B-ENG Chemical and Biomolecular Engineering stream

Year and Campus:	2011
Coordinator:	Associate Professor Sandra Kentish
Contact:	**Email: sandraek@unimelb.edu.au (mailto:sandraek@unimelb.edu.au)**
Overview:	The Chemical and Biomolecular Engineering stream of the Bachelor of Engineering (for students commencing in 2008 and later years). See Bachelor of Engineering (B-ENG)
Objectives:	See Bachelor of Engineering (B-ENG)
Structure & Available Subjects:	The structure of the Bachelor of Engineering degree requires completion of specific subjects as part of this stream. The majority of subjects have one or more prerequisites and therefore the sequence in which subjects are taken is very important. It is unlikely that prerequisite waivers will be granted for these engineering subjects and therefore students should take care to select subjects in one study period that satisfy prerequisites for subjects in later study periods.
Subject Options:	**First Year (normally 100 points taken in Year 1)**

Subject	Study Period Commencement:	Credit Points:
ENGR10004 Engineering Systems Design 1	Semester 1, Semester 2	12.50
CHEM10003 Chemistry 1	Semester 1, Semester 2	12.50
MAST10005 Calculus 1	Semester 1, Semester 2	12.50
ENGR10003 Engineering Systems Design 2	Not offered 2011	12.50
CHEM10004 Chemistry 2	January, Semester 2	12.50
MAST10006 Calculus 2	Semester 1, Semester 2	12.50

Plus

Two breadth subjects (i.e. 25.00 credit points total)

N.B.

Students who have completed VCE Specialist Mathematics (or equivalent) are exempt from MAST10005 Calculus 1 and should therefore enrol in MAST10006 Calculus 2 and MAST10007 Linear Algebra.
Students with a high level of achievement in mathematics may enrol in both MAST10008 Accelerated Mathematics 1 and MAST10009 Accelerated Mathematics 2 instead of both MAST10006 Calculus 2 and MAST10007 Linear Algebra.

Second Year (normally 100 points taken in Year 2)

Subject	Study Period Commencement:	Credit Points:
CHEN20007 Chemical Process Analysis 1	Semester 1, Semester 2	12.50
MAST10007 Linear Algebra	Summer Term, Semester 1, Semester 2	12.50
CHEM20018 Reactions and Synthesis	Semester 1	12.50
CHEN20008 Chemical Process Analysis 2	Semester 2	12.50
CHEN20009 Transport Processes	Semester 2	12.50

MAST20029 Engineering Mathematics	Summer Term, Semester 1, Semester 2	12.50
ENGR30001 Fluid Mechanics & Thermodynamics	Semester 1, Semester 2	12.50

Plus

One breadth subject (i.e. 12.50 credit points total)

N.B.

Students who have completed VCE Specialist Mathematics (or equivalent) and completed either both MAST10006 Calculus 2 and MAST10007 Linear Algebra or both MAST10008 Accelerated Mathematics 1 and MAST10009 Accelerated Mathematics 2 in Year 1 can replace MAST10007 Linear Algebra in the table above with a science elective.
A science elective is any subject available as science credit in the Bachelor of Science course (B-SCI). Refer to that course entry for a full list of subjects. Science electives may have prerequisites.

Third Year (normally 100 points taken in Year 3)

Subject	Study Period Commencement:	Credit Points:
CHEN30001 Reactor Engineering	Semester 1	12.50
CHEN30005 Heat and Mass Transport Processes	Semester 1	12.50
CHEN90008 Biology for Engineers	Semester 1	12.50
CHEN30009 Process Dynamics and Control	Semester 2	12.50
CHEN90017 Process Engineering Case Studies	Semester 2	12.50
CHEN90016 Metabolic Engineering	Semester 2	12.50
CHEN90020 Chemical Engineering Management	Semester 1	12.50

Plus one Chemical Engineering elective selected from:

Subject	Study Period Commencement:	Credit Points:
CHEN90011 Bioenvironmental Engineering	Semester 2	12.50
BIEN30001 Bionanoengineering	Semester 2	12.50
CHEN90007 Advanced Thermo & Reactor Engineering	Semester 2	12.50
BMEN90011 Tissue Engineering & Stem Cells	Semester 2	12.50

Fourth Year (normally 100 points taken in Year 4)

Subject	Study Period Commencement:	Credit Points:
CHEN90012 Process Equipment Design	Semester 1	12.50
CHEN90013 Process Engineering	Semester 1	12.50
CHEN90018 Particle Mechanics and Processing	Semester 1	12.50
CHEN90009 Fermentation Processes	Semester 1	12.50
BIEN90002 Biomolecular Engineering Design Project	Semester 2	25
BIEN90001 Biomolecular Engineering Research Project	Summer Term, Semester 1, Semester 2	25

Notes:	Students who completed third year in 2010 will have taken BIEN30001 Bionanoengineering as a core subject instead of CHEN90017 Process Engineering Case Studies.
Related Course(s):	Bachelor of Engineering