433-255 Logic and Computation

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: Thirty hours of lectures, 11 hours of tutorials and 6 hours of practice classes Total Time Commitment: Not available
Prerequisites:	433-172 Algorithmic Problem Solving or 433-152 Algorithmic Problem Solving (Advanced) or equivalent (prior to 2003, 433-141 Computing Fundamentals A)
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	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. 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
Subject Overview:	The objectives of this subject are for students to be able to reason formally about the properties of simple specifications and programs; to be able to reason formally about simple models of computation; to appreciate the variety of applications of discrete mathematical techniques in computer science; and to gain working experience with a logic programming language. Topics include logic: propositional and predicate calculus, proof structures; logic programming languages (Prolog); formal specification, refinement and program proof; and selected topics from the Chomsky hierarchy of languages, computability, and computational complexity.
Assessment:	Project work during semester, expected to take about 36 hours (30%); and a 2-hour end-of-semester written examination (70%). To pass the subject, students must obtain at least 50% overall, 15/30 in project work, and 35/70 in the written examination.
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:	# ability to apply knowledge of basic science and engineering fundamentals # in-depth technical competence in at least one engineering discipline # ability to undertake problem identification, formulation and solution # capacity for independent critical thought, rational inquiry and self-directed learning
Notes:	Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject. From 2007 this subject will be offered in Semester 2 only.

Related Course(s):	Bachelor of Arts Bachelor of Computer Science Bachelor of Computer Science (Bioinformatics) Bachelor of Computer Science and Bachelor of Laws Bachelor of Engineering (Biomedical)Bioinformatics Bachelor of Engineering (EngineeringManagement) Software Bachelor of Engineering (Mechatronics) and Bachelor of Computer Science Bachelor of Engineering (Software Engineering) Graduate Diploma in Arts (Logic and Philosophy of Science)