

957AC Bachelor of Engineering (Chemical) and Bachelor of Arts

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:	<p>Enquiries: Arts & Music Student Centre Rm 104 (Ground Floor) Old Arts Building</p> <p>Location (PDF, 1027kb) (http://www.pb.unimelb.edu.au/CampusMaps/Parkville_P.pdf)</p> <p>Tel: +61 3 8344 5235 Fax: +61 3 9347 0424 Search for an answer or send an email via our queries database: http://arts-unimelb.custhelp.com/ (http://arts-unimelb.custhelp.com/)</p> <p>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 (/)</p>
Course Overview:	<p>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.</p> <p>The Bachelor of Arts (BA) offers unique flexibility with the opportunity to focus on one major chosen from a broad range of Arts study options in the humanities, social sciences and languages.</p> <p>Students can:</p> <ul style="list-style-type: none"> # Undertake specialised fieldwork, research options and integrated internship programs which provide opportunities for professional work experience and community engagement. # Broaden your horizons and undertake international study exchange at any one of 120 universities worldwide, receiving credit towards your Melbourne Arts degree. # Study a new language with most areas available from beginners to advanced level. # Benefit from studying with high achieving local and international students with Melbourne Arts having the highest entry requirements for arts disciplines in Australia. # Learn from internationally recognised scholars and industry professionals. # Create pathways into further postgraduate study in professional Arts Masters courses, Melbourne Model Graduate Professional Degrees, and with the completion of an Honours year, entry into research higher degrees in Arts. # Enjoy a rewarding professional career, with Melbourne Arts graduates enjoying employment rates well above the national Arts average.
Objectives:	<p>The Bachelor of Engineering 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;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.

The Bachelor of Arts has as its objectives that graduates:

- # can demonstrate a sound knowledge and understanding of selected fields of studies in the humanities, languages and social and behavioural sciences;
- # can access and appreciate national and international debates in their areas of study;
- # can demonstrate an independent approach to knowledge that uses rigorous methods of inquiry and appropriate theories and methodologies that are applied with intellectual honesty and a respect for ethical values;
- # can apply critical and analytical skills and methods to the identification and resolution of problems within a changing social context;
- # can act as informed and critically discriminating participants within the community of scholars, as citizens and in the work force;
- # can communicate effectively an, in the case of those students undertaking a language major, are able to read, write and speak another language with fluency and appreciate its cultural context;
- # qualify for employment in a wide range of occupations;
- # have a continuing commitment to learning;
- # are proficient in the use of appropriate modern technologies, such as the computer and other IT systems, for the acquisition, processing and interpretation of data.

Course Structure & Available Subjects:

The combined degree of Bachelor of Engineering (Chemical)/Bachelor of Arts requires a total of 500 points over five years. Students are required to complete 300 points of Engineering subjects and 200 points of Arts subjects.
Students who intend to overlap second and later year subjects should consult with a course adviser to ensure all core engineering requirements are met.
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 or Law.

Majors/Minors/ Specialisations

Arts majors

Major/Minor/Specialisation
American Studies Major
Ancient, Medieval & Early Modern Studies Major
Anthropology
Arabic Studies Major
Art History Major
Asian Studies Major
Australian Indigenous Studies Major
Australian Studies Major
Chinese Language Major

Chinese Studies Major
Cinema Studies Major
Classical Studies & Archaeology Major
Creative Writing Major
Criminology Major
Cultural Studies Major
Development Studies Major
English Literary Studies Major
English Language Studies Major
Environmental Studies Major
European Studies Major
French Major
Gender Studies Major
Geography Major
German Major
Hebrew Major
History Major
History and Philosophy of Science Major
Indonesian Major
International Studies Major
Islamic Studies Major
Italian Major
Japanese Major
Jewish Studies Major
Linguistics & Applied Linguistics Major
Modern Greek Major
Philosophy Major
Planning and Design Major
Political Science Major
Psychology Major
Russian Major
Social Theory Major
Socio-legal Studies Major
Sociology Major

	<table border="1"> <tr> <td data-bbox="389 136 1485 188">Spanish Major</td> </tr> <tr> <td data-bbox="389 188 1485 239">Swedish Major</td> </tr> <tr> <td data-bbox="389 239 1485 291">Theatre Studies Major</td> </tr> </table>	Spanish Major	Swedish Major	Theatre Studies Major			
Spanish Major							
Swedish Major							
Theatre Studies Major							
Subject Options:	<p>Arts Requirements:</p> <p>All students in the Bachelor of Arts and Bachelor of Engineering (Chemical) are required to complete 200 points of Arts subjects of which;</p> <ul style="list-style-type: none"> * 50 points must be taken at level one; * 75 points must be taken at level two and; * 75 points must be taken at level three. <p>In addition it is expected students should complete a major in the Arts component of their degree.</p> <p>All Arts subjects undertaken must be from the following arts-approved study areas (see the individual area of study entry for full details):</p> <ul style="list-style-type: none"> * all language subjects * American studies * Ancient, Medieval and Early Modern Studies (some non-arts approved subjects included) * Anthropology * Art History * Asian Studies (some non-arts approved subjects included) * Australian Indigenous Studies (some non-arts approved subjects included) * Australian Studies * Cinema Studies * Classical studies and Archaeology * Creative Writing * Criminology * Cultural Studies * Development Studies (some non-art approved subjects included) * English Literary Studies * English as a Second Language * English Language Studies * Environmental Studies (some non-arts approved subjects included) * European Studies * Gender Studies * Geography * Hebrew and Jewish Studies * History * History and Philosophy of Science * International Studies * Islamic Studies * Linguistics and Applied Linguistics * Philosophy * Planning and Design * Political Science * Psychology * Social Theory * Socio-legal Studies * Theatre Studies <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</p> <p>SUBJECTS LISTED BELOW MUST BE TAKE IN THIS APPROVED ORDER, REGARDLESS OF SEMESTER AVAILABILITY</p> <p>Semester 1</p> <table border="1"> <thead> <tr> <th data-bbox="389 1928 1075 2013">Subject</th> <th data-bbox="1075 1928 1347 2013">Study Period Commencement:</th> <th data-bbox="1347 1928 1485 2013">Credit Points:</th> </tr> </thead> <tbody> <tr> <td data-bbox="389 2013 1075 2069">CHEN30001 Reactor Engineering</td> <td data-bbox="1075 2013 1347 2069">Semester 1</td> <td data-bbox="1347 2013 1485 2069">12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CHEN30001 Reactor Engineering	Semester 1	12.50
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

Semester 2

Subject	Study Period Commencement:	Credit Points:
CHEN30009 Process Dynamics and Control	Semester 2	12.50
CHEN30010 Practical and Computer Laboratory	Semester 2	12.50

plus Art subjects as required (25 points)

FIFTH YEAR

SUBJECTS LISTED BELOW **MUST** BE TAKE IN THIS APPROVED ORDER, REGARDLESS OF SEMESTER AVAILABILITY

Semester 1

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

plus Arts subject as required (12.5 points)

Semester 2

Subject	Study Period Commencement:	Credit Points:
CHEN40008 Research Project	Summer Term, Semester 1, Semester 2	18.75
CHEN40009 Design Project	Semester 2	18.75

plus Arts subject as required (12.5 points)

Entry Requirements:

There is no further entry into this combined course.

Core Participation Requirements:

The Bachelor of Engineering. 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> The Bachelor of Arts requires a standard level of ability across all disciplines. It will be assumed students are able to access and attend classes on a regular basis, are capable of learning in a University environment and will be able to take responsibility for their own learning. Any ability beyond this threshold will be robustly supported through the curriculum. There are no pre-requisites for first year subjects, and any intensive use of IT or technologies will be adequately supported. Certain subjects have more specific requirements and demands, such as fieldwork or travelling, which are clearly outlined in the subject description. The University is dedicated to provide support to those with special requirements. The Faculty Disability Contact Officer works with students, the University Disability Liaison Unit and teaching staff to assist students with their special requirements, with a particular focus on accommodations for in-class and examination assessment tasks. Further details on the disability support scheme can be found at the Disability Liaison Unit website.

Further Study:

The Bachelor of Engineering

	<p>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.</p> <p>The Bachelor of Arts Honours Depending on your major area of study, you have the option of applying for an Honours year after you complete the BA, which will include a research project. For more information on entry to Honours, see the Arts webpage (http://www.arts.unimelb.edu.au/futurestudents/programs/Honours.html) .</p> <p>Coursework Masters If you wish to continue your professional studies at postgraduate level, the studies you undertake in your major can provide a direct pathway to Coursework Masters Degrees in areas such as editing, media and communications, public policy and management, international studies, arts management, development studies and many more. Entry is based on academic merit and in most cases requires a Bachelors degree or equivalent in the relevant study area. You will also be well-prepared to undertake a Melbourne Model Graduate Professional Degree in areas such as law, teaching and commerce.</p> <p>For more information on entry into a coursework masters degree, see the Arts coursework programs webpage (http://www.arts.unimelb.edu.au/futurestudents/programs/pg-programs.html) , or the University graduate programs webpage (http://www.futurestudents.unimelb.edu.au/grad/) .</p> <p>Research Higher Degrees If you wish to undertake advanced research and explore particular study areas in more depth, there will be opportunities to proceed to a range of Research Higher Degrees at masters and doctoral level. For more information about research higher degree study in Arts, see the Arts webpage (http://www.arts.unimelb.edu.au/futurestudents/research/) .</p>
Graduate Attributes:	<p>The Bachelor of Engineering is a professional degree. Graduate can obtain professional recognition by joining Engineers Australia who has accredit these programs. The Bachelor of Engineering also delivers on the University graduate attribute - http://www.unimelb.edu.au/about/attributes.html</p>
Professional Accreditation:	<p>The Bachelor of Engineering is accredited with Engineers Australia</p>
Generic Skills:	<p>For the Bachelor of Engineering 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. <p>Arts students are encouraged to pursue their academic interests and professional aspirations by taking a variety of subjects in a range of different areas of study. All arts subjects provide students with transferable generic skills that prepare them for further study and the workplace.</p> <p>As a result of attendance at scheduled classes, participation in planned activities and discussion groups, and timely completion of essays and assignments, arts graduates should acquire transferable generic skills in the following areas:</p> <ul style="list-style-type: none"> # research <p>through competent use of the library, electronic databases, and other information sources, and the definition of areas of inquiry and methods of research;</p>

critical thinking and analysis

through recommended reading, essay writing and tutorial discussion, and by determining the strength of an argument;

thinking in theoretical terms

through lectures, tutorial discussion, essay writing and engagement in the methodologies of the humanities and social sciences;

thinking creatively

through essay writing, creative writing, tutorial discussions and presentations, conceptualising theoretical problems, forming judgements and arguments from conflicting evidence and by critical analysis;

understanding of social, ethical and cultural context

through the contextualisation of judgements, developing a critical self-awareness, being open to new ideas and possibilities and by constructing an argument;

communicating knowledge intelligibly and economically

through essay writing and tutorial and seminar discussion;

written communication

through essay preparation and assignment writing;

public speaking

through tutorial and seminar discussion and class presentations;

attention to detail

through essay preparation and writing, and examination revision;

time management and planning

through managing and organising workloads for recommended reading, essay and assignment completion and examination revision;

teamwork

through joint projects and group discussions.