786AB Graduate Diploma in Biotechnology

Year and Campus:	2010 - Parkville
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	100 credit points taken over 12 months full time. This course is available as full or part time.
Coordinator:	Dr David Tribe
Contact:	Course Coordinator: Dr David Tribe detribe@unimelb.edu.au
Course Overview:	Biotechnology is the application of molecular, genetic and cellular techniques from the life sciences for practical contribution to human welfare, often applied in a commercial setting. It includes both medical areas such as vaccine and drug development, industrial activities such as hormone manufacturing using large scale cell culture or drug synthesis using enzyme catalysis, and non-medical applications such as waste treatment and biofuel production. The Graduate Diploma in Biotechnology offers a flexible path of personal and professional development that suited for entry into a wide range of biotechnology industries and research enterprises.
Objectives:	The framework of the Graduate Diploma in Biotechnology is designed to allow students of diverse backgrounds great flexibility of subject choice according to their area of particular interest. It provides students with an opportunity to catch up on the introductory aspects of certain subjects, and permits specialisation in advanced subjects. There is an opportunity to obtain significant experimental experience during the research project which is part of the diploma training. The course is designed to: # foster acquisition of a broad range of up to date knowledge appropriate for employment in the biotechnology sector # develop research, analytical, and communication skills # provide significant research experience through 'on the job' training ; # provide skills in advanced techniques through using state of the art equipment; # develop leadership for the science-biotechnology base of industry, economy and human welfare.
Course Structure & Available Subjects:	Completion of 100 points from a selection of approved subjects offered in the disciplines of Anatomy and Cell Biology, Biochemistry, Botany, Chemical Engineering, Chemistry, Genetics, History and Philosophy of Science, Medical Biology, Microbiology, Pathology, Pharmacology and Physiology. All students are required to do 510-801 Major Project in Biotechnology (25 points). A minimum of 37.5 points from Group A subjects (see list below). The remaining 37.5 points may be from Group A, Group B, Group C or non-group subjects (eg offered by Engineering, Agriculture and Forestry, Arts, Law and Social Science as approved by the course coordinator), with no more than 12.5 points from Group B. *Quota:* Some of the subjects offered in this course are quota subjects. The selection of students in quota-restricted subjects is based primarily on tertiary results.
Majors/Minors/ Specialisations	.
Subject Options:	. Core Subject: **Core Subject** Core Subject:

Subject	Study Period Commencement:	Credit Points:
BTCH90002 Major Project in Biotechnology	January, Semester 1, Semester 2	25

Group A Subjects (At least 37.5 points of the course must be taken from this group):

Group A Subjects

Group A Subjects:

Subject	Study Period Commencement:	Credit Points:
411-335 Biochemical/Environmental Engineering 1B	Not offered 2010	6.25
CHEN40010 Biochemical/Environmental Engineering 2	Semester 2	12.50
BCMB30001 Protein Structure and Function	Semester 2	12.50
BCMB30002 Functional Genomics and Bioinformatics	Semester 1	12.50
BCMB30003 Molecular Aspects of Cell Biology	March	12.50
526-301 Microbial Cells and Genomes	Not offered 2010	
526-302 Microbial Biotechnology	Not offered 2010	
610-333 Molecular Technology	Not offered 2010	
GENE30002 Genes: Organisation and Function	Semester 1	12.50

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Group B Subjects (No more than 12.5 points should be taken from this group):

Group B Subjects:

Group B Subjects:

Subject	Study Period Commencement:	Credit Points:
516-201 Cell Biology: Tissues and Organs	Not offered 2010	12.50
BCMB20002 Biochemistry and Molecular Biology	Semester 1	12.50
BCMB20003 Biochemical Regulation of Cell Function	Semester 2	12.50
BCMB20005 Techniques in Molecular Science	Semester 1, Semester 2	12.50
MIIM20001 Principles of Microbiology & Immunology	Semester 1	12.50
MIIM20002 Microbes, Infections and Responses	Semester 2	12.50
MIIM20003 Experimental Microbiology	Semester 1, Semester 2	12.50
PATH20001 Exploring Human Disease - Science	Semester 2	12.50
PHRM20001 Pharmacology: How Drugs Work	Semester 2	12.50
536-201 Principles of Physiology	Not offered 2010	12.50
536-202 Physiology (General Practical)	Not offered 2010	
606-205 Cell Biology: Concepts and Diversity	Not offered 2010	12.50
610-220 Organic Chemistry	Not offered 2010	12.50
610-260 Analysis in Chemical and Life Sciences	Not offered 2010	12.50

GENE20001 Principles of Genetics	Semester 1	12.50
GENE20002 Genes and Genomes	Semester 2	12.50
GENE20003 Experiments in Genetics	Semester 1, Semester 2	12.50

Group C Subjects:

Group C Subjects

Group C Subjects:

Subject	Study Period Commencement:	Credit Points:
BTCH90003 Biotechnology Research Methods	Semester 1, Semester 2	25
CEDB30003 Developmental Biology	Semester 2	12.50
BCMB30004 Cell Signalling and Neurochemistry	Semester 2	12.50
521-305 Biochemistry of Metabolism & Nutrition	Not offered 2010	
521-307 Biomolecular Structure & Bioinformatics	Not offered 2010	12.50
521-321 Gene Technology & Protein Expression	Not offered 2010	12.50
521-322 Protein Biochemistry and Proteomics	Not offered 2010	12.50
MIIM30002 Principles of Immunology	Semester 1	12.50
MIIM30003 Medical and Applied Immunology	Semester 2	12.50
526-321 Molecular Microbiology Techniques	Not offered 2010	
526-324 Immunological Techniques	Not offered 2010	
526-326 Projects: Immunology	Not offered 2010	
526-327 Projects: Microbiology	Not offered 2010	
PATH30001 Mechanisms of Human Disease	Semester 1	12.50
PATH30002 Techniques for Investigation of Disease	Semester 1	12.50
PATH30003 Consequences of Human Disease	Semester 2	12.50
534-301 Cellular and Molecular Pharmacology	Not offered 2010	
PHRM30002 Drugs Affecting the Nervous System	Semester 2	12.50
534-305 Toxicology	Not offered 2010	
534-306 Drug Discovery	Not offered 2010	
PHYS30001 Cardiovascular Health: Genes & Hormones	Semester 1	12.50
536-302 Molecular Neurophysiology	Not offered 2010	
536-311 Molecular/Cellular Basis of Physiology	Not offered 2010	
606-309 Frontiers of Cell Biology	Not offered 2010	
CHEM30004 Organic Chemistry IIIA	Year Long	12.50
GENE30001 Evolutionary Genetics and Genomics	Semester 1	12.50
GENE30004 Genetic Analysis	Semester 2	12.50

	GENE30005 Human and Medical Genetics	Semester 2	12.50
	652-306 Experimental Genetics	Not offered 2010	12.50

Entry Requirements:	A bachelor degree in science, engineering or other approved qualifications. Preference will be given to candidates with relevant work experience. Candidates are expected to provide evidence that they have already completed at least one university course in Biology and at least one University course in Chemistry.
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website : http://www.services.unimelb.edu.au/disability/
Graduate Attributes:	.
Notes:	Students will complete normal end of semester examinations for the subjects in which they have enrolled. Satisfactory completion of subjects worth 75 points, along with satisfactory completion of the 25 point research project, is required to obtain the Graduate Diploma in Biotechnology.