B-ENG Software Engineering stream

Year and Campus:	2016
Coordinator:	Associate Profesor Shanika Karunasekera email: karus@unimelb.edu.au
Contact:	**Melbourne School of Engineering** Currently enrolled students: # General information: **https://ask.unimelb.edu.au (https://ask.unimelb.edu.au/)** # **Contact Stop 1 (http://students.unimelb.edu.au/stop1)**
Overview:	The Software Engineering stream of the Bachelor of Engineering (for students commencing in 2008). See Bachelor of Engineering (B-ENG)
Learning Outcomes:	See Bachelor of Engineering (B-ENG)
Structure & Available Subjects:	**THE COURSE STRUCTURE BELOW ONLY APPLIES TO RE-ENROLLING STUDENTS WHO COMMENCED THEIR STUDIES PRIOR TO 2009.Students still enrolled in this course need to seek specific personalised advice from a course adviser on the requirements necessary to complete the degree** Completion of 400 points of study culminating in an advanced software engineering project in the final year. 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:	The following subjects are required for this stream of the Bachelor of Engineering. **First Year (normally 100 points taken in Year 1)**

Subject	Study Period Commencement:	Credit Points:
ENGR10003 Engineering Systems Design 2	Summer Term, Semester 2	12.50
ENGR10004 Engineering Systems Design 1	Semester 1, Semester 2	12.50
INFO10001 Informatics 1: Data on the Web	Not offered 2016	12.50
INFO10002 Informatics 2: Programming on the Web	Not offered 2016	12.50
MAST10005 Calculus 1	Semester 1, 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:
COMP20003 Algorithms and Data Structures	Semester 2	12.50
COMP20006 Programming the Machine	Not offered 2016	12.50
MAST10007 Linear Algebra	Summer Term, Semester 1, Semester 2	12.50
SWEN20003 Object Oriented Software Development	Semester 2	12.50
COMP30026 Models of Computation	Semester 2	12.50

Plus

- Two breadth subject (i.e. 25.00 credit points total)
- One science or engineering elective (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 **Science-credited subjects - new generation B-SCI and B-ENG (../../view/current/%21B-SCI-SPC%2B1021)** for a full list of subjects. Science electives may have prerequisites.
- An engineering elective is any subject offered by the Melbourne School of Engineering and requires the approval of the stream coordinator. A list of subjects on offer can be obtained by an 'Advanced Search' of this Handbook. Search for Faculty: 'Engineering'.

Third Year (normally 100 points taken in Year 3)

Subject	Study Period Commencement:	Credit Points:
SWEN30004 Software Engineering Project	Semester 2	12.50
SWEN30006 Software Modelling and Design	Semester 1, Semester 2	12.50
SWEN90006 Software Testing and Reliability	Semester 2	12.50
SWEN90008 Software Processes and Management	Not offered 2016	12.50

Plus three electives (CSSE Electives) selected from subjects offered by the Department of Computer Science and Software Engineering (i.e. 37.50 credit points total)

Subject	Study Period Commencement:	Credit Points:
COMP30017 Operating Systems and Network Services	Not offered 2016	12.50
COMP30018 Knowledge Technologies	Semester 1, Semester 2	12.50
COMP30019 Graphics and Interaction	Semester 2	12.50
COMP30020 Declarative Programming	Semester 2	12.50
COMP30021 Theoretical Computer Science	Not offered 2016	12.50

Plus one approved elective (i.e. 12.50 credit points total)

N.B.

- An approved elective is a CSSE Elective or a CSSE Advanced Elective. Alternatively, any other subjects with the approval of the stream coordinator.

Fourth Year (normally 100 points taken in Year 4)

Subject	Study Period Commencement:	Credit Points:
SWEN40001 Advanced Software Engineering Project	Year Long	25
SWEN40004 Modelling Complex Software Systems	Semester 1	12.50

Plus three advanced electives (CSSE Advanced Electives) selected from subjects offered by the Department of Computing and Information Systems (i.e. 37.50 credit points total)

Subject	Study Period Commencement:	Credit Points:
COMP90042 Web Search and Text Analysis	Semester 1	12.50
COMP90043 Cryptography and Security	Semester 2	12.50
COMP90044 Research Methods	Semester 2	12.50
COMP90045 Programming Language Implementation	Not offered 2016	12.50
COMP90046 Constraint Programming	Not offered 2016	12.5
COMP90050 Advanced Database Systems	Semester 1	12.50
COMP90051 Statistical Machine Learning	Semester 2	12.50
COMP90053 Program Analysis and Transformation	Not offered 2016	12.50
COMP90054 Software Agents	Semester 2	12.50
SWEN90007 Software Design and Architecture	Semester 2	12.50
SWEN90009 Software Requirements Analysis	Semester 1	12.50
SWEN90010 High Integrity Systems Engineering	Semester 1	12.50

Plus two approved electives (i.e. 25.00 credit points total)

NB.

An approved elective is a CSSE Elective or a CSSE Advanced Elective. Alternatively, any other subjects with the approval of the stream coordinator.

Related Course(s):	Bachelor of Engineering