

COURSE DETAIL

COMPUTATIONAL INTELLIGENCE

Country

Singapore

Host Institution

Nanyang Technological University

Program(s)

Nanyang Technological University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Engineering Computer Science

UCEAP Course Number

150

UCEAP Course Suffix**UCEAP Official Title**

COMPUTATIONAL INTELLIGENCE

UCEAP Transcript Title

CMPTNL INTELLIGENCE

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course introduces the fundamental theory and concepts of computational intelligence methods, in particular neural networks, fuzzy systems, genetic algorithms and their applications in the area of machine intelligence. Topics include: (1) Understand the concepts of fuzzy sets, knowledge representation using fuzzy rules, approximate reasoning, fuzzy inference systems, and fuzzy logic control and other machine intelligence applications of fuzzy logic. (2) Understand the basics of an evolutionary computing paradigm known as genetic algorithms and its application to engineering optimization problems. (3) Understand the fundamental theory and concepts of neural networks, neuro-modeling, several neural network paradigms and its applications. (4) Contents: Introduction to Fuzzy Logic. Introduction to Fuzzy Sets. Introduction to Fuzzy Inference Systems. Fuzzy Logic Applications. Introduction to Genetic Algorithm. Fundamental Concepts of Artificial Neural Networks and Neural Network Architectures.

Language(s) of Instruction

English

Host Institution Course Number

EE4285

Host Institution Course Title

COMPUTATIONAL INTELLIGENCE

Host Institution Course Details

https://wis.ntu.edu.sg/webexe/owa/aus_subj_cont.main

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Electrical and Electronic Engineering

Course Last Reviewed

2025-2026

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