

433-465 Major Project & Professional Practice

Credit Points:	25.000
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: , - Taught on campus.
Time Commitment:	Contact Hours: Up to thirty-six hours of lectures and seventy-two hours of project work Total Time Commitment: Not available
Prerequisites:	Design and Processes 1 and 2, or equivalent (prior to 2005, 436-356 Design/Control 2 or 436-371 Mechatronics Design Laboratory 4, and 436-363 Manufacturing Studies 2), and successful completion of at least 37.5 points of 300-level computer science subjects.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	<p><p>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.</p> <p>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: http://services.unimelb.edu.au/disability</p></p>
Subject Overview:	<p>Upon completion, students will have developed the ability to apply the knowledge gained in other subjects to successfully investigate a substantial engineering design or research problem. Experience will be gained in collaborative project work, sourcing and collating information that may be associated with disciplines beyond the scope of prior coursework, developing hypotheses from which engineering decisions will be made, and reporting contributions arising from project and professional practice Activities.</p> <p>Unit 1: Major Project</p> <p>This unit involves undertaking a major project, requiring an independent investigation and the preparation of reports on an approved topic in advanced engineering design or research. Students will present their findings at a conference held towards the end of the project cycle. The emphasis of the project can be associated with either:</p> <ul style="list-style-type: none"> # a well defined project description, often based on a task required by an external industrial client. Students will be tutored in a synthesis of practical solutions to complex technical problems within a structured working environment, as if they were professional engineering practitioners; # a project description that will require an explorative approach, where students will pursue outcomes associated with new knowledge or understanding, in areas of computer science relevant to mechatronics, often as an adjunct to existing academic research initiatives. <p>It is expected that the major project will incorporate findings associated with both well-defined professional practice and research principles.</p> <p>Unit 2: Professional Practice</p> <p>Upon completion of this unit, students should have developed an appreciation of the role of technology in society, the responsibilities of engineers with respect to their fellow workers, society and the environment. Topics covered include: research methodologies: reviewing literature, preparing and executing a research program, peer review of findings, academic research case studies. Design processes: conceptual design, intergration of design and manufacturing: quality assessment, project management, concurrent engineering. Engineering</p>

	profession: historical, sociological and environmental factors in invention and innovation, technology forecasting, patenting, professional ethics, statutory requirements and legal responsibilities, environmental considerations and human relations.
Assessment:	Unit 1: Major Project (85% of overall mark)A project report (Final Report) of no more than 10 000 words with no more than 40 pages of supporting material in the way of appendices, diagrams, tables, computations and computer output (40%).A summary of the important findings contained in the Final Report. The format of the summary will follow a specified research paper template (10%).One professional presentation, reporting the outcomes of the major project (10%).Continuous assessment, identifying effort, progress and contributions over the entire project cycle (25%).Unit 2: Professional Practice (15% of overall mark)One assignment based on lecture material not exceeding 1000 words (10%). Other assignment work (for example, debate participation - 5%). All components of assessment must be satisfactorily completed to pass the subject.
Prescribed Texts:	None
Recommended Texts:	Information Not Available
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:	Information Not Available
Notes:	This subject may only be taken by students enrolled in the BE/BCS (Mechatronics) degree program.
Related Course(s):	Bachelor of Engineering (Mechatronics) and Bachelor of Computer Science