國立台灣科技大學 114學年 第2學期　課程大綱

Spring 2026 NTUST Course Outline

授課教師：林伯慎,
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課程名稱：人工智慧-技術與
應用

Course Title：Artificial Intelligence –
Technologies and Applications

2026/11/3

課程代號： MI9022701 Course Code 學分數： 3 Credits	必選修：選修/半學年 Required/Electve:Elective/Half Yr. 先修課程： Prerequisites
節次教室： Time/Location	MA(MA-316) MB(MA-316) MC(MA-316)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	The main focus of this course is on the automation of intelligence behaviors. In this course, some research issues, relevant technologies and potential applications of AI are introduced. These technologies can make computers capable of solving problems, classifying things, making decision, learning, being adaptative and communicating. Comprehensive example codes are given in the course for illustrating how the technologies are realized. 5.Learning: 類神經網路分類器 6.Learning: 貝氏網路(Baysian Belief Networks) 7.Reasoning: 邏輯語言與機率式推論 8.Reasoning: 模糊邏輯(Fuzzy Logic) 9.Communicating: 知識表示(Knowledge Representation) 10.Communicating: 自然語言理解與交談 The main focus of Artificial Intelligence is on the automation of intelligence behaviors. In this course, some research issues, relevant technologies and applications in AI area are introduced. These technologies can make computers capable of problem solving, classification, decision making, learning, adaptation and communication, which are indispensable in intelligent information systems. Practical example programs are included in course materials for illustrating the technologies.
課程大綱： Outline of Lectures	1. Course Introduction and State Space Search 2. Unsupervised Learning 3. Classification and Regression 4. Artificial Neural Network 5. Deep Neural Network 6. Representation Learning of Continuous Features 7. Representation of Word, Document, Graph and Natural Language Processing 8. Advanced Issues of Deep Learning 9. Cyberlink/PerfectCorp AI solutions 10. AI development: case study 11. Images Editing, Morphing and Colorization 12. Images Synthesis, Ranking and Conversion 13. Videos and Animations 14. Compression and Security

授課方式： Method of Instruction	講授 Lecture：0% 分組討論 Group discussion：0% 案例研討 Case study：0% 操做練習 Practical exercises：0% 講授 Lecture：%
教科書： Textbooks	
參考書目： References	
修課須知： Notice	
評量方式： Grading	attendance 10% midterm examination 40% final team report 50%
備註說明： Notes	