BMEN90015 Biomedical Engineering

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 48 hours Total Time Commitment: 120 hours for the semester
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	When undertaking this subject students can not gain credit for the following subject

Subject	Study Period Commencement:	Credit Points:
421-698 Biomedical Engineering	Not offered 2010	

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/
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Subject Overview:	Definition and scope of biomedical engineering. Brief history of medicine, including human anatomy, physiology, and the rise of modern molecular biology. Description of the development of quantitative methods in biology, and the role of engineering in understanding complex biological systems. Topics covered include biomaterials and physiologic modelling of systems at various levels. Brief description of relevant laws, professional ethics and the regulatory environment.
Objectives:	On successful completion, students should be able to # Describe the evolution in understanding of biological systems and its effect on medicine # Describe the multidisciplinary nature of biomedical engineering # Describe the role of mathematical modelling in understanding biological systems # Develop skills in qualitative description of biological systems and medical conditions # Develop skills in constructing approximate models describing biological systems # Have exposure to a range of problems in which biomedical engineers may play a role # Develop an appreciation of the regulatory environment for product development

	# Develop an appreciation of ethical dilemmas that arise in the medical practice
Assessment:	One 2-hour examination (50%) Two assignments totalling 3000 words equivalent (50%)
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	# Ability to apply knowledge of basic science and engineering fundamentals # In-depth technical competence in at least one engineering discipline # Ability to undertake problem identification, formulation and solution # Ability to utilise a systems approach to design and operational performance # Capacity for independent critical thought, rational inquiry and self-directed learning # Ability to communicate effectively, with the engineering team and with the community at large
Notes:	Subject replaces 421-698 Biomedical Engineering from 2010
Related Course(s):	Master of Biomedical Engineering