

MC-SCIBIT Master of Biotechnology

Year and Campus:	2012 - Parkville
CRICOS Code:	072809G
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	200 credit points taken over 24 months full time. This course is available as full or part time.
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Course Overview:	<p>Biotechnology is the useful application of a biological product or process. The process of commercialisation is inevitably required for a discovery to become applied and widely used.</p> <p>Biotechnology is a growing area of applied science and covers a diversity of specialist fields. Disciplines that Biotechnology includes are; molecular biology, biochemistry, cell biology, microbiology, plant and environmental sciences, engineering, drug development, nanofabrication, reproductive sciences, stem cells and genetically modified organisms. Modern medicine, agriculture, animal breeding, pharmaceuticals, food production and processing etc., all utilise various Biotechnology tools.</p> <p>The core disciplines will focus on advances in key technologies, and will give the student the scientific understanding of how discoveries progress from the laboratory to the marketplace. This scientific knowledge will be developed together with an understanding of what is procedurally required to transform a discovery into a useful and commercialised product or process. This includes such areas as Intellectual Property, Market Structure, Drug Trial Design, Regulatory Affairs, Quality Management and Good Manufacturing Processes.</p> <p>This professional entry program offers students the opportunity to undertake core science studies as well as professional skills modules, which provide high-level training in the areas of business, communications and science application.</p> <p>As this program does not contain an independent research component, it is not a pathway to research higher degree studies such as PhD at the University of Melbourne.</p>
Objectives:	<p>Upon completion of this course, students should have:</p> <ul style="list-style-type: none"> # a detailed technical understanding of the key advanced methods used in the contemporary biotechnology sector; # an appreciation of how these techniques are applied both in biotechnology and in advanced research; # acquired the knowledge to enable them to critically appraise new data arising from the use of these techniques and to interpret the implications of such data; # developed an understanding of the commercial, financial and regulatory context in which the biotechnology sector operates.
Course Structure & Available Subjects:	<p>All students must complete 200 points including:</p> <ul style="list-style-type: none"> # Discipline Core subjects (62.5 points); # Discipline Elective subjects (62.5 points); # Professional Skills Core (50 points); # Professional Skills Elective (25 points).

Subject Options:**Discipline Core**

Students must take:

Subject	Study Period Commencement:	Credit Points:
BIOL90001 Microscopy for Biological Sciences	Semester 1	12.50
SCIE90002 Metabolomics and Proteomics	Semester 2	12.50
BTCH90005 Advanced Molecular Biology Techniques	Semester 2	12.50
SCIE90011 From Lab to Life	Semester 1	12.50
BTCH90009 Genomics and Bioinformatics	Semester 1	12.50

Discipline Elective

Students who have not completed the equivalent of BCMB30002 Functional Genomics and Bioinformatics or GENE30002 Genes: Organisation and Function as part of their undergraduate studies should enrol in one of BCMB30002 or GENE30002 in their first semester of study.

Students must choose five of the following subjects, or BCMB30002/GENE30002 and four of the following subjects:

Subject	Study Period Commencement:	Credit Points:
BTCH90006 Bioprocess Engineering	Semester 1	12.50
BTCH90010 Genetically Modified Organisms	Semester 1	12.50
BTCH90008 Tissue Engineering and Stem Cells	Semester 2	12.50
PHRM30009 Drugs in Biomedical Experiments	Semester 1, Semester 2	12.50
FOOD90011 Food Biotechnology	Semester 1	12.50
FOOD90008 Food Safety and Quality	Semester 2	12.50
BCMB30002 Functional Genomics and Bioinformatics	Semester 1	12.50
GENE30002 Genes: Organisation and Function	Semester 1	12.50

Professional Skills Core

Students must take:

Subject	Study Period Commencement:	Credit Points:
MAST90044 Thinking and Reasoning with Data	Semester 1	12.50
BUSA90403 Business Tools: Money People & Processes	Semester 2	12.50
BUSA90471 Business Tools: The Market Environment	Semester 1	12.50
SKIL90004 Project Management in Science	Semester 1	12.50

Professional Skills Elective

Students must choose two of the following subjects:

Subject	Study Period Commencement:	Credit Points:
MAST90045 Systems Modelling and Simulation	Semester 1	12.50
SCIE90005 Ethics and Responsibility in Science	Semester 2	12.50

	SCIE90007 E-Science	Not offered 2012	12.50
	SCIE90004 Science in Context	Not offered 2012	12.50
	MULT90012 Industry Project in Science	Semester 2	12.50
	SCIE90012 Science Communication	Semester 2	12.50
	MGMT90111 Management and Business Communication	Semester 1	12.50
	SCIE90006 Scientists,Communication & the Workplace	Semester 2	12.50
Entry Requirements:	An undergraduate degree with a major in a Life Science or Chemistry and at least 65% in the major or equivalent. As part of their degree studies, applicants must have completed an appropriate sequence of at least 25 points of second-year university-level genetics or biochemistry or equivalent subjects.		
Core Participation Requirements:	The Master of Biotechnology welcomes applications from students with disabilities. It is University and degree policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the degree. The Master of Biotechnology requires all students to enrol in subjects where they will require: (1) the ability to comprehend complex science and technology related information;(2) the ability to clearly and independently communicate a knowledge and application of science, and technology principles and practices during assessment tasks;(3) the ability to actively and safely contribute in clinical, laboratory, and fieldwork/excursion activities. Students must possess behavioural and social attributes that enable them to participate in a complex learning environment. Students are required to take responsibility for their own participation and learning. They also contribute to the learning of other students in collaborative learning environments, demonstrating interpersonal skills and an understanding of the needs of other students. Assessment may include the outcomes of tasks completed in collaboration with other students. There may be additional inherent academic requirements for some subjects, and these requirements are listed within the description of the requirements for each of these subjects. Students who feel their disability will impact on meeting this requirement are encouraged to discuss this matter with the relevant Subject Coordinator and the Disability Liaison Unit: http://www.services.unimelb.edu.au/disability/		
Graduate Attributes:	Graduates will have the ability to demonstrate advanced independent critical enquiry, analysis and reflection; have a strong sense of intellectual integrity and the ethics of scholarship; have in-depth knowledge of their specialist discipline(s); reach a high level of achievement in writing, project activities, problem-solving and communication; be critical and creative thinkers, with an aptitude for continued self-directed learning; be able to examine critically, synthesise and evaluate knowledge across a broad range of disciplines; have a set of flexible and transferable skills for different types of employment; be able to initiate and implement constructive change in their communities, including professions and workplaces.		
Professional Accreditation:	National Professional Science Master's Association (NPSMA)(http://www.npsma.org/ (http://www.npsma.org/))		
Links to further information:	http://graduate.science.unimelb.edu.au/programs/biotech.php		