

# SWEN30006 Software Modelling and Design

<b>Credit Points:</b>	12.50																		
<b>Level:</b>	3 (Undergraduate)																		
<b>Dates &amp; Locations:</b>	This subject is not offered in 2011.																		
<b>Time Commitment:</b>	Contact Hours: 24 one-hour lectures (two per week) and 12 two hour workshops (one per week) Total Time Commitment: Not available																		
<b>Prerequisites:</b>	<p>One from Group A AND one from Group B:</p> <p>Group A</p> <p>433-254 Software Design</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>SWEN20003 Object Oriented Software Development</td> <td>Not offered 2011</td> <td>12.50</td> </tr> <tr> <td>COMP90041 Programming and Software Development</td> <td>Not offered 2011</td> <td>12.50</td> </tr> </tbody> </table> <p>Group B</p> <p>433-253 Algorithms and Data Structures</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>COMP20003 Algorithms and Data Structures</td> <td>Not offered 2011</td> <td>12.50</td> </tr> <tr> <td>COMP90038 Algorithms and Complexity</td> <td>Not offered 2011</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	SWEN20003 Object Oriented Software Development	Not offered 2011	12.50	COMP90041 Programming and Software Development	Not offered 2011	12.50	Subject	Study Period Commencement:	Credit Points:	COMP20003 Algorithms and Data Structures	Not offered 2011	12.50	COMP90038 Algorithms and Complexity	Not offered 2011	12.50
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<b>Corequisites:</b>	None																		
<b>Recommended Background Knowledge:</b>	None																		
<b>Non Allowed Subjects:</b>	433-341 Software Engineering Process & Practice																		
<b>Core Participation Requirements:</b>	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: <a href="http://www.services.unimelb.edu.au/disability/">http://www.services.unimelb.edu.au/disability/</a>																		
<b>Contact:</b>	Dr Shanika Karunasekera email: <a href="mailto:karus@unimelb.edu.au">karus@unimelb.edu.au</a> ( <a href="mailto:karus@unimelb.edu.au">mailto:karus@unimelb.edu.au</a> )																		
<b>Subject Overview:</b>	Software Systems must be carefully designed and analysed before they are constructed; this subject teaches the knowledge and skills needed for this. Topics include requirements analysis, including use-cases; the Unified Modelling Language (UML); software design processes and principles; some common design patterns and architectural styles; software tools for analysis and design. The emphasis will be on techniques appropriate for object-oriented programming.																		
<b>Objectives:</b>	<p>On completion of this subject, students should be able to:</p> <ul style="list-style-type: none"> <li># Analyse systems requirements</li> <li># Carry out an architectural and detailed design for medium sized software systems</li> <li># Select appropriate design patterns for a design, and</li> <li># Choose an implementation platform and framework to suit a design</li> </ul>																		

<b>Assessment:</b>	Project work during semester, expected to take about 36 hours (40%); and a 2-hour end-of-semester written examination (60%). To pass the subject, students must obtain at least 50% overall, 15/30 in project work, and 35/70 in the mid-semester test and end-of-semester written examination combined.
<b>Prescribed Texts:</b>	None
<b>Breadth Options:</b>	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> <li># <b>Bachelor of Arts</b> (<a href="https://handbook.unimelb.edu.au/view/2011/B-ARTS">https://handbook.unimelb.edu.au/view/2011/B-ARTS</a>)</li> <li># <b>Bachelor of Commerce</b> (<a href="https://handbook.unimelb.edu.au/view/2011/B-COM">https://handbook.unimelb.edu.au/view/2011/B-COM</a>)</li> <li># <b>Bachelor of Environments</b> (<a href="https://handbook.unimelb.edu.au/view/2011/B-ENVS">https://handbook.unimelb.edu.au/view/2011/B-ENVS</a>)</li> <li># <b>Bachelor of Music</b> (<a href="https://handbook.unimelb.edu.au/view/2011/B-MUS">https://handbook.unimelb.edu.au/view/2011/B-MUS</a>)</li> </ul> <p>You should visit <b>learn more about breadth subjects</b> (<a href="http://breadth.unimelb.edu.au/breadth/info/index.html">http://breadth.unimelb.edu.au/breadth/info/index.html</a>) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<p>On completion of this subject students should have developed the following generic skills:</p> <ul style="list-style-type: none"> <li># Ability to undertake problem identification, formulation and solution</li> <li># Proficiency in engineering design</li> <li># Ability to utilise a systems approach to design and operational performance.</li> </ul>
<b>Related Course(s):</b>	<p>Bachelor of Computer Science          Bachelor of Engineering (Computer Engineering)          Bachelor of Engineering (Mechatronics) and Bachelor of Computer Science          Bachelor of Science</p>
<b>Related Majors/Minors/ Specialisations:</b>	<p>B-ENG Software Engineering stream          Computer Science          Master of Engineering (Mechatronics)          Master of Engineering (Software)          Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses          Software Systems</p>