

355AB Bachelor of Engineering (Chemical and Biomolecular Engineering)

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:	A/Professor Sandra Kentish
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Course Overview:	Chemical and Biomolecular Engineering is concerned with developing and analysing process systems, which are strongly dependant upon chemistry and involve physical changes. Our graduates find employment in the biochemical industry, the food industry, as well as in the traditional chemical industry. Chemical and Biomolecular Engineers are well suited for environmental-related engineering positions given their strong background in process systems and in chemical biological processes in particular.
Objectives:	<p>The course objectives are that graduates should have acquired:</p> <ul style="list-style-type: none"> # A broad knowledge of science and engineering in several disciplines including a sound fundamental understanding of scientific and engineering principles and methods; # An in-depth knowledge and skills within specified areas of engineering and science; # The appropriate analytical, problem-solving and design skills; # Capacity to apply practical skills towards the development of mathematical and computer-based solutions of problems; # Learning skills and a knowledge base to enable them to readily accommodate future changes in technology; # Verbal and written communication skills that enable them to communicate effectively in the context of defining and solving problems; # An understanding of the basic principles underlying the management of physical, human and financial resources; # Skills, personal attributes and depth of knowledge which equip them for positions of leadership in basic and applied research, engineering and management of technology-intensive enterprises; # An appreciation of the roles and responsibilities of engineers and scientists in society; and # The educational and professional standards of the professional institutions with which the faculties' courses are accredited.
Course Structure & Available Subjects:	Students are required to complete 400 points or core material and electives.
Subject Options:	<p>There will be no First to Third year entry into this course from 2010 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.</p> <p>Fourth Year Subjects listed below MUST be taken in this approved order, regardless of availability.</p>

Semester 1

Subject	Study Period Commencement:	Credit Points:
CHEN40004 Heat and Mass Transport Processes 2	Semester 1	12.50
CHEN40005 Process Equipment Design	Semester 1	12.50
CHEN40002 Particle Mechanics and Processing	Semester 1	12.50
CHEN40007 Process Engineering 3	Semester 1	12.50

Semester 2

Subject	Study Period Commencement:	Credit Points:
BIEN40001 Biomolecular Engineering Research Proj	Semester 1, Semester 2	18.75
CHEN40014 Bioenvironmental Engineering	Semester 2	12.50
BIEN40002 Biomolecular Engineering Design Project	Semester 2	18.75

Entry Requirements:	-
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
Further Study:	On completion of a Bachelor of Engineering, students may choose to apply for candidature in a Masters by Research or PhD degree. They may also apply to undertake a one year Advanced Masters by Coursework degree.
Graduate Attributes:	The Bachelor of Engineering is a professional degree. Graduate can obtain professional recognition by joining Engineers Australia who has accredited these programs. The Bachelor of Engineering also delivers on the University graduate attribute - http://www.unimelb.edu.au/about/attributes.html
Professional Accreditation:	The Bachelor of Engineering is accredited with Engineers Australia
Generic Skills:	<p>Upon completion of this course the student should have developed their:</p> <ul style="list-style-type: none"> # Ability to apply knowledge of basic science and engineering fundamentals; # Ability to communicate effectively, not only with engineers but also with the community at large; # In-depth technical competence in at least one engineering discipline; # Ability to undertake problem identification, formulation and solution; # Ability to utilise a systems approach to design and operational performance; # Ability to function effectively as an individual and in multi-disciplinary and multicultural teams, with the capacity to be a leader or manager as well as an effective team member; # Understanding of the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development; # Understanding of the principles of sustainable design and development; # Understanding of and commitment to professional and ethical responsibilities; and # Expectation and capacity to undertake life-long learning.