of econometric techniques appropriate for students studying economics and finance. The unit will provide an understanding of some core underlying theoretical issues essential for competent econometric modelling and then introduce students to a set of techniques tailored specifically to the needs of economics and finance students.

**Prerequisites:** EFB222 or EFB101  
**Antirequisites:** EFB200  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1

**EFB334 ENVIRONMENTAL ECONOMICS AND POLICY**  
**Prerequisites:** EFB223 or EFB102  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1

**EFB335 INVESTMENTS**  
**Prerequisites:** EFB307  
**Antirequisites:** EFB318  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**EFB336 INTERNATIONAL ECONOMICS**  
**Prerequisites:** EFB330 or EFB202, and EFB331 or EFB211  
**Antirequisites:** EFB314  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**EFB337 GAME THEORY AND APPLICATIONS**  
**Prerequisites:** EFB331 or EFB211  
**Credit points:** 12  
**Teaching period:** 2010 SEM-2

**EFB338 CONTEMPORARY APPLICATION OF ECONOMIC THEORY**  
This capstone unit reinforces and extends the economic theory introduced to students in the major, and applies it to a number of topical issues that lend themselves to critical analysis using economic principles. Both macroeconomic and microeconomic theories are used with the emphasis placed on usefulness of the theory in development of a framework which assists with decision-making and informs critiques of public policy. Some of the perspectives taken in studying these topics will include: their impacts on efficiency and on specific economic agents and institutions; the role, if any, of government in their resolution; and the economic instruments available to analysts by which to frame their detailed consideration.

**Prerequisites:** EFB222 or EFB101, EFB223 or EFB102, EFB330 or EFB202, and EFB331 or EFB211  
**Equivalents:** EFB329  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**EFB340 FINANCE CAPSTONE**  
**Prerequisites:** EFB307 and EFB335. EFB335 can be enrolled in the same teaching period.  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**JSB979 FORENSIC SCIENTIFIC EVIDENCE**  
The word 'forensic' once meant anything relating to a law court. However today the term 'forensic science' refers to a whole new subject: it means using science to solve legal issues. As science, and the many sub-disciplines of science, are appearing in court with ever-increasing rapidity, there is a clear need for scientists to understand the foundations to the law, the ways in which law reasons, the adversarial process, and the basics to the key area of evidence law. The aim of this unit is first to provide you with an understanding of evidence law, with a particular emphasis upon the foundations to reception of scientific evidence, and the ways in which expert scientific witnesses are received in our courts. The unit aims to clarify the links between science and law, as well as to articulate the differences between these two increasingly inter-twined disciplines.

**Equivalents:** JSB937, JSB444  
**Credit points:** 12  
**Contact hours:** 3  
**Campus:** Gardens Point and External  
**Teaching period:** 2010 SEM-2

**LQB381 BIOCHEMISTRY: STRUCTURE AND FUNCTION**  
This unit extends basic organic chemistry theory to the level of the biological macromolecules. A clear understanding of the structure and function of these molecules is essential to a student's understanding of the metabolism of living cells. Hence this biomolecular unit is a fundamental prerequisite for all advanced units in the various disciplines in the field of life sciences.

**Prerequisites:** (SCB121 and SCB122) or (SCB111 and SCB121) or SCB113  
**Antirequisites:** LSB275 and LSB325 and LSB308  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1

**LQB383 MOLECULAR AND CELLULAR REGULATION**  
Molecular and Cellular Regulation is a second year unit and is a continuation and expansion of topics introduced in SCB112 Cellular Basis of Life and SCB122 Cell & Molecular Biology. Molecular and Cellular Regulation strengthens the focus on the molecular and genetic aspects of cellular processes and the consequences to the organism of failure of these basic processes. Topics taught relate to gene structure and regulation in prokaryotes and eukaryotes and the role of gene expression in the development of complex organisms. Related concepts such as cell signalling, communication, proliferation and survival are further developed in this unit.

**Prerequisites:** SCB122 or LSB238  
**Antirequisites:** LSB468 and LSB338  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1
new genes are increasing exponentially and, in turn, this is

BIOINFORMATICS

LQB481 BIOCHEMICAL PATHWAYS AND METABOLISM
The study of biochemistry and cell biology, along with molecular biology, provides students with the knowledge required for the proper understanding of the structure and function of living organisms at the molecular level. As such, this unit extends the studies begun in the unit LQB381 Biochemistry into the metabolic processes occurring in living cells, and provides students with a basis for further studies in biochemistry as well as support for other units in the third year of the course.

Prerequisites: LQB381 or LSB308
Antirequisites: LSB275, LSB325, LSB408
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2010 SEM-2

LQB483 MOLECULAR BIOLOGY TECHNIQUES
Molecular biology and recombinant DNA technologies have important roles in many areas within the life sciences, including medicine, agriculture, cell biology, environmental science and forensics. Through close alignment of theoretical concepts and practical skills, this lab-based unit expands on molecular themes introduced in earlier cell and molecular biology units to develop expertise in modern recombinant DNA techniques and an understanding of strategies used to identify and manipulate genes. The close relationship between theory and practice in this unit is designed to develop competence, independence and critical thinking that will provide students with a solid foundation for advanced molecular biology studies presented in several third level units.

Prerequisites: LSB238 or SCB122
Antirequisites: LSB468, LSN468, LSN483
Assumed knowledge: LQB383 is recommended prior study
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2010 SEM-2

LQB484 INTRODUCTION TO GENOMICS AND BIOINFORMATICS

The completion of the Human Genome project, along with similar projects on other organisms of a prokaryote and eukaryote nature, marked the beginning of a major revolution in fundamental biology that changed our understanding of the natural world. To understand how information on genome structure-function relationships (ie bioinformatics) is being used in areas such as gene discovery, disease diagnosis and drug development, students need to understand how the information content of DNA and proteins is extracted and analysed. This unit introduces students to the approaches to database mining and genome exploration.

Prerequisites: LQB383 or LSB338 or LSN101 and LSN102
Antirequisites: LSB537, LSB619, LSB469
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2010 SEM-2

LQB486 CLINICAL MICROBIOLOGY 1
Micro-organisms are very important as pathogens of humans and animals, and their accurate clinical diagnosis is essential for appropriate treatment and management of infections. This unit builds upon the foundational topics in microbiology that you learned in LQB386 (Microbial Structure and Function) and starts preparing you for a career in a microbiology laboratory in clinical practice, industry or research. The unit will advance your knowledge and skills in classical methods of isolation and identification of bacteria in clinical specimens and introduce aspects of microbial pathogenesis and antibiotic sensitivity. The unit will provide you with an understanding of clinically important viruses, and will commence your training in diagnostic parasitology.

Prerequisites: LQB386 or LSB328
Antirequisites: LSB435, LSB325, LSB408
Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2010 SEM-2

LQB581 FUNCTIONAL BIOCHEMISTRY
This unit will study advanced biochemical concepts with a focus on metabolism, signalling pathways, systems and networks that coordinate and regulate the functional behaviour of cells and tissues.

Credit points: 12
Contact hours: 5 per week
Campus: Gardens Point
Teaching period: 2010 SEM-1

LQB582 BIOMEDICAL RESEARCH TECHNOLOGIES
This unit will study the technical principles and practical techniques that are essential for advancing research and development in biochemistry and biotechnology.

Credit points: 12
Contact hours: 4 per week
Campus: Gardens Point
Teaching period: 2010 SEM-1

LQB583 GENETIC RESEARCH TECHNOLOGY
The tools available for the discovery and manipulation of new genes are increasing exponentially and, in turn, this is
having a significant impact in many areas of the life sciences. The true potential for this ultimately relies on the ability to link genes and their function. There are many strategies, both targeted and global, which facilitate an understanding of gene and genome structure function relationships. These strategies rely on integrated technologies based on molecular genetics, molecular biology and genetic engineering. The identification of function leads then to unlimited potential for detection and manipulation of these genes in human, animal and plant systems.

Prerequisites: LQB483  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

LQB584 MEDICAL CELL BIOLOGY
This unit builds and extends the understanding of basic theoretical and practical aspects of molecular cell biology developed in previous cell and molecular biology units. Medical Cell Biology develops and extends the context of the cellular environment and its central role within the organism providing all of the biological functions required by the organism to survive, defend and protect itself from disease and trauma. An understanding of cell biology theory and molecular mechanisms of animal development and disease is essential for introduction to higher level units in medical biotechnology.

Prerequisites: LQB383 or LSB338  Antirequisites: LSB449, LSB503, LSN584  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

LQB585 PLANT GENETIC MANIPULATION
The potential of plant biotechnology can only be recognised as a result of the significant advances being made in technologies enabling the genetic manipulation of plants. Familiarity with the strategies, techniques and breadth of applications is essential as a basis for anyone planning a career in plant biotechnology. The unit is designed with a significant emphasis on achieving technical expertise in plant genetic manipulation and control of gene expression.

Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

LQB586 CLINICAL MICROBIOLOGY 2
TBA

Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

LQB587 APPLIED MICROBIOLOGY 1: WATER, AIR AND SOIL
Issues relating to microbial populations within the environment are of great interest and relevance to the community, and also to scientists. Building on the foundation of basic microbiology, in this advanced level unit you will gain a strong understanding of the nature of microbial populations in water, air and soil, and their importance to the human population. This unit is issues-based, encouraging a problem solving approach as you investigate/study microbial pollution, bioremediation, biogeochemical cycles and a healthy environment. You will gain knowledge and skills in analysis and interpretation of water, air and soil populations, which will permit you to investigate real-world problems.

Prerequisites: LQB386, LSB328, or LSB492  Equivalents: LSB528  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

MAB101 STATISTICAL DATA ANALYSIS 1
Experiments, observational studies, sampling, and polls; data and variables; framework for describing and manipulating probability; independence; Binomial and Normal distributions; population parameters and sample statistics; concepts of estimation and inference; standard error; confidence intervals for means and proportions; tests of hypotheses on means and proportions (one sample and two independent samples); inference using tables of counts; modelling relationships using regression analysis; model diagnosis; use of statistical software.

Antirequisites: BSB123, EFB101, MAB141, MAN101  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 SUM-2, 2010 SEM-1 and 2010 SEM-2

MAB105 PREPARATORY MATHEMATICS
This unit is a substitute for Senior Mathematics B for those students who need the equivalent background for the successful study of units which assume it. It includes: basic number facts, natural numbers, integers, rational numbers, real numbers and their operations; basic algebra; functions and equations, graphs, linear functions, equations and applications; systems of linear equations; quadratic, exponential, logarithmic and trigonometric functions, properties and applications; introduction to calculus; rates of change, derivatives, rules of differentiation, second derivatives, maxima and minima and applications; integration and applications. This unit is incompatible with an exit assessment of High Achievement or better in Senior Mathematics B.

Assumed knowledge: Year 10 Level 6 Mathematics is assumed knowledge  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1 and 2010 SEM-2

MAB120 ALGEBRA AND CALCULUS
This unit introduces and reviews the elementary concepts of function, calculus, matrices and vectors with special reference to applications in science, technology and business where appropriate. Topics covered include the algebra of complex numbers, elementary functions (polynomial, trigonometric, exponential and logarithmic) and their properties, differentiation and integration methods and principles, geometric and algebraic applications of vectors and the solution of linear systems using matrices.

**Assumed knowledge:** Grade of at least Sound Achievement in Senior Mathematics B (or equivalent) or MAB105 is assumed knowledge  
**Equivalents:** MAB100, MAB125, MAB180  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**MAB121 CALCULUS AND DIFFERENTIAL EQUATIONS**  
This unit extends the areas of function and calculus introduced in MAB120 by introducing series representations for functions and more advanced methods of differentiation and integration for functions of one variable. A strong connection to real world problems is made by introducing the use of differential equations in modelling, and exploring appropriate methods of solution. Practical calculations of volumes and surface areas of solids of revolution extend your interpretations of the definite integral. Taylor and Fourier series are introduced as a means of approximating functions by sums of polynomials and periodic functions. Some more advanced methods for indefinite integrals, such as partial fraction decomposition, are also introduced.

**Assumed knowledge:** Grade of at least Sound Achievement in Senior Mathematics C (or equivalent) or MAB125 or MAB180 or MAB120 is assumed knowledge  
**Equivalents:** MAB111, MAB126  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**MAB122 ALGEBRA AND ANALYTIC GEOMETRY**  
This unit extends your knowledge in the areas of functions, calculus, matrices and vectors introduced in MAB120 by introducing functions of more than one variable, partial derivatives and multiple integrals, vector valued functions, and matrix methods for the solution of large systems of linear equations.

**Equivalents:** MAB112, MAB127, MAB132  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**MAB220 COMPUTATIONAL MATHEMATICS 1**  
This unit includes: sources of error; computer arithmetic; solution of nonlinear equations in one variable; solution of systems of linear equations; interpolation; finite differences; numerical differentiation and integration; solution of first order linear differential equations; MATLAB programming. Students without an exit level of Sound Achievement in four semesters of Senior Mathematics C need to be concurrently enrolled in MAB100 if not completed earlier.

**Assumed knowledge:** Grade of at least Sound Achievement in Senior Mathematics B (or equivalent) or MAB105 and corequisite MAB120 or MAB125 or MAB100 or MAB180 if you don't have Senior Mathematics C is assumed knowledge  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**MAB311 ADVANCED CALCULUS**  
This unit includes the following: polar coordinates; parametric equations; conic sections; quadric surfaces; vector-valued functions; Fourier series; functions of several variables; graphs; partial derivatives; total derivatives; extrema; Lagrange multipliers; Taylor series for multivariable functions; double and triple integrals; Green's theorems; line and surface integrals; divergence theorem; Stoke's theorem; applications.

**Prerequisites:** (MAB111 or MAB121) and (MAB112 or MAB122)  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 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.

**Prerequisites:** BSB115 or CTB115  
**Antirequisites:** MGB211, CTB211, MGB222, CTB232  
**Credit points:** 12  
**Contact hours:** 3  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

**MGB201 CONTEMPORARY EMPLOYMENT RELATIONS**  
This unit will develop your skills in understanding the effects of both domestic and international legal environments relating to employment relationships. This is important for developing practical, workable business strategies and HRM interventions.

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

**MGB207 HUMAN RESOURCE ISSUES AND STRATEGY**  
This unit provides a broad overview of the role and functions of human resource management (HRM) and explores the contribution of HRM to business performance and quality of work life. This unit gives you a foundation for professional practice in HRM and a practical introduction to the ways that organisations go about aligning the contributions of their
people with business goals.

**Prerequisites:** BSB115 or CTB115  
**Equivalents:** CTB207  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**MGB210 MANAGING OPERATIONS**

This unit extends general management approaches to the production operations subsystems of service and manufacturing organisations. The unit focuses on the deployment of productive resources in order to maximise the added value of services and products. Issues of quality and efficiency are considered analytically in terms of broader strategies and constraints. It considers the opportunities that new technology brings to operational strategies in both manufacturing and service. Project management principles are considered in relation to resource deployment and continuous improvement.

**Prerequisites:** BSB115 or CTB115  
**Equivalents:** CTB234  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**MGB220 BUSINESS RESEARCH METHODS**

The unit will develop your understanding of business research methods so that you can undertake research into workplace issues and problems as well as being able to critically analyse the appropriateness of research findings for the real world.

**Prerequisites:** BSB123 or BSB122  
**Antirequisites:** AMB201, CTB201  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1

**MGB223 ENTREPRENEURSHIP AND INNOVATION**

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

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

**MGB225 INTERCULTURAL COMMUNICATION AND NEGOTIATION SKILLS**

The course develops students’ abilities to identify and resolve problems in cross-cultural communication or negotiation situations where cultural differences have created misunderstandings or undesirable or unexpected outcomes. It first explores the concept of ‘national culture’ by considering the work of major theorists of cultural value dimensions - from Hall to Schwartz. Students are encouraged to analyse communication/negotiation process issues in terms of these value dimensions and to practise managing the process of communication/negotiation to improve their outcomes.

**Prerequisites:** BSB115, CTB115, BSB119 or BSB124  
**Antirequisites:** MGB312  
**Equivalents:** IBB205  
**Credit points:** 12  
**Contact hours:** 3  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**MGB309 STRATEGIC MANAGEMENT**

In this unit fundamental elements of strategy, which can be used in the decision making process, are placed in a framework that is developed within the particular context of Australia’s economic development position. The emphasis is upon process and content issues that affect the strategic performance and positioning of the organisation. This involves creating an understanding of the universal building blocks of competitive advantage at the business, corporate and international levels. By understanding the nature and determinants of competitive and strategic advantages, students should enhance their professional competences to be able to take a more strategic and critical perspective.

**Prerequisites:** MGB200, MGB211, CTB211, MGB222, or CTB232  
**Antirequisites:** MIB314  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**MGB310 SUSTAINABILITY IN A CHANGING ENVIRONMENT**

This unit provides participants with an opportunity to investigate selected and critical issues in the relationship between business activity and the imperative of creating sustainable futures. The unit draws on interdisciplinary sources to encourage the development of a systemic view that incorporates global, corporate, and personal levels of analysis. The unit prepares participants to make a significant contribution to the sustainable development of organisations and society. The unit will be of value to business and non-business students seeking careers in private, public, and not-for-profit sectors.

**Prerequisites:** MGB200, MGB211, CTB211, MGB222, or CTB232  
**Antirequisites:** MGB334, CTB334, MGB212  
**Credit points:** 12  
**Contact hours:** 3  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-2
This unit examines the most effective techniques for recruiting and selecting the best people for organisations, in the context of current pressures on attracting and keeping skilled, talented people in the workforce. Commonly used recruitment and selection techniques are covered, emphasising the validity and reliability of each technique, to enable the best strategies to be developed.

**Prerequisites:** MGB339 or MGB221  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**MGB324 MANAGING BUSINESS GROWTH**  
This unit is designed to provide skills in the analysis, solutions and implementation of the general management issues that SME owners have to manage in their growing operations. The unit brings together the different functional aspects of managing an established SME and how they are best managed from the owner’s (general manager’s) point of view. It also provides opportunity to bring students into contact with real world SME owners and their venture management issues.

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

**MGB331 LEARNING AND DEVELOPMENT IN ORGANISATIONS**  
This unit is designed to equip you with the skills and knowledge to meet strategic organisational human resource development requirements. The unit explores learning and development concepts and approaches and the role of learning and development as a strategic partner to management. You will learn how to design, implement and evaluate systems for learning in organisations as part of a strategic approach to human resource development.

**Prerequisites:** MGB211, CTB211, MGB222, CTB232, or MGB200  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1

**MGB335 PROJECT MANAGEMENT**  
This unit develops knowledge in the areas relating to effective management of projects (as distinct processes). This knowledge is gained by focusing on the central issues of project selection, modelling, planning, control and evaluation. Case study projects are used throughout the unit and are mainly from the services industry sector. The unit seeks to develop the technical skills (tools and techniques) as well as the people (behavioural) skills needed for effective management of projects.

**Prerequisites:** (MGB210 and MGB309) or (MGB210 and AMB303)  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**MGB339 PERFORMANCE AND REWARD**  
This unit will provide you with the basic competencies expected of HR practitioners in managing performance and reward/compensation systems, which are among the most important strategies used by organisations to support competitive advantage. Performance and Reward Management is a key functional area of HRM and it is imperative that you understand the strategic framework within which these decisions are made.

**Prerequisites:** MGB201, MGB207, or CTB207  
**Equivalents:** MGB201, MGB207, or CTB207  
**Contact hours:** 3  
**Teaching period:** 2010 SEM-1

**MGB340 INTERNATIONAL BUSINESS IN THE ASIA-PACIFIC**  
Australia is situated in the fastest growing region in the world - the Pan-Pacific rim. The aim of this unit is to meet the needs of future business professionals working internationally and particularly within the Pan-Pacific region, to understand the nature of this region’s business environment.

**Prerequisites:** MGB225, IBB205, IBB217, or IBB208  
**Antirequisites:** IBB317  
**Credit points:** 12  
**Teaching period:** 2010 SEM-2

**MGB370 PERSONAL AND PROFESSIONAL DEVELOPMENT**  
This unit develops personal, interpersonal and team skills that distinguish outstanding human resource, management and other professionals. Recent literature has identified the need for professionals to acquire knowledge in the areas of self management and the management of others to contribute to organisational performance. To achieve this, Personal and Professional Development is positioned at the conclusion of the course to build upon concepts learned in introductory and intermediate units with a strong focus on the application of theory to practice.

**Prerequisites:** MGB331 and BSB124  
**Equivalents:** MGB315  
**Credit points:** 12  
**Contact hours:** 3  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**NQB201 PLANET EARTH**  
Earth Science impacts every aspect of modern life. Hence, the concepts of Earth Science are fundamental not only to the field of Geology, but also to Environmental Science, natural resource management, civil engineering and society at large. Planet Earth provides an introduction to Earth Science, including earth materials, geologic history, geological process at the Earth’s surface, and the complex interplay between the lithosphere, atmosphere, hydrosphere and biosphere through geologic time. Thus, Planet Earth is a foundation unit for further studies in Geology and Environmental Science and also serves as a broad introduction to the world we live on.
**NQB202 HISTORY OF LIFE ON EARTH**

This unit provides an introduction to the history and development of life on Earth with an emphasis on fundamental biological and ecological principles as they have operated through geological time. The unit provides the student with an understanding of the processes of evolution, extinction and the changing environmental conditions through Earth’s history. The unit provides the student with practical experience in fossil identification, classification and morphological interpretation. It provides the student with a "deep-time" perspective of climate and other environmental changes affecting modern ecosystems. Hence, History of Life on Earth is a foundation unit for the Earth and Environmental Sciences as well as Ecology, Biological Sciences and Education.

**Equivalents:** NRB240  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

**NQB302 EARTH SURFACE SYSTEMS**

Understanding long and short term climate and environmental change is now recognised as crucial to the interpretation of our biotic, geomorphic and cultural landscapes. To fully understand environment change it is important to recognise the interconnectedness between the atmosphere, hydrosphere, lithosphere, biosphere and humanity’s place within these spheres over various temporal and spatial scales. Developing knowledge of past and present climate change and landscaping processes helps to predict future process pathways for natural resource management, civil engineering, risk analysis, and impact assessment in the context of both natural and anthropogenic induced change.

**Assumed knowledge:** NQB201 is assumed knowledge.

**Equivalents:** NRB301  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

**NQB311 MINERALOGY**

Minerals are the building blocks of rocks which comprise the solid Earth. The study of minerals is essential for understanding the structure and composition of the earth and the detailed processes of the rock cycle. Mineralogy forms the basis for petrology (the study of the genesis of rocks) and geochemistry, and is thus essential for Geoscience. The unit may also be of interest to chemists.

**Equivalents:** NRB333  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

**NQB314 SEDIMENTARY GEOLOGY**

This unit provides students with an introduction to sedimentology; both sediments and sedimentary rocks. The unit focuses on the link between the range of features preserved in sedimentary rocks and what those features tell us about sedimentary processes, depositional environments and the burial history of the rocks. The sedimentological processes and depositional environments observed in the modern world are discussed and used as a foundation for interpreting the evidence preserved in the ancient sedimentary rock record, in turn revealing much about earth processes in geologic history.

**Assumed knowledge:** NQB201 is assumed knowledge.

**Equivalents:** NRB331  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

**NQB321 ECOLOGY**

Ecology is the study of the factors that influence the distribution and abundance of organisms. Ecology deals with basic properties of individuals and the emergent properties of collections of individuals that form populations and the dynamics of these populations and their interactions with populations of other species. An understanding of basic ecological principles is central to managing species and ecosystems. This unit provides a broad theoretical background in the major concepts of plant and animal ecology. It serves the dual role of providing a thorough grounding in ecology for students from all faculties; and laying the conceptual foundation for later subjects in the ecology and environmental science.

**Prerequisites:** SCB110 or SCB112  **Equivalents:** NRB311  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

**NQB403 SOILS AND THE ENVIRONMENT**

Soils are the most dynamic component of Earth surface processes, being the interface of the lithosphere and the atmosphere and a key system within the biosphere and the hydrosphere. It is, therefore, one of the most critical resources to consider within the context of climate change. This unit will provide you with grounding in soil science by emphasising pedological principles, their application to environmental soil analysis and management, and knowledge of ecosystem function of soils in a changing environment. The unit would provide experience in describing and classifying soils and soil materials as well as field experience in the investigation of soil processes and the assessment of resource potential and environmental hazard.

**Prerequisites:** NQB302 or NRB301 or (ENB272 and ENB274)  **Credit points:** 12  **Contact hours:** 4 per week  **Campus:** Gardens Point  **Teaching period:** 2010 SEM-2
NQB411 PETROLOGY OF IGNEOUS AND METAMORPHIC ROCKS
This unit includes an introduction to the description, classification and origin of igneous and metamorphic rocks and practical development of lithologic and petrographic abilities to identify mineral assemblages, classify rocks, and interpret textures. Field and theoretical constraints on the petrogenesis of rocks are discussed in lecture. Field study is an essential component of the unit. This unit builds upon the knowledge and skills acquired in the prerequisite unit (NQB311 Mineralogy).
Prerequisites: NQB311 or NRB333 Equivalents: NRB436 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2010 SEM-2

NQB412 STRUCTURAL GEOLOGY AND FIELD METHODS
Structural geology, the deformation of earth materials, is one of the main elements in the core curriculum in geology. It is also essential to other subdisciplines of geology, such as foundation engineering and petroleum and mineral exploration. Geologists need to be able to describe and map structures, to understand the mechanical principles of rock deformation, and to be able to manipulate and calculate structural data.
Prerequisites: NQB314 or NRB331 Equivalents: NRB434 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2010 SEM-2

NQB421 EXPERIMENTAL DESIGN
An understanding of experimental design is essential for students and professionals in the ecological and environmental sciences as many biological systems are characterised by high levels of variability. This unit emphasises practical considerations of field and laboratory-based experimentation in ecology and environmental science, and provides experience in problem assessment, definition, formulation of testable hypotheses and experimental design.
Prerequisites: MAB101 or MAB104 or MAB105, and NQB321 or NRB311 Equivalents: NRB412 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2010 SEM-2

NQB422 GENETICS AND EVOLUTION
This unit provides a basic understanding of the mechanisms of inheritance using Mendelian Genetics as a foundation. These principles are extended to develop a clear understanding of the mechanisms and processes that drive evolution in natural populations. Topics include the physical basis of heredity, Mendelian and non-Mendelian inheritance patterns, genotype/environment interactions, quantitative traits, evolutionary theory, adaptation and natural selection, speciation and phylogeny, sexual selection and the evolution of life histories.
Prerequisites: SCB112 Equivalents: NRB410 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2010 SEM-2

NQB501 ENVIRONMENTAL MODELLING
The capacity for management of complex environmental problems such as climate change, now and in the future, will rely on the capacity of environmental managers to create, interpret and critically analyse models of environmental systems. Mathematical model building promotes the capacity to understand the interdependent relationships that characterise environmental systems and also provides a quantitative foundation for informed environmental management.
Prerequisites: NQB412 or NQB421 Assumed knowledge: 48 credit points of second level science units is assumed knowledge. Equivalents: NRB500 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2010 SEM-1

NQB502 FIELD METHODS IN NATURAL RESOURCE SCIENCES
Field experience is an essential part of the professional training of geologists, environmental scientists, ecologists, and natural resource specialists in general. The theory and practice of methods to interpret, measure, map, and monitor important natural resource features and characteristics are essential to the study of geological, ecological and environmental systems. Methods of survey, mapping and interpretation are necessary skills for resource assessment, geo-exploration, environmental impact assessment, land evaluation, baseline studies, and ecological investigations. There are varying emphases on these outcomes depending on the type of field survey you undertake in this unit.
Prerequisites: (NQB321 or NQB411) and (NQB302 or NQB412) Assumed knowledge: 36 credit points of second level science units in selected major is assumed knowledge. NQB302 and NQB403 for Env Sc, NQB321 for Ecol, NQB411 and NQB412 for Geosc Equivalents: NRB601 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2010 SEM-1

NQB513 GEOPHYSICS
Geophysics is an integral branch of geology, providing many of the most useful methods of imaging the subsurface of the earth. These methodologies are useful in disciplines as diverse as plate tectonics, oil and mineral exploration, hydrogeology, environmental geology, engineering geology, and seismic hazards.
Prerequisites: (NQB201 or NRB230) and (NQB412 or NRB434) Equivalents: NRB534 Credit points: 12 Contact hours: 4 per week Campus: Gardens Point Teaching period: 2010 SEM-1
NQB521 POPULATION GENETICS AND MOLECULAR ECOLOGY
This unit is an extension of NQB422 Genetics and Evolution. Topics include the genetic structure of populations and processes of evolutionary change; natural selection, inbreeding and adaptation, species and speciation theory; ecological genetics; the genetics of behaviour. 
Prerequisites: NQB422  Antirequisites: NRB510
Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

NQB523 POPULATION MANAGEMENT
This unit develops the theoretical treatment of populations as a unit of study and integrates the content of previous ecology units into approaches for the management of biological populations. The unit focuses on those interactions that are most relevant to pest control, but the unit is also of fundamental importance to harvesting and conservation biology.
Prerequisites: NQB321, NQB421  Antirequisites: NRB511
Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 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.
Assumed knowledge: Senior Maths B is assumed knowledge.  Credit points: 12  Contact hours: 4.5 hours per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

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.

Assumed knowledge: Senior Maths B is assumed knowledge.  Credit points: 12  Contact hours: 4.5 hours per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

PQB312 ANALYTICAL CHEMISTRY FOR SCIENTISTS AND TECHNOLOGISTS
Reliable chemical analysis and testing is fundamental to the functioning of our society. This generic unit is designed for future scientists and technologists in the fields of chemistry, forensic science and other similar sciences. It introduces students to concepts of quality assurance, good laboratory practice and the vital instrumental areas of analysis – chromatography and spectroscopy. Laboratory work is a key extensive activity in this unit.
Prerequisites: SCB131  Equivalents: PCB414  Credit points: 12  Contact hours: 4.5 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1 and 2010 SEM-2

PQB331 STRUCTURE AND BONDING
This unit provides detailed coverage of the theories of bonding in organic, inorganic and coordination compounds including orbital hybridisation valence bond theory, coordination theory and crystal field theory. The cause and effect relationships between bonding and structure are developed leading to an understanding of structural variability, chirality, and other modes of isomerism for a broad range of chemical compounds. An introduction to molecular symmetry, which is central to the study of molecular geometry and shape, also provides the background for later studies in spectroscopy. Lectures are complemented by 7 laboratory experiments and 4 hands-on style workshops.
Prerequisites: SCB121 and SCB131  Antirequisites: PCB334, PCB354  Credit points: 12  Contact hours: 4.5 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

PQB350 THERMODYNAMICS OF SOLIDS AND GASES
This unit provides students with an overview of the basic thermodynamic principles that describe how heat and other forms of energy are transported through matter in its solid and gaseous states. Through integrated lecture and practical classes, it provides students with a foundation for more advanced studies later in areas such as condensed matter physics and quantum mechanics. The three areas of study in this unit; thermodynamics, solid state physics and statistical physics; are essential core topics if students are considering postgraduate study in the physical sciences or professional employment as a physicist.
Prerequisites: PQB250 or PCB250, and MAB111  Corequisites: MAB311  Assumed knowledge: Students should enrol in MAB311 in the same semester if not already completed  Equivalents: PCB562  Credit points: 12
PQB401 REACTION KINETICS, THERMODYNAMICS AND MECHANISMS
This unit deals with the way in which the fundamental concepts of physical chemistry govern the extent and rates of chemical reactions and applies them to actual reaction types from the fields of organic and inorganic chemistry. Topics include: thermodynamics including enthalpy, heat capacity, entropy, Gibbs free energy, chemical equilibria and an introduction to electrochemistry; chemical kinetics including rate laws, mechanisms of chemical reactions, collision theory of reaction rates and the steady state principle as well as acids and bases in both aqueous and non aqueous environments.
Prerequisites: PQB331  Antirequisites: PCB354, PCB405  Credit points: 12  Contact hours: 4.5 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

PQB442 CHEMICAL SPECTROSCOPY
Spectroscopic techniques are now widespread in scientific laboratories. An appreciation of both the principles and practice of spectroscopy is essential for those contemplating a career in chemistry. The use of spectroscopic methods to elucidate molecular structure provides an excellent vehicle for training in the scientific method, particularly the logical application of experimental data to deduce the solution to a complex problem. Whilst the fundamental theoretical concepts will be dealt with in the early part of the unit, later emphasis will be on developing practical skills in problem solving, a skill of value to all fields of scientific and technological endeavour.
Prerequisites: PQB331  Equivalents: PCB444  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

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 comajor in Physics or preparing for a career in secondary education.
Prerequisites: PQB250 or PCB250, and MAB311  Equivalents: PCB362  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

PQB451 ELECTRONICS AND INSTRUMENTATION
Instrumentation plays an increasingly important role in the life of a scientist. This unit is designed to give the student a working knowledge in instrumentations and the principles of circuit theory and electronics that underlie instrumentation. It is offered at this stage of the program since it relies on work developed in the earlier advanced-level units and provides a basis for experimental work in later units.
Prerequisites: PQB250 or PCB250  Antirequisites: PCB361, PCB460  Credit points: 12  Contact hours: 4  Campus: Gardens Point  Teaching period: 2010 SEM-2

PQB502 ADVANCED PHYSICAL CHEMISTRY
A Chemistry graduate in today's highly technological world requires knowledge of the principles that govern the behaviour of solids, liquids, gases, and mixtures thereof. This leads to an appreciation of how fundamental physical chemical principles determine the bulk properties of materials and how the chemical nature of interfaces govern chemical reactions in many important applications. This unit is placed appropriately in fifth semester, following the second year units that provide the basic principles, language and tools of chemistry.
Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

PQB513 INSTRUMENTAL ANALYSIS
TBA
Prerequisites: PQB312 or PCB414  Equivalents: PCB514  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

PQB531 ORGANIC MECHANISMS AND SYNTHESIS
This unit deals with organic reaction mechanisms and their application in organic synthesis. Topics in mechanisms include: structural and electronic effects that govern reactivity of organic molecules; major classes of mechanisms including elimination reactions, nucleophilic additions to carbonyl compounds, nucleophilic acyl substitution, electrophilic addition to alkenes and electrophilic substitution of aromatics. Topics in synthesis include the principles of organic synthesis design using the retrosynthetic approach; carbon-carbon bond formation to build the major functional group classes; and the use of protecting and activating groups.
Prerequisites: PQB401, PQB442  Antirequisites: PCB554  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

PQB550 QUANTUM AND CONDENSED MATTER PHYSICS
TBA
Prerequisites: PQB350 and (MAB135 or MAB311)
SCB111 CHEMISTRY 1
This unit covers the fundamentals of general and physical chemistry. Topics include atomic and molecular structure, introduction to chemical bonding, reaction stoichiometry, thermochemistry, gas phase chemistry, reaction kinetics, equilibrium, acids, bases, buffers, oxidation, reduction and electrochemistry. The practical program involves experiments illustrating a range of chemical reaction types including precipitation reactions, acid-base chemistry and redox chemistry using analytical experimental methods. A comprehensive tutorial program (CHELP) complements the lectures and is designed to assist students to develop the problem solving skills required for further study in chemistry and related sciences.

**Prerequisites:** SCB113  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

SCB112 CELLULAR BASIS OF LIFE
A study of life processes in all five groups of living organisms (bacteria, protists, fungi, plants and animals). Traditional topics in biology are integrated with recent research advances in molecular and cellular biology to provide a comprehensive foundation for later units in the medical, biotechnological and ecological sciences. The unit begins by constructing cells from the four quantitatively important groups of biological molecules (proteins, lipids, carbohydrates and nucleic acids). Molecular and evolutionary aspects of genetics are then introduced, with the great diversity of reproductive strategies found among organisms being emphasised. Finally, bioenergetics (photosynthesis and respiration) and its relevance to environmental issues is outlined.

**Prerequisites:** LSB118  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

SCB120 PLANT AND ANIMAL PHYSIOLOGY
Regardless of which area of biology you decide to specialise in, you will need to understand the complex interactions between cells, tissues, organs and organ systems that comprise multi-cellular organisms. Although many living processes can be explained at the levels of biochemistry, biophysics and cell biology, a true understanding of complex, multicellular organisms requires integration of knowledge drawn from all of these areas, combined with the more complex physiological and structural levels you will learn about in this unit. The knowledge gained in this and other first level units provides you with the conceptual framework necessary to understand processes occurring from the cellular to the whole organism level and to higher levels of organisation.
SCB121 CHEMISTRY 2
Chemistry is the central science. This is a unit of fundamental importance as it covers the background and general principles that underpin understanding in many Science and Health related disciplines, particularly in regards to the chemistry of life. In this unit students will be introduced to fundamental aspects of chemistry including the electronic structure of atoms, chemical bonding and molecular structure. From this basis students will develop an understanding of the fundamentals of organic chemistry including chirality, functional groups and organic reactions which will lead to important bio-inorganic molecules and coordination complexes.
Prerequisites: SCB111 or SCB142. SCB111 can be studied in the same teaching period
Antirequisites: SCB113
Credit points: 12  Contact hours: 4.5 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1 and 2010 SEM-2

SCB122 CELL AND MOLECULAR BIOLOGY
SCB122 Cell and Molecular Biology 1 equips students with a comprehensive understanding the molecular basis of the cell. This unit expands on the basic principles and concepts relating to cell structure, function, perpetuation and specialisation introduced in SCB112 and introduces students to fundamental molecular mechanisms central to the organisation of the cell. Students will be shown how macromolecular interactions are crucial to information flow and heredity. Students are taught the relationships between chromosomes, genes and cellular function and ultimately how these may determine an organism's phenotype. This unit underpins cell biology and molecular biology units that are offered in second year Life Science units. SCB122 is also ideal for interfaculty students (eg Education, Business, Arts) who will undertake no further life science studies.
Prerequisites: SCB112  Antirequisites: LSB238
Credit points: 12  Contact hours: 4.5 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

SCB123 PHYSICAL SCIENCE APPLICATIONS
Physics principles underpin all of the sciences and ‘new technologies’. This unit adopts an investigative team-based approach to provide students with an appreciation of fundamental concepts in physical science, together with experience in the application of these concepts to a range of ‘real world’ problems. The unit should be taken in the first year of study as the fundamental principles introduced here will be built upon in later units in the context of each science student’s major discipline area. Employers in cutting-edge industries expect science graduates to have effective strategies for problem solving, skills for collaborative work and scientific communication and research skills. This unit aims to develop these skills by applying the fundamental concepts of physical science to problems in a team environment.
Credit points: 12  Contact hours: 4.5 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

SCB131 EXPERIMENTAL CHEMISTRY
A study of chemistry and related disciplines such as medical science, biochemistry, molecular biology and pharmacy requires the development of practical laboratory skills used in synthesis and chemical analysis. This unit is a laboratory-based unit which is designed for students who intend to continue with experimental science units. The lectures complement the weekly practical sessions and teach the theory required to interpret experimental results.
Prerequisites: SCB111 or SCB113  Corequisites: SCB121 unless SCB113 has been successfully completed
Credit points: 12  Campus: Gardens Point  Teaching period: 2010 SEM-2

SCB222 EXPLORATION OF THE UNIVERSE
This unit provides an introduction to optical observational astronomy; instrumentation; celestial sphere and astronomical coordinates; observations of constellations, stars, planets, clusters and other interesting celestial objects. The theory includes: optics of telescopes; properties of light; determination of physical properties of stars; nebulae; stellar spectra and classification; historical models of the solar system; Kepler's law, gravitation; physical geology of the planets and formation of the solar system; phenomena of astronomical origin; brief introduction to stars and galaxies. This course includes practical exercises and field trips.
Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point

SCB384 FORENSIC SCIENCES - FROM CRIME SCENE TO COURT
This unit provides an introduction to two fundamental areas in forensic science, crime scenes and justice. Mock crime scenes involving real life scenarios are used to provide hands-on training on crime scene management and examination protocols. The principles for forensic examination of crime scenes involving fire, explosion, murder, etc, are introduced through lectures, workshops and practical exercises. Also an overview of the techniques used in forensic photography, fingerprinting as well as Legal procedures at court is presented. This unit is provided by professional forensic practitioners with practical real life experience being transferred to new generations. This head start provides a unique advantage for a strong career in forensics.
Credit points: 12  Campus: Gardens Point  Teaching period: 2010 SEM-1