

# BMEN90025 Biomedical Eng Research Project A

| <b>Credit Points:</b>                      | 12.50   |                |  |         |                            |                |  |                                   |       |
|--|---|----------------|--|---------|----------------------------|----------------|--|-----------------------------------|-------|
| <b>Level:</b>                              | 9 (Graduate/Postgraduate)   |                |  |         |                            |                |  |                                   |       |
| <b>Dates &amp; Locations:</b>              | This subject is not offered in 2014.  |                |  |         |                            |                |  |                                   |       |
| <b>Time Commitment:</b>                    | Contact Hours: 2 x one hour lectures and up to 24 hours of meetings with supervisors<br>Total Time Commitment: 400 hours  |                |  |         |                            |                |  |                                   |       |
| <b>Prerequisites:</b>                      | <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BMEN90020 Biomedical Design and Regulation</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p><b>AND</b></p> <p>Four level 9 BMEN subjects</p> <p><b>PLUS</b></p> <p>BMEN90025 Biomedical Eng Research Project A can only be taken in the final 2 semesters of enrolment.</p>  |                |  | Subject | Study Period Commencement: | Credit Points: | BMEN90020 Biomedical Design and Regulation | Semester 1                        | 12.50 |
| Subject                                    | Study Period Commencement:  | Credit Points: |  |         |                            |                |  |                                   |       |
| BMEN90020 Biomedical Design and Regulation | Semester 1  | 12.50          |  |         |                            |                |  |                                   |       |
| <b>Corequisites:</b>                       | N/A   |                |  |         |                            |                |  |                                   |       |
| <b>Recommended Background Knowledge:</b>   | N/A   |                |  |         |                            |                |  |                                   |       |
| <b>Non Allowed Subjects:</b>               | <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BMEN90018 Research/Industry Project</td> <td>Year Long, Semester 1, Semester 2</td> <td>25</td> </tr> </tbody> </table>  |                |  | Subject | Study Period Commencement: | Credit Points: | BMEN90018 Research/Industry Project        | Year Long, Semester 1, Semester 2 | 25    |
| Subject                                    | Study Period Commencement:  | Credit Points: |  |         |                            |                |  |                                   |       |
| BMEN90018 Research/Industry Project        | Year Long, Semester 1, Semester 2   | 25             |  |         |                            |                |  |                                   |       |
| <b>Core Participation Requirements:</b>    | <p>&lt;p&gt;For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.&lt;/p&gt; &lt;p&gt;It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>   |                |  |         |                            |                |  |                                   |       |
| <b>Contact:</b>                            | A/Prof Leigh Johnston<br>Email: <a href="mailto:l.johnston@unimelb.edu.au">l.johnston@unimelb.edu.au</a> (mailto:l.johnston@unimelb.edu.au)   |                |  |         |                            |                |  |                                   |       |
| <b>Subject Overview:</b>                   | <p><b>AIMS</b></p> <p>This subject involves undertaking a major research or advanced innovative design project requiring an independent investigation and the preparation of reports on an approved topic. Students will present their findings in a conference presentation format, held at the end of the project cycle in the latter half of semester two. The emphasis of the project can be associated with either:</p> <ul style="list-style-type: none"> <li># Explorative approach, where students will pursue outcomes associated with new knowledge or understanding within the biomedical engineering or science disciplines, often as an adjunct to existing academic research initiatives.</li> <li># A well-defined innovative project, usually based on a research and development required by an external industrial client. Students will be tutored in the synthesis of practical solutions to complex technical problems within a structured working environment, as if they were research and development professional engineers.</li> </ul> <p><b>INDICATIVE CONTENT</b></p> |                |  |         |                            |                |  |                                   |       |

|                           |  |
|---------------------------|--|
|                           | <p>Topics include: Technical report writing, engineering design planning and conducting experiments and test, data acquisition and analysis, public speaking, project presentation skills.</p> <p>This subject has been integrated with the Skills Towards Employment Program (STEP) and contains activities that can assist in the completion of the Engineering Practice Hurdle (EPH).</p> <p><b>Note: Enrolment in BMEN90025 Biomedical Eng Research Project A is subject to approval from the subject coordinator. BMEN90025 Biomedical Eng Research Project A is of year-long duration. Students commence this subject in Semester 2 and continue in the consecutive semester (Semester 1 in the following year). Upon successful completion of this project, students will receive 25 points credit.</b></p>   |
| <b>Learning Outcomes:</b> | <p>Having completed this unit the student should be able to:</p> <ol style="list-style-type: none"> <li>1 Search, analyse and document engineering science and other relevant literature in order to determine the need for further research in a chosen area;</li> <li>2 Devise a methodology of investigation to improve knowledge or understanding of a chosen topic;</li> <li>3 Collect and analyse a range of data (both qualitative and quantitative) to improve our collective understanding of a chosen topic;</li> <li>4 Write a project report that follows good engineering science practice;</li> <li>5 Present an oral presentation of the findings of an investigation to an audience of peers or lay people.</li> </ol>   |
| <b>Assessment:</b>        | <p>A draft submission of the Final Report, requiring 60-70 hours work, in week 9 of the final semester, worth 10%. ILOs 1-4 are assessed in this report. A professional engineering research report (Final Report) of 5,000 words per student, excluding appendices of supporting material that can include diagrams, tables, computations and computer code/output, requiring 180-200 hours of work, in week 12 of the final semester, worth 60%. ILOs 1-4 are assessed in this report. A technical oral examination of no more than one half hour duration per student. Technical oral examination includes a formal presentation of 15 minutes per student followed by questions from an academic supervisor and academic examiner, in Week 10-11 of the final semester, worth 15%. ILOs 1-3,5 are assessed in this examination. A lay person oral examination of no more than 15 minutes duration, in week 11-12 of the final semester, worth 5%. ILOs 1-3,5 are assessed in this examination Static display materials (e.g. poster, computer demonstration, prototype), in week 11- 12 of the final semester, worth 10%. ILOs 1-3 are assessed in this component.</p> |
| <b>Prescribed Texts:</b>  | None   |
| <b>Recommended 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># Ability to undertake problem identification, formulation and solution</li> <li># Ability to function effectively as an individual and as a member of a collaborative research team</li> <li># Understanding of the principles of research</li> <li># Capacity for independent critical thought, rational inquiry and self-directed learning</li> <li># Openness to new ideas and unconventional critiques of received wisdom</li> </ul>   |