COMP30024 Artificial Intelligence

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:	One of the following **Subject** / **Study Period Commencement:** / **Credit Points:** COMP20007 Design of Algorithms / Not offered 2012 / 12.50 COMP20003 Algorithms and Data Structures / Semester 1, Semester 2 / 12.50 433-253 Algorithms and Data Structures 433 298 Algorithms and Data Structures
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	433-303 Artificial Intelligence
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
Contact:	Associate Professor Tim Baldwin email: **tbaldwin@unimelb.edu.au (mailto:tbaldwin@unimelb.edu.au)**
Subject Overview:	Artificial intelligence is the quest to create intelligent agents that can complete complex tasks which are at present only achievable by humans. This broad field covers logic, probability, perception, reasoning, learning and action; and everything from Mars Rover robotic explorers to the Watson Jeopardy playing program. You will explore some of the vast area of artificial intelligence. Topics covered include: searching, problem solving, logic and deduction, knowledge representation, machine learning, and programming languages for artificial intelligence. Topics may also include some of the following: game playing, expert systems, pattern recognition, machine vision, natural language, robotics and planning, neural networks.
Objectives:	On completion of this subject, students should be able to: # Identify problems that can be solved by search, and create search-based solution algorithms # Design intelligent agents for such tasks # Choose the best search-based solving methods for a particular problem # Make use of formal approaches for representing and reasoning about knowledge # Build systems that use simple learning approaches to improve their performance

Assessment:	A programming project in two parts during semester, expected to take about 36 hours (30%) A 3-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 potentially can be taken as a breadth subject component for the following courses: # **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)** 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.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On completion of this subject students should have developed the following generic skills: # The ability to analyse and solve problems involving complex reasoning # The ability to synthesise information and communicate results effectively # The capacity for critical and independent thought and reflection # The ability to apply knowledge of basic science and engineering fundamentals # The ability to undertake problem identification, formulation and solution
Related Majors/Minors/ Specialisations:	Computing and Software Systems