680AF Bachelor of Engineering (EngineeringManagement)Mechanical&Manufacturing

Year and Campus:	2010 - Parkville
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Undergraduate
Duration & Credit Points:	400 credit points taken over 48 months full time. This course is available as full or part time.
Coordinator:	-
Contact:	Melbourne School of Engineering Office Building 173, Grattan Street The University of Melbourne VIC 3010 Australia General telephone enquiries + 61 3 8344 6703 + 61 3 8344 6507 Facsimiles + 61 3 9349 2182 + 61 3 8344 7707 Email **eng-info@unimelb.edu.au (mailto:eng-info@unimelb.edu.au)**
Course Overview:	The department was first established after the Second World War, although the course in mechanical engineering began in 1907 as a Faculty stream. An industrial engineering degree was added in the late 1950s. In 1988 an extensive review of the curriculum led to the undergraduate courses being restructured into a new, single degree course in mechanical and manufacturing engineering with students having the option to choose specialisations in their last year. A 1995 review of the department by a team from the US and UK ranked its research and teaching at the highest international standards. In 1996, the five-year combined degree in mechatronics commenced. Mechanical and manufacturing engineering applies human and material resources to the design, construction, operation and maintenance of machines (supported increasingly by sophisticated computer technology) to move people, goods and materials; generate energy; produce goods and services; and control pollution and dispose of wastes. It interacts with all other branches of engineering including the medical sciences. First-year students acquire a training in mathematics, an introduction to engineering and foundations in economics and management. Second-year students continue with mathematics and are introduced to engineering design plus basic mechanical engineering sciences (thermodynamics, fluid mechanics, mechanics and machine dynamics), materials and electro-mechanical system modelling. Third year students continue engineering science, engineering design and manufacturing studies. Fourth year includes a major project and electives in commerce and advanced engineering; in bioengineering, applied mechanics, fluids, energy, mechatronics and management. Students planning to enter industry directly after graduating can choose how best to prepare for their careers, bearing in mind that many design and research engineers move into management. Many students participate in industry challenges such as the Formula SAE-A competition, or other build and demonstrate projects that are world competitive. In laboratory, research and design work students have access to specialised facilities for materials testing, wind tunnels, engine test cells and a heavy engineering workshop for the manufacture of testing facilities and experimental equipment. Engineering design, which draws on the Faculty's extensive computer facilities and computational mechanics, is now established as an area of study and research in conjunction with computer science. Graduate research programs are available in aspects of mechanical, mechatronics, manufacturing and bioengineering. The department is internationally regarded in fluid mechanics, advanced automotive engineering technology, machine dynamics, mechatronics and biomedical engineering.
Objectives:	-

Course Structure & Available Subjects:

The recommended or standard course structure for the Mechanical stream of the Bachelor of Engineering (Engineering Management) are listed below. When setting the timetable every effort will be made to avoid clashes between the times of classes associated with these sets of subjects. Students should be aware however, that if it proves to be impossible to achieve a timetable without clashes in these sets of subjects, the Faculty reserves the right to modify course structures in order to eliminate the conflicts. Students will be advised during the enrolment period of the semester if the recommended courses need to be varied. Where the courses include elective subjects these should be chosen so that timetable clashes are avoided. In particular, students in combined degrees should plan their courses so that the subjects chosen in the other faculty do not clash with those recommended for the engineering component.

Subject Options:

THE COURSE STRUCTURE BELOW ONLY APPLIES TO RE-ENROLLING STUDENTS WHO COMMENCED THEIR STUDIES PRIOR TO 2008.

Note: Students who commenced 3rd year in 2009 and have not completed (or who have failed) the third year subjects required in the Bachelor of Engineering degree please see a course adviser.

The following Third year Engineering subjects are available in 2010

Subject	Study Period Commencement:	Credit Points:
436-353 Mechanics 2	Not offered 2010	
MCEN30009 Engineering Design & Processes 1	Semester 1	12.50
MCEN30004 Thermofluids 2	Semester 1	12.50
MCEN30001 Engineering Design & Processes 2	Semester 2	12.50
MCEN30005 Thermofluids 3	Semester 2	12.50
MCEN30007 Mechanics 3	Semester 2	12.50
436-284 Organisational Engineering	Not offered 2010	
MCEN90010 Finance & Human Resources for Engineers	Semester 1	12.50
MCEN30005 Thermofluids 3	Semester 2	12.50

Credit may not be obtained for:
both 436-201 Thermofluids 1 and 436-301 Thermofuilds,
both436-353 Mechanics 2 and 436-302 Mechanical Dynamics,
both 436-285 Design and Materials1 and 436-303 Mechanics and Materials
both 436-286 Design and materials 2 and 436-304 Mechanical Design
both 436-284 organisational Engineering and436-640 Finance &Human Resources for Engineers

Fourth Year

Subjects listed below **MUST** be taken in this approved order, regardless of semester abvailability.

Year Long

Subject	Study Period Commencement:	Credit Points:
MCEN40020 Major Project and Professional Practice	Year Long	25

Semester 1

Subject	Study Period Commencement:	Credit Points:
MCEN40009 Mechanics 4	Semester 1	12.50
MCEN40010 Thermofluids 4	Semester 1	12.50

	MCEN30008 Control Systems 1	Semester 1	12.50

Semester 2

Subject	Study Period Commencement:	Credit Points:
MCEN40003 Quality Engineering	Semester 2	12.50

Elective (12.5 points) - *must be an approved final year Mechanical Engineering elective.*

Commerce Subject (12.5 points) - *must be a level-200 or level-300 and the pre-requisites met where necessary.*

Mechanical electives

Subject	Study Period Commencement:	Credit Points:
MCEN40002 Optimisation	Semester 2	12.50
MCEN40006 Computational Biomechanics	Semester 2	12.50
MCEN40011 Advanced Computational Mechanics	Semester 2	12.50
MCEN40015 Advanced Engineering Materials	Semester 2	12.50

Entry Requirements:	There will be no further entry into this course
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/
Graduate Attributes:	The Bachelor of Engineering is a professional degree. Graduates can obtain professional recognition by joining Engineers Australia who has accredited these programs.The Bachelor of Engineering also delivers on the University graduate attributehttp://www.unimelb.edu.au/about/attributes.html