

361-AA Master of Software Systems Engineering

Year and Campus:	2009																
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees																
Level:	Graduate/Postgraduate																
Duration & Credit Points:																	
Contact:	<p>Engineering Student Centre Ground Floor, Old Engineering Building The University of Melbourne Victoria 3010 AUSTRALIA Tel: +61 3 8344 6703 Fax: +61 3 9349 2182 Email http://eng-unimelb.custhelp.com (Engineering%20Student%20Centre%20%20Ground%20Floor,%20Old%20Engineering%20Building%20The%20University%20of%20Melbourne%20Victoria%203010%20AUSTRALIA%20%20Tel:%20+61%203%208344%206703%20Fax:%20+61%203%209349%202182%20%20Email%20http://eng-unimelb.custhelp.com)</p>																
Course Overview:	<p>The MSSE allows graduates of computer science to study current computer science and software engineering topics at an advanced level. The course allows considerable flexibility and students select their own program from the available subjects. The technological skills presented in the MSSE are in high demand throughout the computing industry.</p> <p>The course covers a wide range of subjects enabling students to choose areas a variety of specialisations, for example:</p> <ul style="list-style-type: none"> # Artificial Intelligence: understanding and building intelligent systems # Information Management: database and information retrieval systems and associated technologies for the management of data # Software Engineering: modern software engineering principles and methodologies. 																
Objectives:	<p>The Master of Software Systems Engineering is designed to:</p> <ul style="list-style-type: none"> # Provide a solid foundation for students who want to develop their career in the broad field of computing # Provide a thorough understanding of key areas of Computer Science # Provide an introduction to research skills in a selected area # Improve computer related oral and written communication skills 																
Course Structure & Available Subjects:	-																
Subject Options:	<p>Eight subjects of 12.5 points each or six subjects of 12.5 points plus a small research project of 25 points (433-699 Minor Research Project). The research project involves an investigation and preparation of a substantial written report under the supervision of an academic staff member. Enrolment in this subject requires the approval of the Program Director. Students must complete a minimum of six subjects at a 600-level from those taught by the Department.</p> <p>Students should note that not all subjects are offered every year. Students seeking definitive details should contact the department prior to commencement. International students should check subject availability before commencing the course.</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>433-620 Engineering for Internet Applications</td> <td>Semester 2</td> <td>12.500</td> </tr> <tr> <td>433-630 Principles of Programming Languages</td> <td>Semester 1</td> <td>12.500</td> </tr> <tr> <td>433-632 Logic Programming</td> <td>Semester 2</td> <td>12.500</td> </tr> <tr> <td>433-633 Constraint Programming</td> <td>Not offered 2009</td> <td>12.500</td> </tr> </tbody> </table>		Subject	Study Period Commencement:	Credit Points:	433-620 Engineering for Internet Applications	Semester 2	12.500	433-630 Principles of Programming Languages	Semester 1	12.500	433-632 Logic Programming	Semester 2	12.500	433-633 Constraint Programming	Not offered 2009	12.500
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433-643 IT Project Management	Semester 1	12.500
433-645 Software System Security	Not offered 2009	12.500
433-646 Systems Requirements Engineering	Not offered 2009	12.500
433-650 Computational Gene Expression	Not offered 2009	12.500
433-652 Distributed Systems	Semester 1, Semester 2	12.500
433-653 Mobile Computing Systems Programming	Not offered 2009	12.500
433-661 High Performance Database Systems	Semester 2	12.500
433-667 Text and Document Management	Semester 1	12.500
433-677 Networks & Parallel Processing	Semester 2	12.500
433-678 Cluster and Grid Computing	Semester 1	12.500
433-679 Evolutionary and Neural Computation	Semester 2	12.500
433-682 Software Agents	Semester 1	12.500
433-684 Machine Learning	Not offered 2009	12.500
433-693 Directed Study 6A	Summer, Semester 1, Semester 2	12.500
433-694 Directed Study 6B	Summer, Semester 1, Semester 2	12.500

In addition to these subjects, students may with the approval of the Program Director take up to two of the following subjects from the Master of Telecommunications Engineering:

Subject	Study Period Commencement:	Credit Points:
431-620 Fundamentals of Network Design	Semester 1	12.500
431-621 Multimedia Network Design	Semester 2	12.500
431-625 Internet Engineering	Semester 1, Semester 2	12.500

Entry Requirements:

Academic Requirements

Academic entry requirements are:

a four year degree with a substantial computing content with an average final year mark of at least 70% (University of Melbourne equivalent)

or

a four year degree in a related discipline together with considerable industry experience in the field of computing or software engineering

or

consideration will also be given to applicants with a three year degree in a computing-related discipline or equivalent and who have completed the Postgraduate Diploma in Science (Computer Science) at the University of Melbourne with a mark of 75% or higher.

Computer Background

An applicant's computing background should include solid experience with Unix and C programming as well as a good knowledge of:

- # data structures and algorithms for sorting, searching and graph manipulation
- # software development principles and tools
- # software design including object-oriented design.

An applicant's computing background should also include good knowledge of several specialised areas, such as: artificial intelligence; computability and logic; operating systems;

	<p>databases; human-computer interaction; computer networks; compilers; computer graphics and software engineering.</p> <p>An applicant must have studied mathematics or statistics at the equivalent of a second year University level.</p> <p>English Language Requirement</p> <p>International students and students whose prior qualifications are from a university overseas where English is not the official language of instruction and examination need to supply proof of academic English language competency. Proof acceptable to the University includes:</p> <p>Original evidence of an English Language test score at a sitting within the last 24 months of either -</p> <p>TOEFL - at least 577 and a TWE of at least 4.5 (paper based) or a TOEFL of at least 233 with an Essay Rating of at least 4.5 (computer based)</p> <p>or</p> <p>IELTS - at least 6.5. (A minimum band score of 6 is required in the Academic Writing module).</p> <p>Entry under a slightly lower Engineering alternative* English Language entry requirement is available as follows:</p> <p>TOEFL - at least 550, with a TWE of 4 or the computer based TOEFL of at least 213 with an Essay Rating Score of at least 4 and agreeing in writing to undertake and pass an ESL subject in the first semester of study at The University of Melbourne</p> <p>or</p> <p>IELTS - at least 6 and agreeing in writing to undertake and pass an ESL subject in the first semester of study at The University of Melbourne.</p> <p>* The Faculty of Engineering's English Language alternative may affect the duration and cost of your course.</p>
Core Participation Requirements:	-
Graduate Attributes:	-
Generic Skills:	-
Notes:	The program is accredited by the Australian Computer Society (ACS).