MCEN90016 Project

Credit Points:	25
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2011. This subject is also offered as a semester one 25pt subject for mid year entry students.
Time Commitment:	Contact Hours: Up to 24 hours of lectures and 72 hours of department based practical project engineering. Total Time Commitment: 240 hours
Prerequisites:	Prerequisites for this subject are -

Subject	Study Period Commencement:	Credit Points:
MCEN30014 Mechanical Design	Semester 2	12.50
MCEN90024 Mechatronics Design	Semester 2	12.50

Corequisites:	N/A
Recommended Background Knowledge:	N/A
Non Allowed Subjects:	N/A
Core Participation Requirements:	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: http://www.services.unimelb.edu.au/disability/
Contact:	**mcen-subjectenquiry@unimelb.edu.au (mailto:mcen-subjectenquiry@unimelb.edu.au)**
Subject Overview:	The subject involves undertaking a major project comparable to a minor thesis 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 in a conference podium presentation format, held in semester one. The emphasis of the project can be associated with either: # a well-defined project description, often based on a task required by an external, industrial client or # a project description that will require an explorative approach, where students will pursue outcomes associated with new knowledge or understanding, within the broader mechanical science or mechatronics, often as an adjunct to existing academic research initiatives. It is expected that the major project will incorporate findings associated with both well-defined professional practice and research principles. Lectures and Seminars provide an appreciation of professional practice, 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, integration of design and manufacturing; quality assessment, project management, concurrent engineering; engineering profession: historical, sociological and environmental factors in invention and innovation, technology forecasting, patenting, professional ethics, statutory requirements and legal responsibilities, environment considerations, and human relations.
Objectives:	At the conclusion of this subject students should be able to: • Investigate innovatively steps of solving an Engineering problem in a team of collaborating peers • Communicate effectively using multiple channels the progress and outcomes of an engineering project effectively to individuals and groups of individuals with different levels of understanding about the project subject

	• Negotiate deliverables of the project considering the time planning and the initial appreciation of the project formulation • Demonstrate lateral learning skills through the active participation of peer seminars and assessment of projects • Demonstrate professional practice skills through active engagement with practicing engineers and research professionals.
Assessment:	The assessment is conducted in two parts:1) Major Project (90% of overall mark).• Two interim reports, each 5% of no more than 1000 words each due in week 5 and 10 of the semester.• Continuous assessment, identifying effort, progress and contributions over the entire project cycle (15%). • A professional engineering project report (Final Report) of no more than 10,000 words (approximately 40 pages), excluding appendices of supporting material that can include diagrams, tables, computations and computer output (40%) due towards the end of the semester. • Students are also required to write a summary of their research finding in the form of a short technical report of approximately 2000 words following a research paper template (5%). This report is due towards the end of the semester.• Technical oral examination of no more than one hour duration. Technical oral examination includes a formal presentation followed by questions from an academic supervisor and academic examiner (10%). This will happen at the end of the semester.• Major Project Exhibition:o Lay-person oral examination of no more than 20 minutes duration (5%).o Static display materials (e.g. poster, computer demonstration, prototype) (5%).2) Professional Practice (10% of overall mark). • One assignment/test in week 10 of the semester based on lecture material and one professional presentation reviewed by peers.
Prescribed Texts:	N/A
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:	• Ability to undertake problem identification, formulation, and solution • Understanding of social, cultural, global, and environmental responsibilities and the need to employ principles of sustainable development • Capacity for creativity and innovation • Understanding of professional and ethical responsibilities, and commitment to them • Ability to function effectively as an individual and in multidisciplinary and multicultural teams, as a team leader or manager as well as an effective team member