SWEN30006 Software Modelling and Design

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<tr><td>Credit Points:</td><td>12.50</td></tr>
<tr><td>Level:</td><td>3 (Undergraduate)</td></tr>
<tr><td>Dates & Locations:</td><td>2012, Parkville
This subject commences in the following study period/s:
Semester 1, Parkville - Taught on campus.</td></tr>
<tr><td>Time Commitment:</td><td>Contact Hours: 24 one-hour lectures (two per week) and 12 two hour workshops (one per week)
Total Time Commitment: 120 hours.</td></tr>
<tr><td>Prerequisites:</td><td>Select one subject from Group A and one from Group B.
Group A.
<table>
<tr><th>Subject</th><th>Study Period Commencement:</th><th>Credit Points:</th></tr>
<tr><td>SWEN20003 Object Oriented Software Development</td><td>Semester 2</td><td>12.50</td></tr>
<tr><td>COMP90041 Programming and Software Development</td><td>Semester 1, Semester 2</td><td>12.50</td></tr>
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OR
433-254 Software Design

Group B.
<table>
<tr><th>Subject</th><th>Study Period Commencement:</th><th>Credit Points:</th></tr>
<tr><td>COMP20003 Algorithms and Data Structures</td><td>Semester 1, Semester 2</td><td>12.50</td></tr>
<tr><td>COMP90038 Algorithms and Complexity</td><td>Semester 1, Semester 2</td><td>12.50</td></tr>
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OR
433-253 Algorithms and Data Structures</td></tr>
<tr><td>Corequisites:</td><td>None</td></tr>
<tr><td>Recommended Background Knowledge:</td><td>None</td></tr>
<tr><td>Non Allowed Subjects:</td><td>433-341 Software Engineering Process & Practice</td></tr>
<tr><td>Core Participation Requirements:</td><td>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:http://www.services.unimelb.edu.au/disability/</td></tr>
<tr><td>Coordinator:</td><td>Assoc Prof Shanika Karunasekera</td></tr>
<tr><td>Contact:</td><td>Dr Shanika Karunasekera
email: karus@unimelb.edu.au (mailto:karus@unimelb.edu.au)</td></tr>
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Subject Overview:	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.
Objectives:	On completion of this subject, students should be able to: # Analyse systems requirements # Carry out an architectural and detailed design for medium-sized software systems # Select appropriate design patterns for a design, and # Choose an implementation platform and framework to suit a design
Assessment:	Project work during semester, expected to take about 36 hours (40%) 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
Prescribed Texts:	None
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: # **Bachelor of Arts (https://handbook.unimelb.edu.au/view/2012/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2012/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2012/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2012/B-MUS)** You should visit **learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html)** and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On completion of this subject students should have developed the following generic skills: # Ability to undertake problem identification, formulation and solution # Proficiency in engineering design # Ability to utilise a systems approach to design and operational performance.
Related Course(s):	Bachelor of Computer Science Bachelor of Engineering Bachelor of Engineering (Computer Engineering) Diploma in Informatics
Related Majors/Minors/ Specialisations:	B-ENG Software Engineering stream Computer Science Computing and Software Systems Master of Engineering (Mechatronics) Master of Engineering (Software) Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED. Software Systems
Related Breadth Track(s):	Computing