

Master of Engineering (Biomedical)

Year and Campus:	2010										
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Overview:	<p>Biomedical engineers bridge the gap between technology, medicine and biology. In this specialisation, students choose to focus on areas including biomechanical engineering, bioengineering, bio-informatics, bio-cellular engineering, biosignals, neuro-engineering or clinical engineering.</p> <p>They benefit from the reputation of the University and the School of Engineering for biomedical innovation, in particular, for the development of the bionic ear. Graduates can expect to work in the biotechnology, biomedical or pharmaceutical industries, in research and innovation, in the health services or in government and consulting.</p>										
Objectives:	To produce graduates who are both skilled in biomedical engineering principles and have the ability to apply them to complex, open-ended engineering tasks and problems.										
Structure & Available Subjects:	<p>The Master of Engineering (Biomedical) consists of 300 points of study, typically across six semesters. This includes:</p> <ul style="list-style-type: none"> # 100 points of foundation study tailored to individual students who enter from non-Engineering backgrounds; and # 200 points of mainly engineering discipline specific study at the level of depth required to practice as a professional engineer upon graduation, including a 25-point capstone project completed in the final year of study. <p>From 2011, students entering with appropriate engineering background may be granted up to 150 point of credit. For example, students entering from the University of Melbourne new generation Bachelor of Science with an 'Engineering Systems' major will be granted 100 points of credit for the foundation year. Credit will also be granted to students who have completed a specified breadth sequence in the new generation Bachelor of Commerce or appropriate electives as part of any major in the new generation Bachelor of Science. Students entering from another institution may also be awarded credit in this way.</p> <p>As the Master of Engineering commences in 2010 only the first year of the structure and available subjects are shown. For further information about structures and subjects see: http://www.eng.unimelb.edu.au/Postgrad/MEng/me_biomedical.html (http://www.eng.unimelb.edu.au/Postgrad/MEng/me_biomedical.html)</p>										
Subject Options:	<p>Core and elective requirements in the Master of Engineering (Biomedical) Students must complete 87.5 credit points (seven subjects) of common core subjects in the first year of the Master of Engineering (Biomedical). Students must complete an additional 12.5 credit point (one subject) core subject in either biology or chemistry (dependent on background).</p> <p>First year common core subjects in the Master of Engineering (Biomedical) The following core subjects must be taken in the first year of the Master of Engineering (Biomedical)</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BMEN30005 Biomechanics and Biotransport</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>BMEN30006 Fundamentals of Biosignals</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>		Subject	Study Period Commencement:	Credit Points:	BMEN30005 Biomechanics and Biotransport	Semester 1	12.50	BMEN30006 Fundamentals of Biosignals	Semester 1	12.50
Subject	Study Period Commencement:	Credit Points:									
BMEN30005 Biomechanics and Biotransport	Semester 1	12.50									
BMEN30006 Fundamentals of Biosignals	Semester 1	12.50									

	MAST20029 Engineering Mathematics	Summer Term, Semester 1, Semester 2	12.50
	BMEN30007 Biocellular Systems Engineering	Semester 2	12.50
	ENGR90021 Engineering Communication	Semester 1, Semester 2	12.50
	BMEN30008 Biosystems Design	Semester 2	12.50
	COMP20005 Engineering Computation	Semester 1, Semester 2	12.50
	First year core subject - Chemistry background		
	Students must select one of the following core subjects from the list below in the first year of the Master of Engineering (Biomedical) if the student's background is in Chemistry		
	Subject	Study Period Commencement:	Credit Points:
	BIOL10004 Biology of Cells and Organisms	Semester 1	12.50
	BIOL10005 Genetics & The Evolution of Life	Semester 2	12.50
	First year core subject - Biology background		
	Students must select the following core subject in the first year of the Master of Engineering (Biomedical) if the student's background is in Biology		
	Subject	Study Period Commencement:	Credit Points:
	CHEM10003 Chemistry 1	Semester 1, Semester 2	12.50
Links to further information:	http://www.eng.unimelb.edu.au/Postgrad/MEng/me_biomedical.html		
Related Course(s):	Master of Engineering		