352-BM Master of Engineering Science(Biomedical Enginering)

Year and Campus:	2008
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	
Contact:	Course Coordinator Emmanuel Koumoundouros E: emmanuel@unimelb.edu.au Faculty of Engineering Rebecca Randall E: r.randall@unimelb.edu.au
Course Overview:	The Master of Biomedical Engineering is designed to provide students from engineering and the quantitative science disciplines with a transition pathway to the exciting and growing field of biomedical engineering. Rapid advances in our understanding of the building blocks of life, of basic cellular processes, of new biomaterials and the widespread availability of high speed computers, has led to the current revolution in the biomedical sciences and medicine. There is a growing demand for people with strong mathematical and problem-solving skills to be part of multidisciplinary teams. This has traditionally been the role of the engineer or the physical scientist. However, those with strong mathematical ability and physical insight have often had limited exposure to the biological and health sciences. This course will facilitate a transition to the biological and health sciences through a series of subjects that: # reinforce key understanding of physical processes in the context of biological systems, # serve to orient the student in the biological sciences so as to undertake further self directed learning, and # provide in-depth understanding in a selected number of subjects.
Objectives:	-
Course Structure & Available Subjects:	A three-semester program on a full-time basis comprised of 150 points, consisting of the subjects required for the Master of Biomedical Engineering with the addition of two research subjects and a corresponding reduction in the number of points allocated to elective subjects.

Subject Options:

Core subjects (25 points)

Subject	Study Period Commencement:	Credit Points:
421-698 Biomedical Engineering	Semester 1	12.50
421-693 Anatomy & Physiology for Engineers	Semester 2	12.50

Research subjects (62.5 points)

Subject	Study Period Commencement:	Credit Points:
421-642 Research Topic	Semester 1, Semester 2	12.50
421-644 Research Project	Semester 1, Semester 2	50

Elective subjects (62.5 points)

Taken from the list below or other subjects with the approval of the Course Coordinator

Subject	Study Period Commencement:	Credit Points:
411-650 Tissue Engineering and Bionanotechnology	2	12.500
421-631 Neuroimaging Methods and Applications	Semester 1	12.50
421-692 Biological Systems Engineering	Semester 2	12.50
421-699 Forces, Fields and Flows in Bio Systems	Semester 1	12.50

	433-650 Computational Gene Expression	Semester 2	12.50
	431-671 Auditory Processing and Hearing Bionics	Semester 2	12.50
	431-672 Neural Information Processing	Semester 1	12.50
	431-673 Clinical Engineering	Semester 2	12.50
	421-615 Neuroimaging Modelling and Analysis	Semester 2	12.50

Entry Requirements:

Academic Requirements

A four-year degree in Engineering or a Science honours degree including mathematics and chemistry or equivalent, normally with an average grade of at least H2B (70%) (University of Melbourne equivalent)
or
A three-year degree in an Engineering or Science related discipline, or equivalent, and a Postgraduate/Graduate Diploma in Engineering normally with an average grade of at least 70% (University of Melbourne equivalent) or with two years documented relevant work experience or other postgraduate experience to be assessed on a case-by-case basis

Language Requirements

International students and students whose prior qualifications are from a university overseas where English is not the official language of instruction and examination need to supply proof of academic English language competency.

Proof acceptable to the University includes:

Original evidence of an English Language test score at a sitting within the last 24 months of either -

TOEFL - at least 577 and a TWE of at least 4.5 (paper based) or a TOEFL of at least 233 with an Essay Rating of at least 4.5 (computer based)
or
IELTS - at least 6.5. (A minimum band score of 6 is required in the Academic Writing module).

Entry under a slightly lower Engineering alternative * English Language entry requirement is available as follows:

TOEFL - at least 550, with a TWE of 4 or the computer based TOEFL of at least 213 with an Essay Rating Score of at least 4 and agreeing in writing to undertake and pass an ESL subject in the first semester of study at the University of Melbourne
or
IELTS - at least 6 and agreeing in writing to undertake and pass an ESL subject in the first semester of study at the University of Melbourne.

* The Faculty of Engineering's English Language alternative may affect the duration and cost of your program.

Core Participation Requirements:	-
Further Study:	-
Graduate Attributes:	-
Generic Skills:	-