

MAST90050 Scheduling and Optimisation

Credit Points:	12.50						
Level:	9 (Graduate/Postgraduate)						
Dates & Locations:	2012, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.						
Time Commitment:	Contact Hours: 36 hours: Two 1-hour lectures per week and one 1-hour computer laboratory class per week. Total Time Commitment: 120 hours						
Prerequisites:	The following subject, or equivalent: <table border="1" data-bbox="387 573 1485 719"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>MAST90014 Optimisation for Industry</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	MAST90014 Optimisation for Industry	Semester 1	12.50
Subject	Study Period Commencement:	Credit Points:					
MAST90014 Optimisation for Industry	Semester 1	12.50					
Corequisites:	None						
Recommended Background Knowledge:	None						
Non Allowed Subjects:	None						
Core Participation Requirements:	For the purposes of considering requests 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 for 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/						
Coordinator:	Dr Heng Soon Gan						
Contact:	Dr Heng-Soon Gan Email: hsg@unimelb.edu.au (mailto:hsg@unimelb.edu.au)						
Subject Overview:	Scheduling is critical to manufacturing, mining, and logistics, and is of increasing importance in healthcare and service industries. Most automated systems, ranging from elevators to industrial robots, embed some kind of scheduling algorithms. Building on the Optimisation background provided in Optimisation for Industry, this subject teaches students how to solve more advanced problems. A particular focus will be scheduling problems, but other more general assignment problems will be discussed.						
Objectives:	After completing this subject, students will: <ul style="list-style-type: none"> # be able to use advanced mathematical and computing techniques to model scheduling problems; # know how to develop effective mathematical methods of scheduling; # learn how to apply such methods in important real-life situations; # gain the ability to pursue further studies in this and related areas. 						
Assessment:	Up to 60 pages of written assignments (60%: two assignments worth 30% each, due mid and late in semester), a 2-hour written examination (40%, in the examination period).						
Prescribed Texts:	TBA						

Recommended Texts:	TBA
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>In addition to learning specific skills that will assist students in their future careers in science, they will have the opportunity to develop generic skills that will assist them in any future career path. These include:</p> <ul style="list-style-type: none"> # problem-solving skills: the ability to engage with unfamiliar problems and identify relevant solution strategies; # analytical skills: the ability to construct and express logical arguments and to work in abstract or general terms to increase the clarity and efficiency of analysis; # collaborative skills: the ability to work in a team; # time-management skills: the ability to meet regular deadlines while balancing competing commitments.
Related Course(s):	<p>Master of Operations Research and Management Science Master of Science (Mathematics and Statistics)</p>
Related Majors/Minors/ Specialisations:	Mathematics and Statistics