INFO 7002 ADVANCED TOPICS IN ARTIFICIAL INTELLIGENCE

Credit Points 10

Legacy Code 301196

Coordinator Dongmo Zhang (https://directory.westernsydney.edu.au/search/name/Dongmo Zhang/)

Description This subject introduces the most fundamental techniques of artificial intelligence (AI), including knowledge representation, searching, machine learning and intelligent agents. Students will learn the basic theories and algorithms that are essential in the design and development of intelligent systems. The subject will focus on two typical AI applications: game playing and e-trading. Students will have the chance of using existing multiagent system platforms to design and develop intelligent software for game playing and automated trading in e-markets.

School Computer, Data & Math Sciences

Discipline Information Technology, Not Elsewhere Classified.

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Postgraduate Coursework Level 7 subject

Incompatible Subjects LGYA 5875 Intelligent Agents LGYA 5991 Automated Negotiation and e-Trading INFO 7006 Intelligent Agents for eMarkets

Restrictions

Students must be enrolled in a postgraduate program.

Assumed Knowledge

This subject requires basic skills in programming with either JAVA or C++ as the programming language.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Explain the background and principles of typical artificial intelligence techniques;
2. Describe the algorithms and their applications of typical artificial intelligence techniques;
3. Describe the architectures and models of intelligent agents and robots;
4. Explain the general economic model of electronic markets;
5. Design and implement computer game players and trading agents based on provided system development environment.

Subject Content

Problem solving techniques
Knowledge representation and reasoning techniques
Machine learning techniques
Intelligent agents and multiagent systems
Advanced Topic 1: Special intelligence and general intelligence
Advanced Topic 2: Intelligent agents for game playing
Advanced Topic 3: Robot programming
Advanced Topic 4: Agent-mediated e-Markets
Advanced Topic 5: Intelligent agents for e-trading
Case study

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Case Study	15 hours of work offline.	20	N	Individual	N
Case Study	15 hours of work offline.	20	N	Individual	Y
Final Exam	2 hours (open book)	60	N	Individual	Y

Teaching Periods

Spring (2025)
Parramatta - Victoria Rd
On-site

Subject Contact Dongmo Zhang (https://directory.westernsydney.edu.au/search/name/Dongmo Zhang/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFO7002_25-SPR_PS_1#subjects)