985AC Bachelor of Engineering (Chemical) and Bachelor of Science

Year and Campus:	2011 - Parkville
CRICOS Code:	009725A
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Undergraduate
Duration & Credit Points:	500 credit points taken over 60 months full time. This course is available as full or part time.
Coordinator:	A/Professor Sandra Kentish
Contact:	Melbourne School of Engineering **courseinfo@eng.unimelb.edu.au (mailto:courseinfo@eng.unimelb.edu.au)** **http://www.eng.unimelb.edu.au/ (http://www.eng.unimelb.edu.au/)**
Course Overview:	**THIS COURSE ONLY APPLIES TO RE-ENROLLING STUDENTS WHO COMMENCED THEIR STUDIES PRIOR TO 2008** Chemical engineers invent, design and implement processes through which raw materials are converted into valuable products such as petrol, power and toothpaste. This specialisation promotes development of practical, laboratory-based skills, combined with expertise in computing and simulation. There is a strong focus on the sustainable development of chemical processes and products. Career opportunities in the field are extensive and encompass the petrochemical, mining, food, pharmaceutical or chemical industries.
Objectives:	The course objectives are that graduates should have acquired: # 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;A # 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:	The standard BE/BSc combined degrees require a total of 500 points, within which students must take a minimum of 300 engineering points and 237.5 science points. The total points of a standard course can be kept to 500 as at least 50 points of core material within the various streams of engineering also earn science points. BE/BSc course structure To satisfy course requirements students must: take the set of core engineering subjects prescribed for the branch of engineering being studied. This will include the professional study requirements in one of chemical engineering, civil engineering, environmental engineering, mechanical engineering; and either electrical, computer or software engineering; All students in the combined degree Bachelor of Engineering/Bachelor of Science are required to complete 237.5 science points, which must include: # between 75 and 125 points at Level 1;

- completion of 50 points of a prescribed science major at Level 3. Detailed information on the science majors available is contained within the Handbook entry for the Bachelor of Science course (course code 755BB)

With regard to the science component note that:

- There are no specific requirements at Level 2.
- The engineering component may require the completion of specific science subjects (e.g. at first year level). These subjects are detailed in the requirements of the various engineering streams.
- Students will not normally be permitted to complete more than 237.5 science points.

A science major is defined as 50 points at Level 3 in an approved science discipline.
To complete a science major, students complete one of the science majors listed in the Handbook entry for the Bachelor of Science course (course code 755BB). Students may not complete alternative combinations of subjects to major unless approval is obtained from the Eastern Precinct Student Centre. The University is committed to ensuring that students are not disadvantaged by recent changes to the curriculum and students may complete a major as defined by the current structure or a structure detailed in a previous year's handbook applicable to any year the student was enrolled in the course. Bachelor of Engineering/Bachelor of Science students who require advice on an appropriate subject selection to complete a specific science major should contact the EPSC.

A full list of subjects available for science credit for the BE/BSc;
https://handbook.unimelb.edu.au/view/current/%21755-BB-SPC%2B1000 (../../view/current/%21755-BB-SPC%2B1000)

Majors/Minors/ Specialisations

None

Subject Options:

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

Note: Students who commenced 4th year in 2009 and have not completed (or who have failed) the fourth year subjects required in the Bachelor of Engineering degree please see a course adviser.

Fifth Year

Subjects listed below MUST be taken in this approved order, regardless of semester availability

Senester 1

Subject	Study Period Commencement:	Credit Points:
CHEN90019 Advanced Heat & Mass Transport Processes	Semester 1	12.50
CHEN90018 Particle Mechanics and Processing	Semester 1	12.50
CHEN90012 Process Equipment Design	Semester 1	12.50
CHEN90013 Process Engineering	Semester 1	12.50

Semester 2

Subject	Study Period Commencement:	Credit Points:
CHEN90022 Chemical Engineering Design Project	Semester 2	25
CHEN90023 Chemical Engineering Research Project	Summer Term, Semester 1, Semester 2	25

Entry Requirements:

There will be no further entries into the combined degree.

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 Univeristy is dedicated to provide support to those whith 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 Bachlor 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 accredite these programs. The Bachlor 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:	Upon completion of this course the student should have developed their: # 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.