

955AC Bachelor of Engineering (Chemical) and Bachelor of Commerce

Year and Campus:	2010 - Parkville
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 Building 173, Grattan Street The University of Melbourne Victoria 3010 AUSTRALIA General telephone numbers + 61 3 8344 6703 + 61 3 8344 6507 Facsimile + 61 3 9349 2182 + 61 3 8344 7707 Email eng-info@unimelb.edu.au (/)
Course Overview:	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: <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;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 combined degree of Bachelor of Engineering (Chemical)/Bachelor of Commerce requires a total of 500 points over five years. Students are required to complete 300 points of Engineering subjects and 200 points of Commerce subjects. The total of 200 commerce points must include the five compulsory subjects 316-101 Introductory Macroeconomics, 316-102 Introductory Microeconomics, 316-130 Quantitative Methods 1, 325-201 Organisational Behaviour (students who commenced Bachelor of Commerce double degree in 2005 are not required to complete this subject) and at least one of 316-206 Quantitative Methods 2 or 316-205 Introductory Econometrics or 325-210 Managerial Decision Analysis or 325-212 Market Research; at least 50 points at 100-level; and at least 50 points at 300-level (these must be completed at The University of Melbourne). Students who intend to overlap second- and later-year subjects should consult with a course adviser to ensure all core engineering requirements are met.

	<p>Note: Chemical Engineering subjects: 411-202 Process Engineering 1, 411-391 Bionanoengineering, 411-339 Process Engineering 2, 411-445 Process Engineering 3, 411-448 Biochemical/Environmental Engineering 2, 411-449 Materials and Recycling are not taken by students enrolled in BE combined with Arts, Commerce and Law.</p>																																													
Subject Options:	<p>There will be no First to Third year Entry into this course from 2010</p> <p>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</p> <p>Subjects listed below MUST be taken in this approved order, regardless of semester availability.</p> <p>Semester 1</p> <table><tr><th>Subject</th><th>Study Period Commencement:</th><th>Credit Points:</th></tr><tr><td>CHEN30001 Reactor Engineering</td><td>Semester 1</td><td>12.50</td></tr><tr><td>CHEN30005 Heat and Mass Transport Processes</td><td>Semester 1</td><td>12.50</td></tr><tr><td>CHEN30013 Chemical Engineering Management</td><td>Semester 1</td><td>12.50</td></tr><tr><td>CHEN30014 Bioprocess Engineering</td><td>Semester 1</td><td>12.50</td></tr></table> <p>Semester 2</p> <table><tr><th>Subject</th><th>Study Period Commencement:</th><th>Credit Points:</th></tr><tr><td>CHEN30009 Process Dynamics and Control</td><td>Semester 2</td><td>12.50</td></tr><tr><td>CHEN30010 Practical and Computer Laboratory</td><td>Semester 2</td><td>12.50</td></tr></table> <p>Commerce subjects as required (25 points)</p> <p>Fifth Year</p> <p>Subjects listed below MUST be taken in this approved order, regardless of semester availability.</p> <p>Semester 1</p> <table><tr><th>Subject</th><th>Study Period Commencement:</th><th>Credit Points:</th></tr><tr><td>CHEN40002 Particle Mechanics and Processing</td><td>Semester 1</td><td>12.50</td></tr><tr><td>CHEN40004 Heat and Mass Transport Processes 2</td><td>Semester 1</td><td>12.50</td></tr><tr><td>CHEN40005 Process Equipment Design</td><td>Semester 1</td><td>12.50</td></tr></table> <p>Commerce subject as required (12.5 points)</p> <p>Semester 2</p> <table><tr><th>Subject</th><th>Study Period Commencement:</th><th>Credit Points:</th></tr><tr><td>CHEN40008 Research Project</td><td>Summer Term, Semester 1, Semester 2</td><td>18.75</td></tr><tr><td>CHEN40009 Design Project</td><td>Semester 2</td><td>18.75</td></tr></table> <p>Commerce subject as required (12.5 points)</p>	Subject	Study Period Commencement:	Credit Points:	CHEN30001 Reactor Engineering	Semester 1	12.50	CHEN30005 Heat and Mass Transport Processes	Semester 1	12.50	CHEN30013 Chemical Engineering Management	Semester 1	12.50	CHEN30014 Bioprocess Engineering	Semester 1	12.50	Subject	Study Period Commencement:	Credit Points:	CHEN30009 Process Dynamics and Control	Semester 2	12.50	CHEN30010 Practical and Computer Laboratory	Semester 2	12.50	Subject	Study Period Commencement:	Credit Points:	CHEN40002 Particle Mechanics and Processing	Semester 1	12.50	CHEN40004 Heat and Mass Transport Processes 2	Semester 1	12.50	CHEN40005 Process Equipment Design	Semester 1	12.50	Subject	Study Period Commencement:	Credit Points:	CHEN40008 Research Project	Summer Term, Semester 1, Semester 2	18.75	CHEN40009 Design Project	Semester 2	18.75
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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
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.