MC-SCIBIT Master of Biotechnology

Year and Campus:	2015 - 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:	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. 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. 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. 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. In the second year of study students will work in groups to undertake an Industry Project with a company external to the University. Outstanding students may replace the Industry Project with the Research Project, depending upon the availability of a suitable project and supervisor. Upon successful completion of the Research Project, students may be eligible to apply to study for a PhD at the University of Melbourne.
Learning Outcomes:	Upon completion of this course, students should have: # 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:	**200 Point Program**

Students must complete 200 points including:

- Core subjects (175 points);
- Elective subjects (25 points).

100 Point Program

Students must complete 100 points of core subjects

Subject Options:

Core - 200 Point Program

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
SKIL90004 Project Management in Science	Semester 1	12.50
MAST90072 Data and Decision Making	Semester 1	12.50
MGMT90171 Leadership in Science	Semester 1	12.50
MKTG90022 Commercialisation of Science	Semester 2	12.50
LAWS90003 Regulation of Biotechnology	Semester 2	12.50
SCIE90006 Scientists,Communication & the Workplace	Semester 2	12.50
SCIE90015 Industry Project in Biotechnology	Year Long	25
BTCH90010 Genetically Modified Organisms	Semester 1	12.50

Elective - 200 Point Program

** 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 25 points from the following subjects, or BCMB30002/GENE30002 and one other of the following subjects:

Subject	Study Period Commencement:	Credit Points:
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
BMEN90011 Tissue Engineering & Stem Cells	Semester 2	12.50
CHEN90031 Bioprocess Engineering	Semester 1	12.50
SCIE90016 Biotechnology Research Project	Year Long	25

CEDB30002 Concepts in Cell & Developmental Biology	Semester 1	12.50
CEDB30004 Stem Cells in Development & Regeneration	Semester 2	12.50
BOTA30005 Plant Molecular Biology & Biotechnology	Semester 2	12.50
BTCH30001 Methods in Agrifood Biotechnology	Semester 1	12.50
BTCH30002 Trends & Issues in Agrifood Biotechnolog	Semester 1	12.50
VETS30011 Animal Disease Biotechnology 1	Semester 1	12.50
VETS30012 Animal Disease Biotechnology 2	Semester 2	12.50
BUSA90471 Business Tools: The Market Environment	Semester 1	12.50
BUSA90403 Business Tools: Money People & Processes	September	12.5

Core - 100 Point Program

Students must complete all of the following

Subject	Study Period Commencement:	Credit Points:
SCIE90015 Industry Project in Biotechnology	Year Long	25
SCIE90011 From Lab to Life	Semester 1	12.50
MKTG90022 Commercialisation of Science	Semester 2	12.50
MGMT90171 Leadership in Science	Semester 1	12.50
SKIL90004 Project Management in Science	Semester 1	12.50
LAWS90003 Regulation of Biotechnology	Semester 2	12.50
SCIE90006 Scientists,Communication & the Workplace	Semester 2	12.50

Entry Requirements:

In order to be considered for entry, applicants must have completed:

• an undergraduate degree with a major in a Life Science or Chemistry, with a weighted average mark of at least H3 (65%), including an appropriate sequence of at least 25 points of second-year genetics or biochemistry or equivalent subjects

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Meeting these requirements does not guarantee selection.

In ranking applications, the Selection Committee will consider prior academic performance.

The Selection Committee may seek further information to clarify any aspect of an application in accordance with the **Admission and Selection into Course Policy (http://policy.unimelb.edu.au/MPF1035)** .

Applicants are required to satisfy the university's **English language requirements for postgraduate courses (http://www.policy.unimelb.edu.au/schedules/MPF1035-ScheduleA.pdf)** . For those applicants seeking to meet these requirements by one of the standard tests approved by the Academic Board, performance band 6.5 is required.

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100 Point Program: Applicants with an Honours degree in a Life Science or Chemistry, including an appropriate sequence of at least 25 points of second-year genetics or biochemistry or equivalent subjects, may be awarded up to 100 points of credit and may be eligible to enter the 100 point program

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/