

COMP30023 Computer Systems

Credit Points:	12.50									
Level:	3 (Undergraduate)									
Dates & Locations:	This subject is not offered in 2012.									
Time Commitment:	Contact Hours: 24 one-hour lectures (two per week) and 12 two-hour workshops (one per week) Total Time Commitment: 120 hours									
Prerequisites:	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>COMP10002 Foundations of Algorithms</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>COMP20006 Programming the Machine</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	COMP10002 Foundations of Algorithms	Semester 2	12.50	COMP20006 Programming the Machine	Semester 1, Semester 2	12.50
Subject	Study Period Commencement:	Credit Points:								
COMP10002 Foundations of Algorithms	Semester 2	12.50								
COMP20006 Programming the Machine	Semester 1, Semester 2	12.50								
Corequisites:	None									
Recommended Background Knowledge:	None									
Non Allowed Subjects:	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>COMP30017 Operating Systems and Network Services</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	COMP30017 Operating Systems and Network Services	Semester 1	12.50			
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COMP30017 Operating Systems and Network Services	Semester 1	12.50								
Core Participation Requirements:	<p><p>For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.</p> <p>It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability</p></p>									
Contact:	Associate Professor Tim baldwin email: tbaldwin@unimelb.edu.au (mailto:tbaldwin@unimelb.edu.au)									
Subject Overview:	Over the last half century, computers have improved at a faster rate than almost any other technology on the planet, yet the principles on which they work have remained mostly constant. In this subject, students will learn how computer systems work "under the hood". This knowledge is essential for writing secure software, for writing high performance software, and for writing software to exploit the power of multicore computers. Topics covered include: introduction to computer organization; the hardware/software interface; the role of the operating system; the memory hierarchy (caches, virtual memory, and working sets); interrupt handling, processes and scheduling; file systems; and introduction to multiprocessors and synchronization.									
Objectives:	On completion of this subject, students should be able to understand and write: <ul style="list-style-type: none"> # Code that exploits the memory hierarchy # Simple code that uses interrupts # Code that performs operations on processes # Code that performs operations on files # Simple parallel code that performs synchronization as needed 									

Assessment:	Project work during semester, expected to take about 36 hours (30%) A mid-semester test (10%) 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:	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> # 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 Music (https://handbook.unimelb.edu.au/view/2012/B-MUS) <p>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.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>On completion of this subject, students should have developed the following generic skills:</p> <ul style="list-style-type: none"> # An ability to apply knowledge of basic science and engineering fundamentals # An ability to undertake problem identification, formulation and solution # The capacity to solve problems, including the collection and evaluation of information # The capacity for critical and independent thought and reflection # An expectation of the need to undertake lifelong learning, and the capacity to do so
Related Majors/Minors/ Specialisations:	Computing and Software Systems
Related Breadth Track(s):	Computing