

BMEN90017 Biomedical Engineering Design Project

Credit Points:	25
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2012, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 36 hours Total Time Commitment: 240 hours
Prerequisites:	Prerequisites for this subject are: # BMEN90020 Biomedical Design and Regulation (this subject may be taken concurrently) AND # At least four 9-level Master of Engineering (Biomedical) electives
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
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/
Coordinator:	Assoc Prof David Grayden
Contact:	Assoc Prof David Grayden Email: grayden@unimelb.edu.au (grayden@unimelb.edu.au)
Subject Overview:	This subject involves undertaking a major design project, requiring independent investigation in a team context to produce an advanced biomedical engineering design in a timely and professional manner. Examples of possible design problems could include the development of a pacemaker and sensor, development of new methods for delivering personalized medical treatments, a new drug delivery device, glaucoma prosthesis or method or design for a new artificial heart or ventricular assist device. In addition to written reports, students will present their findings in a conference presentation format, held at the end of the project cycle in the second half of the semester.
Objectives:	At the end of this subject, students should be able to: # Work as part of an interdisciplinary team to complete a technical project; # Develop a range of strategies and choose a preferred strategy that satisfies performance, safety, regulatory, economic and sustainability requirements; # Undertake the technical computations required to justify the design solution; # Write a technical report and/or design specifications; # Present their work to the class; # Assess the work of their peers.
Assessment:	The major components of assessment are based on the student's ability to participate and contribute to a team based engineering design project. Specifically, students will be assessed on their ability to: Select and manage, through project planning and scheduling, a variety of design processes to achieve a given end; Work in small, diverse teams acting professionally; Analyse and design an advanced biomedical device or process; Explore, evaluate and apply complex inter-related concepts in problem identification, analysis, design and synthesis, and evaluation, culminating in a professional engineering solution; Communicate the design findings

	effectively in written and oral presentations. Each component of assessment is worth 20% of the final mark. To pass the subject students must obtain at least 50% overall, and 10/20 for each of the components.
Prescribed Texts:	TBA
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:	<ul style="list-style-type: none"> # Ability to undertake problem identification, formulation, and solution # Ability to utilise a systems approach to complex problems and to design and operational performance # Ability to conduct an engineering project # Ability to communicate effectively, with the engineering team and with the community at large # Ability to manage information and documentation # Capacity for creativity and innovation # Ability to function effectively as an individual and in multidisciplinary and multicultural teams, as a team leader or manager as well as an effective team member # Capacity for lifelong learning and professional development
Related Majors/Minors/ Specialisations:	Master of Engineering (Biomedical)