

## BIEN90003 Biochemical Engineering Minor Thesis

<b>Credit Points:</b>	25						
<b>Level:</b>	9 (Graduate/Postgraduate)						
<b>Dates &amp; Locations:</b>	<p>2015, Parkville</p> <p>This subject commences in the following study period/s:            Summer Term, Parkville - Taught on campus.            Semester 1, Parkville - Taught on campus.            Semester 2, Parkville - Taught on campus.</p> <p>It may be possible to complete your Research Project overseas at another university. If this is of interest, please discuss it with the Subject Co-ordinator.</p>						
<b>Time Commitment:</b>	Contact Hours: 200 hours of supervised research and 1 x two hour lecture (first week of semester only) + 5 x one hour lectures in the next few weeks of semester Total Time Commitment: Estimated 400 hours						
<b>Prerequisites:</b>	<p>Students must have achieved a grade of at least 75% in the following subject</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BIEN90001 Biochemical Engineering Research Project</td> <td>Summer Term, Semester 1, Semester 2</td> <td>25</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	BIEN90001 Biochemical Engineering Research Project	Summer Term, Semester 1, Semester 2	25
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BIEN90001 Biochemical Engineering Research Project	Summer Term, Semester 1, Semester 2	25					
<b>Corequisites:</b>	None						
<b>Recommended Background Knowledge:</b>	None						
<b>Non Allowed Subjects:</b>	<p>Credit will not be obtained for both this subject and the following subject</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CHEN90030 Chemical Engineering Minor Thesis</td> <td>Summer Term, Semester 1, Semester 2</td> <td>25</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CHEN90030 Chemical Engineering Minor Thesis	Summer Term, Semester 1, Semester 2	25
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<b>Core Participation Requirements:</b>	<p>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: <a href="http://www.services.unimelb.edu.au/disability/">http://www.services.unimelb.edu.au/disability/</a></p>						
<b>Coordinator:</b>	Prof Geoff Stevens						
<b>Contact:</b>	Email: <a href="mailto:gstevens@unimelb.edu.au">gstevens@unimelb.edu.au</a> ( <a href="mailto:gstevens@unimelb.edu.au">mailto:gstevens@unimelb.edu.au</a> )						
<b>Subject Overview:</b>	<p><b>AIMS</b></p> <p>Candidates will undertake as individuals a high level investigative research 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, technical communication, interpretation of results and team work will be required.</p> <p>This subject is designed for students who have demonstrated an ability to undertake a research project to a high standard and who wish to continue and extend the project to another semester. The subject is well-suited to students intending to undertake a research higher degree on completion of their Masters program.</p>						

	<p><b>INDICATIVE CONTENT</b></p> <p>The exact content covered in the subject will depend to some extent on the nature of the research project. Topics covered will most probably include literature searches, laboratory safety, risk assessment, data modelling, data analysis, error analysis and report writing.</p>
<b>Learning Outcomes:</b>	<p><b>INTENDED LEARNING OUTCOMES (ILO)</b></p> <p>On completion of this subject the student is expected to:</p> <ol style="list-style-type: none"> <li>1 Develop expertise in the methodologies of research in Biochemical Engineering</li> <li>2 Plan and conduct an individual research project</li> <li>3 Present in writing and orally the results of their research</li> </ol>
<b>Assessment:</b>	<p>A written report of approximately 35 pages, not including appendices, diagrams, tables, computations and computer output (50%). Time commitment of approximately 180-200 hours. Intended Learning Outcomes (ILOs) 2 and 3 will be assessed through this written report. Due at the end of Semester A 30 minute oral presentation supported either by powerpoint slides or a poster (25%). Time commitment of approximately 80-100 hours. ILOs 2 and 3 will be assessed through the student's presentation. Assessed throughout the teaching period within semester (starts from week 2) Assessment of the quality of the student's research work (25%) . ILOs 1 and 2 will be assessed through the student's performance in research workspace. Assessed throughout semester.</p>
<b>Prescribed Texts:</b>	None
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<ul style="list-style-type: none"> <li># The ability to undertake problem identification, formulation and solution</li> <li># Capacity for independent critical thought, rational inquiry and self-directed learning</li> <li># The ability to communicate effectively orally and in writing</li> <li># The ability to plan work and use time effectively. Intellectual curiosity and creativity, including understanding of the philosophical and methodological bases of research activity</li> <li># Profound respect for truth and intellectual integrity, and for the ethics of scholarship.</li> </ul>
<b>Notes:</b>	<p><b>LEARNING AND TEACHING METHODS</b></p> <p>Students will receive one-on-one instruction on how to complete an open-ended research project on some topic in biomolecular engineering. Students will take responsibility for their time management setting priorities and establishing a program that will allow them to complete their project within the time allowed.</p> <p><b>INDICATIVE KEY LEARNING RESOURCES</b></p> <p>Students will be guided throughout their project by one or two researchers associated with the research activity that they have been assigned to. These researchers will be their guides and mentors on the project. Students will also be provided with access to key relevant research papers. They will be expected to identify further material which they will be able to access through the University Library system. Students will also have access to appropriate software packages.</p> <p><b>CAREERS / INDUSTRY LINKS</b></p> <p>This subject will prepare students well for a career in research, laying a solid foundation for a research higher degree program.</p>
<b>Related Majors/Minors/ Specialisations:</b>	Master of Engineering (Biochemical)