

一、教學目標 Teaching Objectives：

本學程旨在培養學生將人工智慧與多元工程及計算領域加以整合之能力，內容涵蓋雲端運算、網路技術及資料驅動系統等跨域應用，藉以建立學生跨領域學習與應用之基礎。課程規劃著重於培養學生運用人工智慧進行跨領域問題分析與解決之能力，並強化其於程式設計與機器學習等核心知識之基礎，同時延伸至雲端運算、計算機網路與智慧系統等跨域技術領域。

此外，本學程亦鼓勵學生於跨領域情境中應用數學建模與計算智慧相關方法，以提升其連結人工智慧與實際系統之能力，培養跨域創新素養，並增進其面對未來人工智慧驅動產業發展之適應能力。整體課程規劃亦呼應人工智慧結合雲端系統、網路智慧及智慧工程應用等當前發展趨勢，以期培育兼具理論基礎、跨域整合能力與實務應用能力之人才。

The Artificial Intelligence Cross-Domain Exploration Program is designed to cultivate students' ability to integrate Artificial Intelligence with multiple engineering and computational domains, including cloud computing, networks, and data-driven systems.

This program focuses on:

- Developing AI-driven problem-solving skills across different disciplines
- Building a strong foundation in programming and machine learning
- Extending knowledge into cross-domain technologies, such as:
 - Cloud computing
 - Computer networks
 - Intelligent systems
- Encouraging students to apply mathematical modeling and computational intelligence techniques in interdisciplinary contexts

Through this program, students will:

- Gain the ability to connect AI with real-world systems
- Develop interdisciplinary innovation skills
- Enhance adaptability for future AI-driven industries

This program reflects modern trends in:

- AI + Cloud Systems
- AI + Network Intelligence
- AI + Smart Engineering Applications

二、課程設計 Curriculum Design：

核心課程：3 學分

Core Courses: 3 credits

課號 Course ID	課程名稱 Course Name	學分 Credit(s)	學制 Degree structure	開課系所 Department Offered the Present Course(s)	備註 Remarks
EI109	Programming- Python 程式語言實驗(一) Programming Language Labs(I)	1	大學部 Undergraduate Program	電通學院英語學士班 International Bachelor Program in Electrical and Communication Engineering	EI109與EN006B 為搭配課程，需 同時選修。

課號 Course ID	課程名稱 Course Name	學分 Credit(s)	學制 Degree structure	開課系所 Department Offered the Present Course(s)	備註 Remarks
EN006 B	AI程式設計-Python (一) Fundamentals of AI Programming - Python (I)	2	大學部 Undergraduate Program	電機通訊學院 College of Electrical and Communication Engineering	EI109 and EN006B are paired courses and must be taken concurrently.

專業課程：至少 5 學分

Professional courses: at least 5 credits

課號 Course ID	課程名稱 Course Name	學分 Credit(s)	學制 Degree structure	開課系所 Department Offered the Present Course(s)	備註 Remarks
EI226	雲端計算概論 Introduction to Cloud Computing	3	大學部 Undergraduate Program	電通學院英語學士班 International Bachelor Program in Electrical and Communication Engineering	
EI228	機器學習導論 Introduction to Machine Learning	3	大學部 Undergraduate Program	電通學院英語學士班 International Bachelor Program in Electrical and Communication Engineering	
EI311	電腦網路 Computer Network	3	大學部 Undergraduate Program	電通學院英語學士班 International Bachelor Program in Electrical and Communication Engineering	
EI330	最佳化與啟發式演算法 Optimization and Heuristics	3	大學部 Undergraduate Program	電通學院英語學士班 International Bachelor Program in Electrical and Communication Engineering	
EEA699	強化學習 Reinforcement Learning	3	碩士班 Master Program	電機系甲組 Department of Electrical Engineering (Program A)	
AA106	數位學習(二) EMI Digital Learning (II)	2	大學部 Undergraduate Program	--	領域別 Fields of Study：人工智慧 Artificial Intelligence
AI503	深度學習 Deep learning	3	碩士班 Master Program	AI聯盟 AI Alliance	

三、學程證書授予標準 Certificate Award Criteria：

1. 須至少修習一門非學生所屬學系（組、班）之科目（不可包含院必修「AI程式設計」、與他系合開之課程）。

Students are required to take at least one course outside their own department (or program/class). (The college-compulsory course 'Fundamentals of AI Programming' and courses co-offered with other departments are not included.)

2. 修讀本學程之學生須修畢8學分，包含核心課程3學分、專業課程5學分，即授予學程證書

Students enrolled in this program must complete 8 credits, including 3 credits of core courses and 5 credits of professional courses, to be awarded a program certificate.

四、領域別 Fields of Study：人工智慧 Artificial Intelligence

五、學程召集人 Program Director: 紹伊布 Muhammad Shoaib

六、負責規劃單位 Responsible Planning Unit：電機通訊學院英語學士班 International Bachelor Program in Electrical and Communication Engineering