Bachelor of Biotechnology Innovation (LS50)

Year offered: 2011
Admissions: No
CRICOS code: 037681J
Course duration (full-time): 4 years
Course duration (part-time): 8 years
Domestic Fees (indicative): 2011: CSP rate available August 2010
International Fees (indicative): 2011: $11,750 (indicative) per semester
Domestic Entry: February
International Entry: February and July
QTAC code: 418311
Past rank cut-off: 77
Past OP cut-off: 12
OP Guarantee: Yes
Assumed knowledge: English (4, SA), Maths B (4, SA) and Chemistry (4, SA)
Preparatory studies: For information on acquiring assumed knowledge visit http://www.qut.edu.au/assumed-knowledge
Total credit points: 384
Standard credit points per full-time semester: 48
Standard credit points per part-time semester: 24
Course coordinator: Associate Professor Chris Collet
Campus: Gardens Point

Discontinued Course
LS50 has been discontinued and replaced by ST50. LS50 is for continuing students only.

Course Design
The Bachelor of Biotechnology Innovation, a degree with Honours, was the first degree of its type in Australia and aims to provide highly trained and motivated graduates skilled in the science and business and biotechnology. Graduates undertake the same basic and advanced biotechnology science as students in other science-based courses, gaining requisite theoretical and practical skills. In this course, however, basic and advanced business units are undertaken highlighting entrepreneurial skills and biotechnology commercialisation. Integration and synthesis of the disparate disciplines is an essential component of the course.

Unique to the course is the Student BioEnterprise Scheme, a proactive project-based learning exercise promoting the integration of theory and practice in business and science. Students form companies and operate in the company environment over the entire duration of their course. Companies invent biotechnology-oriented products or processes and formulate strategies to bring them from laboratory to the marketplace under the guidance of industry and academic mentors. Students have many opportunities to network with industry through the Student BioEnterprise Scheme and numerous Ausbiotech functions, events and conferences. Companies can also undertake industry-based or consultancy projects with an industry partner in the final year of the course.

Professional Recognition
On graduation, you will be immediately eligible for graduate membership of AusBiotech Ltd and the Australian Society for Biochemistry and Molecular Biology (ASBMB).

Limits on grades of 3
A new policy concerning grades of 3 came into effect from 1 January 2009 (QUT MOPP C/5.2). With effect from this date grades of 3 are no longer considered a conceded or low pass but are classified as a fail grade. Any grades of 3 awarded prior to 1 January 2009 retain the conceded pass status and will be counted for graduation purposes up to the maximum number of grades of 3 permitted for your course. Grades of 3 incurred in units that commence after 1 January 2009 will not count towards your degree. Further information is available on the Student Services website.

Contact Details
For further information about this course, please contact:

Course Coordinator
Associate Professor Chris Collet
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Full-time Course Structure - For students who commenced in 2009 - First Semester Entry

Year 1 - Semester 1
BSB115 Management
MAB101 Statistical Data Analysis 1
SCB111 Chemistry 1
SCB112 Cellular Basis of Life

Year 1, Semester 2
BSB126 Marketing
LSB258 Principles of Human Physiology
SCB121 Chemistry 2
SCB122 Cell and Molecular Biology

Year 2, Semester 1
AMB240 Marketing Planning and Management
LQB383  Molecular and Cellular Regulation  
LQB386  Microbial Structure and Function  
LSB325  Biochemistry  

Year 2, Semester 2  
LQB483  Molecular Biology Techniques  
LQB484  Introduction to Genomics and Bioinformatics  
LQB489  Plant Physiology and Cell Biology  
MGB223  Entrepreneurship and Innovation  

Year 3, Semester 1  
LQB582  Biomedical Research Technologies  
LQB583  Genetic Research Technology  
LWS007  Introduction To Intellectual Property Law  
MGB324  Managing Business Growth  

Year 3, Semester 2  
BSB311  Innovation Commercialisation Strategies  
LQB682  Protein Biochemistry and Bioengineering  
LQB686  Microbial Technology and Immunology  
MGB200  Leading Organisations  

Year 4, Semester 1  
LQB584  Medical Cell Biology  
LQB585  Plant Genetic Manipulation  
LSB709-1  Biotechnology Research Project  
MGB225  Intercultural Communication and Negotiation Skills  

Year 4, Semester 2  
LSB709-2  Biotechnology Research Project  
LSB709-3  Biotechnology Research Project  
Plus any TWO of the following three units:  
LQB684  Medical Biotechnology  
LQB685  Plant Microbe Interactions  
MGB309  Strategic Management  

Part-time Course Structure - For students who commenced in 2009 - First Semester Entry  

Year 1, Semester 1  
MAB101  Statistical Data Analysis 1  
SCB112  Cellular Basis of Life  

Year 1, Semester 2  
LSB258  Principles of Human Physiology  
SCB122  Cell and Molecular Biology  

Year 2, Semester 1  
BSB115  Management  
SCB111  Chemistry 1  

Year 2, Semester 2  
BSB126  Marketing  
SCB121  Chemistry 2  

Year 3, Semester 1  
LQB383  Molecular and Cellular Regulation  
LSB325  Biochemistry  

Year 3, Semester 2  
LQB483  Molecular Biology Techniques  
LQB484  Introduction to Genomics and Bioinformatics  

Year 4, Semester 1  
AMB240  Marketing Planning and Management  
LQB386  Microbial Structure and Function  

Year 4, Semester 2  
LQB489  Plant Physiology and Cell Biology  
MGB223  Entrepreneurship and Innovation  

Year 5, Semester 1  
LQB582  Biomedical Research Technologies  
MGB324  Managing Business Growth  

Year 5, Semester 2  
BSB311  Innovation Commercialisation Strategies  
LQB682  Protein Biochemistry and Bioengineering  

Year 6, Semester 1  
LQB583  Genetic Research Technology  
LWS007  Introduction To Intellectual Property Law  

Year 6, Semester 2  
LQB686  Microbial Technology and Immunology  
MGB200  Leading Organisations  

Year 7, Semester 1  
LQB584  Medical Cell Biology  
LQB585  Plant Genetic Manipulation  

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### Year 7, Semester 2

Select TWO units from the following:

- LQB684 Medical Biotechnology
- LQB685 Plant Microbe Interactions
- MGB309 Strategic Management

### Year 8, Semester 1

- LSB709-1 Biotechnology Research Project
- MGB225 Intercultural Communication and Negotiation Skills

### Year 8, Semester 2

- LSB709-2 Biotechnology Research Project
- LSB709-3 Biotechnology Research Project

Full-time Course Structure - For students who commenced in 2009 - Mid Year Entry

### Year 1, Semester 2

- SCB111 Chemistry 1
- SCB112 Cellular Basis of Life
- SCB121 Chemistry 2
- SCB122 Cell and Molecular Biology

### Year 2, Semester 1

- BSB115 Management
- LQB383 Molecular and Cellular Regulation
- LSB325 Biochemistry
- MAB101 Statistical Data Analysis 1

### Year 2, Semester 2

- LSB250 Human Physiology
- LQB483 Molecular Biology Techniques
- LQB484 Introduction to Genomics and Bioinformatics
- LQB489 Plant Physiology and Cell Biology

### Year 3, Semester 1

- BSB126 Marketing
- LQB386 Microbial Structure and Function
- LQB584 Medical Cell Biology
- LQB585 Plant Genetic Manipulation

### Year 3, Semester 2

- AMB240 Marketing Planning and Management
- LQB682 Protein Biochemistry and Bioengineering
- MGB200 Leading Organisations
- MGB223 Entrepreneurship and Innovation

### Year 4, Semester 1

- LQB582 Biomedical Research Technologies
- LQB583 Genetic Research Technology
- LWS007 Introduction To Intellectual Property Law
- MGB324 Managing Business Growth

### Year 4, Semester 2

- BSB311 Innovation Commercialisation Strategies
- LQB686 Microbial Technology and Immunology
- Plus any TWO of the following:
  - LQB684 Medical Biotechnology
  - LQB685 Plant Microbe Interactions
  - MGB309 Strategic Management

### Year 5, Semester 1

- LSB709-1 Biotechnology Research Project
- LSB709-2 Biotechnology Research Project
- LSB709-3 Biotechnology Research Project
- MGB225 Intercultural Communication and Negotiation Skills

Full-time Course Structure for students who commenced in 2008

### Year 1, Semester 1

- BSB110 Accounting
- MAB101 Statistical Data Analysis 1
- SCB111 Chemistry 1
- SCB112 Cellular Basis of Life

### Year 1, Semester 2

- BSB115 Management
- LSB250 Human Physiology
- SCB121 Chemistry 2
- SCB122 Cell and Molecular Biology

### Year 2, Semester 1

- BSB126 Marketing
- LQB386 Microbial Structure and Function
- LQB584 Medical Cell Biology
- LSB325 Biochemistry

### Year 2, Semester 2

- AMB240 Marketing Planning and Management
- LQB682 Protein Biochemistry and Bioengineering
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: BSB116 or CTB126
Equivalents: AMX240, CTB240
Credit points: 12
Contact hours: 3
Campus: Gardens Point and Caboolture
Teaching period: 2011 SEM-1 and 2011 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.

Antirequisites: BSD110, CNB293, UDB342
Equivalents: BSB110, CTB110
Credit points: 12
Contact hours: 3
Campus: Gardens Point and Caboolture
Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 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: BSB115, CTB115
Credit points: 12
Contact hours: 3
Campus: Gardens Point and Caboolture
Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 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, BSB126
Equivalents: BSB126, CTB126
Credit points: 12
Contact hours: 4
Campus: Gardens Point and Caboolture  
Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

**BSB311 INNOVATION COMMERCIALISATION STRATEGIES**

Students study strategies and approaches used in industry and government organisations for the research, development and commercialisation of biotechnology innovations. The unit offers the opportunity to read widely as well as in depth about the commercialisation of molecular biology and biotechnology research. Theoretical concepts are integrated with prepared case studies prior to guest speaker seminars.  
**Prerequisites:** SCB120 or SCB122 or NRB270 or LSB238  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-2

**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:** 2011 SEM-1

**LQB386 MICROBIAL STRUCTURE AND FUNCTION**

Aspects of microbiology impinge upon many facets of daily life, for example, human health, genetic engineering, the food industry and the built and natural environment. The unit introduces you to and provides you with a solid foundation in the basic microbiology required for progression to advanced studies in Microbiology. This unit provides knowledge about safe handling and study of microorganisms that is also very important in many other disciplines, because micro-organisms are used as models and tools in a wide range of study areas.  
**Prerequisites:** SCB112 and (SCB121 or SCB113)  
**Antirequisites:** LSB328  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1

**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:** SCB120 or SCB122  
**Antirequisites:** LSB468, LSB468, LSB483  
**Assumed knowledge:** LQB383 is recommended prior study  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 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:** 2011 SEM-2

**LQB489 PLANT PHYSIOLOGY AND CELL BIOLOGY**

Plants are a vital resource providing food, medicines, fibre and fuel. The utilisation and manipulation of plants requires an understanding of growth and development on a molecular, cellular and whole plant basis. This is an intermediate-level unit covering the principles of plant cell biology and physiology to provide a platform for more advanced studies in plant biology and biotechnology. It integrates the fundamentals of plant physiology, biochemistry and molecular biology in such a way to enable students to understand how plants grow, develop and interact with their environment, and will also be valuable for lifelong appreciation of the potential of agriculture and its contribution to humanity. The aim of this unit is to provide you with an understanding of plant function from the cell to the whole plant, skills in measuring and monitoring these processes and an appreciation of how they are influenced by the environment.  
**Prerequisites:** SCB120 or SCB122 or NRB270 or LSB238
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.
Prerequisites: LQB381 or LSB308  Antirequisites: LSB527  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2011 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: 2011 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: 2011 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: 2011 SEM-2

LQB682 PROTEIN BIOCHEMISTRY AND BIOENGINEERING
This unit is designed to give you the essential concepts and techniques driving research and industrial biotechnology so that you will be equipped for multiple careers in the biological sciences. The skills you develop will allow you to enter a practical laboratory environment or to apply your knowledge in related areas of evaluations of technologies and intellectual property.
Prerequisites: LQB381 or LSB308 or LSB325 or (LSN101and LSN102)  Antirequisites: LSB605, LSB608  Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

LQB684 MEDICAL BIOTECHNOLOGY
Medical Biotechnology will provide you with a thorough understanding of diagnostics and therapeutics in the commercial environment of biotechnology. A comprehension of approaches and the applications used as therapeutic interventions in medicine is necessary for this understanding. This unit focuses on current state-of-the-art applications within therapeutic biotechnology as directed to novel drug discovery and drug optimisation and to the development of novel therapeutic strategies, such as gene therapy, transplantation and immunotherapy. It will prepare you for subsequent involvement in medical research and/or employment in medical laboratories.
Prerequisites: LQB584 or LSB503 or LSB449  Antirequisites: LSN684  Assumed knowledge: A background understanding of Cell and Molecular Biology as provided in LQB383, LQB483 and LQB584 is assumed knowledge  Equivalents: LSB609  Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

LQB685 PLANT MICROBE INTERACTIONS
Microorganisms, including viruses, bacteria and fungi, cause many devastating diseases in plants and are responsible for significant losses to crops in Australia and Internationally. Diagnosis and control of these organisms, which vary considerably in their biology and infection strategies, is an ongoing challenge. However, plant genetic engineering approaches are now offering new and novel solutions to these problems. These approaches are of widespread scientific, commercial and humanitarian interest. The application of current technologies and development of new, novel technologies relies on an understanding of the biology of the organism, of the way in which these organisms cause disease in plants and the mechanism by which many plants are resistant.
Prerequisites: LQB483 or LSN483  Antirequisites:
LSB578  Assumed knowledge: LQB386 recommended  
Credit points: 12  Contact hours: 4 per week  Campus:  
Gardens Point  Teaching period: 2011 SEM-2

LQB686 MICROBIAL TECHNOLOGY AND IMMUNOLOGY
This capstone unit builds upon your foundation knowledge 
and understanding of microorganisms and bioinformatics, 
molecular technology, and immunological skills. You will: (i) 
study infectious disease states as a major focus, (ii) 
research the importance of microbial pathogens as 
aetiological agents of disease, (iii) apply your knowledge of 
bioinformatics and molecular assays to design polymerase 
chain reaction (PCR) assays that can be used to selectively 
detect and amplify a specific bacterial pathogen, (iii) extend 
your knowledge of molecular subtyping methods, genomics, 
manipulation of bacterial genes, antibiotics, human 
immunology and vaccines, and (iv) write a research report 
in the format of a journal article.  
Prerequisites: LQB386 and LQB483  Antirequisites:  
LSB648  Credit points: 12  Contact hours: 4 per week  Campus:  
Gardens Point  Teaching period: 2011 SEM-2

LSB250 HUMAN PHYSIOLOGY
A strong foundation in human physiology is crucial for  
students in Optometry, Podiatry and Medical Science. This unit 
will provide you with the necessary foundation for 
subsequent units in physiology, pathology or immunology. 
This unit is also appropriate for other students interested in 
studying medical physiology at an intermediate level and is 
also designed to encourage your interest in scientific 
research and current issues in medical physiology. The aim 
of this unit is for students to gain a strong a background in 
human physiology and to develop skills and gain knowledge 
that are relevant to the needs of future optometrists, 
podiatrists and medical scientists.  
Prerequisites: SCB112 or LSB118 or LSB131 or LQB182  
Antirequisites: LSB231  Credit points: 12  Contact 
hours: 5 per week  Campus: Gardens Point  Teaching period:  
2011 SEM-2

LSB258 PRINCIPLES OF HUMAN PHYSIOLOGY
The aim of this unit is to provide a grounding in the 
principles of human physiology. Following an introduction to 
the organisation of tissues, each of the major systems that 
constitute the human body are introduced by the integrated 
study of their structure and function.  
Prerequisite(s): LSB118  Corequisite(s): LSB238  
Contact hours: 4 per week  Campus: Gardens Point  
Incompatible with: LSB142, LSB182

LSB325 BIOCHEMISTRY
The study of biochemistry and cell biology, along with 
anatomy and physiology, provides students with the 
knowledge required for the proper understanding of the 
structure and function of the human body and its organ 
systems in health and disease, as a preparation for their 
clinical studies.  
Prerequisites: SCB121 or SCB113  Antirequisites:  
LQB381, LQB481  Credit points: 12  Contact hours: 4 
per week  Campus: Gardens Point  Teaching period: 2011 SEM-1

LSB709 BIOTECHNOLOGY RESEARCH PROJECT
Knowledge of the practical aspects of developing a project 
for research and development is a fundamental aspect of 
real-world biotechnology. This unit involves a small team 
research project based on the R and D proposal developed in 
LSB409 Readings in Biotechnology. The unit guides 
student teams through the research process from the 
experimentation to the writing of an assessment of the 
project under the guidance of academic and industry 
mentors. The research project aims to foster enhanced problem solving skills, literacy and 
communications skills, and professional responsibility and 
ethical conduct.  
Credit points: 12  Campus: Gardens Point  Teaching 
period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

LSB709 BIOTECHNOLOGY RESEARCH PROJECT
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project under the guidance of academic and industry 
mentors. The research project aims to foster enhanced problem solving skills, literacy and 
communications skills, and professional responsibility and 
ethical conduct.  
Credit points: 12  Campus: Gardens Point  Teaching 
period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

LSB709 BIOTECHNOLOGY RESEARCH PROJECT
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student teams through the research process from the 
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mentors. The research project aims to foster enhanced problem solving skills, literacy and 
communications skills, and professional responsibility and 
ethical conduct.  
Credit points: 12  Campus: Gardens Point  Teaching 
period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM
LWS007 INTRODUCTION TO INTELLECTUAL PROPERTY LAW

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

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

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.

Prerequisites: BSB123, EFB101, MAB141, MAN101, MAB233  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: 2011 SUM-2, 2011 SEM-1 and 2011 SEM-2

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  Equivalents: MGX200  Credit points: 12  Contact hours: 3  Campus: Gardens Point and Caboolture  Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

MGB223 ENTREPRENEURSHIP AND INNOVATION

This unit introduces students to the nature and characteristics of entrepreneurship and innovation and explores the inter-relationship between the two within contemporary economies from managerial perspective.

Learning will be directed towards developing the theoretical and applied knowledge, skills, and attitudes that will support and enhance innovation and enterprise creation activity, through the development of a business plan. The unit is designed for those individuals interested in creating a new venture or working in industries as employees of venture owners or those that serve this sector. Students will have opportunity to build a comprehensive plan of their business concept.

Prerequisites: BSB115 or CTB115  Equivalents: CTB223, MGX223  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Caboolture  Teaching period: 2011 SEM-1 and 2011 SEM-2

MGB225 INTERCULTURAL COMMUNICATION AND NEGOTIATION SKILLS

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

Prerequisites: BSB115, CTB115, BSB119 or BSB124  Antirequisites: MGB312  Equivalents: IBB205, MGX225  Credit points: 12  Contact hours: 3  Campus: Gardens Point and Caboolture  Teaching period: 2011 SEM-1 and 2011 SEM-2

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  Equivalents: MGX309  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Caboolture  Teaching period: 2011 SEM-1 and 2011 SEM-2

MGB324 MANAGING BUSINESS GROWTH

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

**Prerequisites:** MGB223  
**Equivalents:** MGB218, MGX324  
**Credit points:** 12  
**Contact hours:** 3  
**Campus:** Gardens Point and Caboolture  
**Teaching period:** 2011 SEM-1

**SCB111 CHEMISTRY 1**  
Chemistry is the central science. It affects society as well as the individual. It is the language and principal tool of the physical sciences, the biological sciences, the health sciences and the agricultural and earth sciences. A basic knowledge of chemistry is essential to all students in these areas. Knowledge of chemistry allows a better understanding of the human body and of the environment in which we live. The aim of this unit is to introduce you to the basic concepts of general, inorganic, analytical and physical chemistry.

**Antirequisites:** SCB113  
**Credit points:** 12  
**Contact hours:** 4.5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 SEM-2

**SCB112 CELLULAR BASIS OF LIFE**  
Scientists from all disciplines need an appreciation and a broad overview of the characteristics and functioning of the five groups of living organisms (bacteria, protists, fungi, plants and animals), and their interactions with the inanimate world. SCB112 Cellular Basis of Life is a first semester unit that is essential for many students undertaking courses requiring biological knowledge. Through integrated lecture and laboratory classes, this unit provides you with a foundation for later more advanced studies in your course or major (eg such as medical science, biomedical science, pharmacy, optometry, biochemistry, biotechnology, microbiology, geosciences, ecology, business and education among others). The aim of this unit is to introduce you to the wide diversity of living organisms while emphasising the unity of life processes at the cellular, biochemical and biophysical levels.

**Antirequisites:** LQB182, LSB118  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 SEM-2

**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. In this unit you will be introduced to fundamental aspects of chemistry including the nature of matter, atoms, molecules and ions. From this basis you will develop an understanding of the electronic structure of atoms, chemical bonding and molecular structure as well as the fundamentals of organic chemistry (often described as the chemistry of life). The aims of this unit are to generate an understanding of the importance of chemical bonding and molecular structure and how these factors effect the properties of organic and bioinorganic molecules; and to allow recognition of, and provide an understanding of, the nature of organic functional groups and their respective reactivity.

**Prerequisites:** (SCB111 or PCB142)  
**Antirequisites:** (PQB105 and SCB113)  
**Credit points:** 12  
**Contact hours:** 4.5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 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. SCB122 can be studied in the same teaching period  
**Antirequisites:** LSB238  
**Credit points:** 12  
**Contact hours:** 4.5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-2