

# Master of Engineering (Software with Business)

<b>Year and Campus:</b>	2016
<b>Coordinator:</b>	Associate Professor Shanika Karunasekera email: karus@unimelb.edu.au
<b>Contact:</b>	<p><b>Melbourne School of Engineering</b></p> <p>Current students:</p> <ul style="list-style-type: none"> <li># General information: <a href="https://ask.unimelb.edu.au">https://ask.unimelb.edu.au</a> (<a href="https://ask.unimelb.edu.au">https://ask.unimelb.edu.au</a>)</li> <li># <b>Contact Stop 1</b> (<a href="http://students.unimelb.edu.au/stop1">http://students.unimelb.edu.au/stop1</a>)</li> </ul> <p>Future students:</p> <ul style="list-style-type: none"> <li># Further information: <b>Degree Structure</b> (<a href="http://www.eng.unimelb.edu.au/study/degrees/master-engineering-software-business/overview">http://www.eng.unimelb.edu.au/study/degrees/master-engineering-software-business/overview</a>)</li> <li># Email: <b>Enquiry Form</b></li> </ul>
<b>Overview:</b>	<p>Software engineers combine an understanding of computer science, design, engineering management, mathematics and psychology to manage the development, maintenance and production of large scale software systems.</p> <p>This specialisation focuses on team-based projects, in which students must conceive, design, implement and operate software engineering solutions. Students develop technical skills and the ability to apply engineering principles to solving real-world problems.</p> <p>A year-long industry project provides the opportunity to work closely with ICT professionals, and many graduates find roles in this field, in addition to those in other service-oriented and software development areas.</p>
<b>Learning Outcomes:</b>	To produce graduates who are both skilled in software engineering principles and have the ability to apply them to complex, open-ended engineering tasks and problems.
<b>Structure &amp; Available Subjects:</b>	<p>The Master of Engineering (Software with Business) consists of 300 points of study - 275 points core plus 25 points elective subjects as listed below.</p> <p>Advanced standing will be awarded for equivalent subjects taken in prior study to applicants on the following basis:</p> <ul style="list-style-type: none"> <li># A maximum of 100 points for applicants with a 4 year Bachelor of Engineering or equivalent.</li> <li># A maximum of 100 points for applicants with a 3 year undergraduate degree. Students entering with a three year bachelor degree must complete at least 200 points of study within the Masters of Engineering. In cases where applicants have completed the equivalent of more than 100 points of core masters subjects, discipline specific electives must be taken to fulfil the requirement of 200 points minimum master,s study.</li> </ul> <p>Note: applicants from the University of Melbourne with:</p> <ul style="list-style-type: none"> <li># An appropriate "Engineering System" major will receive 100 points of advanced standing. Applicants who have completed more than 100 points of core subjects in their undergraduate degree will obtain exemption for the cores taken but will need to replace the points in excess of 100 with approved elective subject/s.</li> <li># Engineering breadth sequences (including those in the Bachelor of Commerce) will receive advanced standing to a maximum of 100 points.</li> </ul>
<b>Subject Options:</b>	<p>Total 300 points Students must complete all 300 points of subjects, including all core subjects, or have advanced standing or exemption.</p> <p>The core and elective subjects are those listed below. The order of subjects below is one way of progressing through the course - students who meet subject requisites may tailor their individual study plan to take into account advanced standing and their study load. Students plan their study online, however Melbourne School of Engineering course advisors are available to assist students with individual study plans.</p> <p>Students must complete the following in the Master of Engineering (Software):</p>

- # 275 credit points of core subjects
- # 12.5 credit points of Computing and Information Systems (CIS) Electives
- # 12.5 credit points of Computing and Information Systems (CIS) Advanced Electives

**Suggested first 100 points:**

- # 87.5 points Core
- # 12.5 points Computing and Information Systems (CIS) Electives

**Core 87.5 points**

Subject	Study Period Commencement:	Credit Points:
COMP90038 Algorithms and Complexity	Semester 1, Semester 2	12.50
COMP90041 Programming and Software Development	Semester 1, Semester 2	12.50
COMP20005 Engineering Computation	Semester 1, Semester 2	12.50
SWEN30006 Software Modelling and Design	Semester 1, Semester 2	12.50
COMP90007 Internet Technologies	Semester 1, Semester 2	12.50
INFO20003 Database Systems	Semester 2	12.50
COMP30026 Models of Computation	Semester 2	12.50

**CIS Electives**

12.5 points from the below list

Subject	Study Period Commencement:	Credit Points:
COMP30018 Knowledge Technologies	Semester 1, Semester 2	12.50
COMP30020 Declarative Programming	Semester 2	12.50
COMP30022 IT Project	Semester 2	12.50
COMP30023 Computer Systems	Semester 1	12.50
COMP30024 Artificial Intelligence	Semester 1	12.50
INFO30004 Usability Engineering	Semester 1	12.50
INFO30005 Web Information Technologies	Semester 1	12.50

**Suggested second 100 points:**

- # 100 points Core

**Core 100 points**

Subject	Study Period Commencement:	Credit Points:
SWEN90014 Masters Software Engineering Project	Semester 2	12.50
SWEN90006 Software Testing and Reliability	Semester 2	12.50
SWEN90009 Software Requirements Analysis	Semester 1	12.50
ISYS90050 IT Project and Change Management	June, Semester 1, Semester 2	12.50
ENGM90014 The World of Engineering Management	Semester 1, Semester 2	12.50

ENGM90012 Marketing Management for Engineers	Semester 2	12.50
ENGM90006 Engineering Contracts and Procurement	Semester 2	12.50
ENGR90021 Engineering Practice and Communication	Semester 1, Semester 2	12.50

**Suggested third 100 points:**

- # 87.5 points Core
- # 12.5 points Computing and Information Systems (CIS) Advanced Electives

Core 87.5 points

Subject	Study Period Commencement:	Credit Points:
SWEN90013 Masters Advanced Software Project	Year Long	25
ENGM90011 Economic Analysis for Engineers	Semester 1	12.50
ENGM90013 Strategy Execution for Engineers	Semester 1, Semester 2	12.50
SWEN90010 High Integrity Systems Engineering	Semester 1	12.50
SWEN90007 Software Design and Architecture	Semester 2	12.50
SWEN90004 Modelling Complex Software Systems	Semester 1	12.5

**CIS Advanced Electives**

12.5 points from the below list

Subject	Study Period Commencement:	Credit Points:
COMP90015 Distributed Systems	Semester 1, Semester 2	12.50
COMP90048 Declarative Programming	Semester 2	12.50
COMP90049 Knowledge Technologies	Semester 1, Semester 2	12.50
COMP90057 Advanced Theoretical Computer Science	Semester 2	12.50

<b>Links to further information:</b>	<a href="http://www.eng.unimelb.edu.au/study/graduate/master-eng-software-business.html">http://www.eng.unimelb.edu.au/study/graduate/master-eng-software-business.html</a>
<b>Related Course(s):</b>	Master of Engineering