

BMEN90014 Biomedical Engineering Research Project

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2016.
Time Commitment:	Contact Hours: 24 hours Total Time Commitment: 200 hours.
Prerequisites:	Successful completion of 4 x Level 9 BMEN subjects.
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/
Contact:	Email: grayden@unimelb.edu.au (mailto:grayden@unimelb.edu.au)
Subject Overview:	<p>AIMS</p> <p>Students successfully completing this unit should be able to plan and conduct an independent research project on biomedical engineering.</p> <p>INDICATIVE CONTENT</p> <p>Candidates will undertake, as individuals or as a member of a team, a designated investigative project which could involve a critical literature review, experimental research and/or development, theoretical modelling, process simulation and/or the solution of an industrial problem. Rigorous planning and scheduling of the project, time management, written and verbal technical communication, interpretation of results and team work will be required.</p>
Learning Outcomes:	<p>INTENDED LEARNING OUTCOMES (ILO's)</p> <p>Having completed this unit the student should be able to:</p> <ol style="list-style-type: none"> 1 Search, analyse and document engineering science and other relevant literature in order to determine the need for further research in a chosen area; 2 Devise a methodology of investigation to improve knowledge or understanding of a chosen topic; 3 Collect and analyse a range of data (both qualitative and quantitative) to improve our collective understanding of a chosen topic; 4 Write a project report that follows good engineering science practice; 5 Present an oral presentation of the findings of an investigation to an audience of peers or lay people.
Assessment:	A written report of up to 4000 words, not including appendices, diagrams, tables, computations and computer output, due towards the end of semester requiring 65-75 hours of work per student (50%); An oral presentation during the end of semester examination period, requiring 30-35 hours of work per student (25%); An assessment of the quality of the student's research work (25%). Intended Learning Outcomes (ILO's) 1, 2 and 3 are assessed in all assessment components. ILO 4 is assessed in the final written reports. ILO5 is assessed in the oral presentation.
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:	<p>On completion of this subjects, students should have developed the following generic skills:</p> <ul style="list-style-type: none"> # Ability to apply knowledge of basic science and engineering fundamentals # Ability to communicate effectively, not only with engineers but also with the community at large # In-depth technical competence in at least one engineering discipline # Ability to undertake problem identification, formulation and solution # Ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member # Capacity for independent critical thought, rational inquiry and self-directed learning # Intellectual curiosity and creativity, including understanding of the philosophical and methodological bases of research activity # Profound respect for truth and intellectual integrity, and for the ethics of scholarship
Notes:	<p>LEARNING AND TEACHING METHOD</p> <p>The subject is delivered through weekly meetings with academic project supervisor(s).</p> <p>INDICATIVE KEY LEARNING RESOURCES</p> <p>Time spent under the mentorship of academic supervisor(s). Accessing literature through the books, on-line and journal papers. Possible laboratory experience or other experimental research and/or modelling.</p> <p>CAREERS / INDUSTRY LINKS</p> <p>Exposure to biomedical engineering in industry, hospitals and research laboratories through collaborative projects with external co-supervision arrangements.</p>