國立東華大學

教學計劃表　Syllabus

課程名稱(中文) Course Name in Chinese	人工智慧		學年/學期 Academic Year/Semester		112/1
課程名稱(英文) Course Name in English	Artifical Intelligence				
科目代碼 Course Code	CSIEM0270	系級 Department & Year	碩士	開課單位 Course-Offering Department	資訊工程學系
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)		3.0/3.0	
授課教師 Instructor	/顏士淨/邱顯棟				
先修課程 Prerequisite					

課程描述　Course Description

本課程將以AlphaGo的技術為主軸，內容為目前搜尋和深度學習等最新的人工智慧技術。透過課堂講授，專案實作與線上課程研討，將使得人工智慧成為一門實用的科學，並且訓練學生自主學習能力。

課程目標　Course Objectives

本課程內容為目前搜尋和機器學習等最新的人工智慧技術。透過課堂講授，專案實作與線上課程研討，將使得人工智慧成為一門實用的科學，並且訓練學生自主學習能力。
The content of this course covers the latest artificial intelligence technologies such as search and machine learning. Through classroom lectures, project implementation, and online course discussions, this course will make artificial intelligence a practical science and train students to have self-learning abilities.

	系專業能力 Basic Learning Outcomes	課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
A	統合資工知識技術之能力Ability to integrate knowledge and technologies of computer science and information engineering.	●
B	設計技術理論驗證實驗之能力Ability to design and conduct science experiments and to validate hypotheses.	●
C	資訊軟硬體設計開發之能力Ability to design and develop computer software and hardware.	●
D	團隊專案開發之能力Ability to design and develop team projects.	●
E	批判性思考與創新研發之能力。Ability of analytical thinking, creative research planning, and innovative development.	●

圖示說明Illustration ：● 高度相關 Highly correlated ○中度相關 Moderately correlated

授 課 進 度 表 Teaching Schedule & Content

週次Week	內容 Subject/Topics	備註Remarks
1	Introduction	
2	Intelligent Agents	
3	vacation	
4	Solving problems by searching(1)	
5	Solving problems by searching(2)	

6	Informed search	
7	Local search	
8	vacation	
9	Game tree search	
10	AB Tree Search	
11	ABS Othello Competition	
12	Evolution Algorithms	
13	CSP	
14	Monte Carlo Tree Search	
15	Game Theory	
16	產學專題演講	
17	期末論文報告	
18	期末論文報告	

教 學 策 略 Teaching Strategies

☑ 課堂講授 Lecture   ☑ 分組討論Group Discussion   ☐ 參觀實習 Field Trip

☐ 其他Miscellaneous:

教 學 創 新 自 評 Teaching Self-Evaluation

創新教學(Innovative Teaching)

☐ 問題導向學習(PBL)   ☐ 團體合作學習(TBL)   ☐ 解決導向學習(SBL)

☐ 翻轉教室 Flipped Classroom   ☐ 磨課師 Moocs

社會責任(Social Responsibility)

☐ 在地實踐Community Practice   ☐ 產學合作 Industy-Academia Cooperation

跨域合作(Transdisciplinary Projects)

☐ 跨界教學Transdisciplinary Teaching   ☐ 跨院系教學Inter-collegiate Teaching

☐ 業師合授 Courses Co-taught with Industry Practitioners

其它 other:

學期成績計算及多元評量方式 Grading & Assessments

配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績 General Performance									
期中考成績 Midterm Exam									
期末考成績 Final Exam									
作業成績 Homework and/or Assignments	60%		✓	✓					
其他 Miscellaneous (Projects)	40%		✓		✓				

評量方式補充說明
Grading & Assessments Supplemental instructions

教科書與參考書目（書名、作者、書局、代理商、說明）
Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

Stuart Russell and Peter Norvig. Artificial Intelligence: A Modern Approach 3/e, Prentice Hall, 2009.（新月代理）

課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址)
Teaching Aids & Teacher's Website(Including online teaching information.
Personal website can be listed here.)

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其他補充說明（Supplemental instructions）