MAST90050 Scheduling and Optimisation

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 36 hours: 2 x one-hour lectures per week and 1 x one-hour computer laboratory class per week. Total Time Commitment: 120 hours
Prerequisites:	620-616 Optimisation for Industry
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:	.
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: # 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
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:	Upon the completion of this subject, students should develop:

Prerequisites: 620-616 Optimisation for Industry

Subject	Study Period Commencement:	Credit Points:
MAST90014 Optimisation for Industry	Semester 1	12.50

	# Problem-solving skills (especially through tutorial exercises and assignments) including engaging with unfamiliar problems and identifying relevant strategies; # Analytical skills including the ability to construct and express logical arguments and to work in abstract or general terms to increase the clarity and efficiency of the analysis; # Ability to work in a team, through interactions with other students.
Related Course(s):	Master of Science (Management Science) Master of Science (Mathematics and Statistics)