

COMP90024 Cluster and Cloud Computing

Credit Points:	12.50						
Level:	9 (Graduate/Postgraduate)						
Dates & Locations:	2013, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.						
Time Commitment:	Contact Hours: 3 hours 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>COMP90015 Distributed Systems</td> <td>Not offered 2013</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	COMP90015 Distributed Systems	Not offered 2013	12.50
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COMP90015 Distributed Systems	Not offered 2013	12.50					
Corequisites:	None						
Recommended Background Knowledge:	None						
Non Allowed Subjects:	None						
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>						
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Contact:	email: lkulik@unimelb.edu.au (mailto:lkulik@unimelb.edu.au)						
Subject Overview:	<p>The growing popularity of the Internet along with the availability of powerful computers and high-speed networks as low-cost commodity components are changing the way we do parallel and distributed computing (PDC). The PDC on local-area-networks is called "cluster computing " and wide-area networks is called "grid computing" . Clusters employ cost-effective commodity components for building powerful computers within local-area networks, and Grids allow to share and aggregate geographically distributed resources. Recently, "cloud computing" emerged as the new paradigm for delivery of computing as services in a pay-as-you-go-model via the Internet. This revolutionary new paradigm has its roots, and therefore shares many characteristics, with grids.</p> <p>Some examples of scientific and industrial applications that use these computing platforms are: system simulations, weather forecasting, climate prediction, automobile modelling and design, high-energy physics, movie rendering, business intelligence, bigdata computing, and delivering various business and consumer applications on a pay-as-you-go basis.</p> <p>This subject will enable students to understand these technologies, its goals, characteristics, and limitations, and develop both middleware supporting them and scalable applications supported by these platforms.</p> <p>This subject is an elective subject in the Master of Information Technology and a mandatory for the Distributed Computing Specialisation. It can also be taken as an Advanced Elective subject in the Master of Engineering (Software).</p>						
Objectives:	On completion of this subject students should:						

	<ul style="list-style-type: none"> # Be able to understand emerging distributed technologies # Be able to design large-scale distributed systems # Be able to implement high-performance cluster and cloud applications
Assessment:	A small assignment including a report (10%) in the area of MPI programming on clusters. Project work which includes a term paper, design and development of a system and around 5000 words report (40%) A 3 hour end-of-semester written examination (50%) To pass the subject students must obtain at least: 25/50 in assignment/project work And 25/50 in the end-of-semester written examination ILO 1 is addressed in all assessment components. ILO 2 is addressed in the project work, ILO 3 in the first assignment.
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>On successful completion students should:</p> <ul style="list-style-type: none"> # Have improved skills in teamwork and presentation of results # Be able to undertake problem identification, formulation and solution # Have a capacity for independent critical thought, rational inquiry and self-directed learning # Have a profound respect for truth and intellectual integrity, and for the ethics of scholarship
Related Course(s):	<p>Master of Engineering in Distributed Computing Master of Information Technology Master of Information Technology Master of Information Technology Master of Philosophy - Engineering Master of Science (Computer Science) Master of Software Systems Engineering Ph.D.- Engineering Postgraduate Certificate in Engineering</p>
Related Majors/Minors/ Specialisations:	<p>Computer Science Master of Engineering (Software)</p>