

# ELEN90067 Electrical Engineering Capstone Project

<b>Credit Points:</b>	25												
<b>Level:</b>	9 (Graduate/Postgraduate)												
<b>Dates &amp; Locations:</b>	2016, Parkville This subject commences in the following study period/s: Year Long, Parkville - Taught on campus. Semester 1, Parkville - Taught on campus.												
<b>Time Commitment:</b>	Contact Hours: 12 one-hour lectures in semester one Total Time Commitment: 400 hours												
<b>Prerequisites:</b>	Prerequisites for students admitted into the B-ENG Bachelor of Engineering (Electrical) are: <b><u><a href="#">ELEN30013 Electronic System Implementation</a></u></b> ( <a href="#">../view/current/ELEN30013</a> ) PLUS ANY three other study-level 3 Electrical Engineering subjects PLUS At most 112.5 points left of the degree Prerequisites for students admitted into the MC-ENG Master of Engineering (Electrical) or (Electrical with Business) are: <b><u><a href="#">ELEN90066 Embedded System Design</a></u></b> ( <a href="#">../view/current/ELEN90066</a> ) PLUS ANY three other study-level 9 Electrical Engineering subjects PLUS At most 112.5 points left of the degree  Note: ELEN90067 Electrical Engineering Capstone Project can only be taken in the final 2 semesters of enrolment												
<b>Corequisites:</b>	None												
<b>Recommended Background Knowledge:</b>	None												
<b>Non Allowed Subjects:</b>	Anti-requisites for this subject are: <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ELEN40001 Project Work</td> <td>Not offered 2016</td> <td>25</td> </tr> <tr> <td>ELEN40012 Project Work</td> <td>Not offered 2016</td> <td>25</td> </tr> <tr> <td>ELEN90070 Electrical Engineering Capstone ProjectA</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	ELEN40001 Project Work	Not offered 2016	25	ELEN40012 Project Work	Not offered 2016	25	ELEN90070 Electrical Engineering Capstone ProjectA	Semester 1, Semester 2	12.50
Subject	Study Period Commencement:	Credit Points:											
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ELEN40012 Project Work	Not offered 2016	25											
ELEN90070 Electrical Engineering Capstone ProjectA	Semester 1, Semester 2	12.50											
<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>Coordinator:</b>	Dr Iman Shames, Dr Robert Schmid												

<b>Contact:</b>	<p>Dr Robert Schmid  <a href="mailto:rschmid@unimelb.edu.au">rschmid@unimelb.edu.au</a> (mailto:rschmid@unimelb.edu.au)            Iman Shames  <a href="mailto:iman.shames@unimelb.edu.au">iman.shames@unimelb.edu.au</a> (mailto:iman.shames@unimelb.edu.au)</p>
<b>Subject Overview:</b>	<p><b>AIMS</b></p> <p>This subject provides students with the opportunity to integrate technical knowledge and generic skills gained in earlier years. This is to be achieved within the context of an engineering project conducted in a small group (typically two or three students) under the supervision of a member of academic staff and where appropriate an industry partner. The project component of this subject is supplemented by a lecture course dealing with project management tools and practices, organisational structures, engineering standards and the social and environmental responsibility of professional engineers.</p> <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 <b>Skills Towards Employment Program (STEP)</b> and contains activities that can assist in the completion of the <b>Engineering Practice Hurdle (EPH)</b>.</p>
<b>Learning Outcomes:</b>	<p><b>INTENDED LEARNING OUTCOMES (ILO's)</b></p> <p>Having completed this subject it is expected that the student be able to:</p> <ol style="list-style-type: none"> <li>1 Conduct an electrical engineering project</li> <li>2 Effectively communicate the outcomes of various stages of an engineering project</li> <li>3 Apply standard engineering project management tools</li> <li>4 Identify standard organisational structures and the relative merits of different approaches</li> <li>5 Describe the role of standards in engineering projects.</li> </ol>
<b>Assessment:</b>	<p>For project carried out in a year (25 points yearlong) the final project mark will be determined using the following assessment components: Individual continuous assessment of the lecture component of the subject, comprising submitted work not exceeding 25 pages over semester 1 (approximately 50-60 hours of working per student), worth 25%; Individual oral assessment of duration at most 15 minutes per student towards the end of semester 2 (approximately 35-40 hours of working per student), worth 10%; A group oral presentation of duration at most 30 minutes, and a public display of project outcomes towards the end of semester 2 (approximately 35-40 hours of working per student), worth 10%; A group preliminary report not exceeding the sum of 10 pages per student plus 20 pages (excluding appendices), due two weeks before the oral presentation, worth 5%; A final group report not exceeding the sum of 15 pages per student plus 30 pages, (excluding appendices) due in the end-of-semester 2 at the beginning of examination period (approximately 180-200 hours of working per student), worth 50%. Hurdle requirement: In order to pass the subject the students must receive a mark of at least 37.5 out of 75 for the components related to the project (i.e. the individual oral assessment, the group oral presentation and public display, the preliminary report and the final report). Intended Learning Outcomes (ILO's) 1, 2, and 3 are assessed in all assessment components. ILO 4 and 5 are primarily assessed in the continuous assessment of the project management component of the course.</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>	<p>On completion of this subject, students will have developed the following skills:</p> <ul style="list-style-type: none"> <li># Ability to communicate effectively, not only with engineers but also with the community at large</li> <li># In-depth technical competence in at least one engineering discipline</li> <li># Ability to undertake problem identification, formulation and solution</li> </ul>

	<ul style="list-style-type: none"> <li># Ability to utilise a systems approach to design and operational performance</li> <li># Ability to function effectively as an individual and in multidisciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member</li> <li># Understanding of the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development</li> <li># Capacity for independent critical thought, rational inquiry and self-directed learning</li> <li># Intellectual curiosity and creativity, including understanding of the philosophical and methodological bases of research activity</li> <li># Openness to new ideas and unconventional critiques of received wisdom</li> </ul>
<b>Notes:</b>	<p><b>LEARNING AND TEACHING METHODS</b></p> <p>The subject is delivered through lectures and meetings with academic and/or industry project supervisors.</p> <p><b>INDICATIVE KEY LEARNING RESOURCES</b></p> <p>Students are provided with laboratory manuals and data sheets as appropriate to experiments, and access to textbooks and journal papers through the library system.</p> <p><b>CAREERS / INDUSTRY LINKS</b></p> <p>Exposure to electrical engineering in industry, and research laboratories through collaborative projects with external co-supervision arrangements. Students are encouraged to take industry based projects. All students taking the full year subject are required to present their work to an audience of engineering professionals at public Exhibition near the end of semester 2.</p>
<b>Related Course(s):</b>	Bachelor of Engineering (Biomedical)Biosignals
<b>Related Majors/Minors/Specialisations:</b>	B-ENG Electrical Engineering stream Master of Engineering (Electrical with Business) Master of Engineering (Electrical)