元智大學「人工智慧視覺技術」深耕跨域學程 科目規劃表

Yuan Ze University

"Artificial Intelligence for Vision Technologies" Advanced Cross-Domain Program

Course Planning Table

（115 學年度申請適用）

(For students applied in Academic Year 2026)

115.8.25 一一五學年度第一次教務會議通過

Passed by the 1st Academic Affairs Meeting, Academic Year 2026, on August 25, 2026

一、教學目標 Teaching Objectives：

本學程主要提供**電機通訊學院、資訊學院及工程學院**之大學部學生修習，旨在培養學生具備人工智慧、影像處理、機器學習及電腦視覺之基礎知識與實務應用能力。課程由基礎素養、專業領域應用及終端實作三個階段組成，引導學生理解數位影像處理、特徵分析、機器學習、深度學習及視覺辨識等核心概念，並運用相關技術處理工業檢測、智慧監控、醫學影像及其他實際視覺應用問題。學生最終將透過終端實作課程，完成具備資料處理、模型建置、效能評估及系統實作之人工智慧視覺應用成果，培養問題分析、系統整合、團隊協作及創新實踐能力。

This program is designed primarily for undergraduate students in **the College of Electrical and Communication Engineering, the College of Informatics, and the College of Engineering**. It aims to develop foundational knowledge and practical application skills in artificial intelligence, image processing, machine learning, and computer vision. The curriculum consists of three stages: foundational competency, professional domain applications, and terminal practice. Students will learn the core concepts of digital image processing, feature analysis, machine learning, deep learning, and visual recognition, and apply these technologies to industrial inspection, intelligent surveillance, medical imaging, and other real-world vision applications. Through the Terminal Practice course, students will develop AI vision applications involving data processing, model development, performance evaluation, and system implementation while strengthening their abilities in problem analysis, system integration, teamwork, and innovative practice.

二、課程設計 Curriculum Design：

(一) 基礎素養必修課程

Required Courses — Foundational Competency

須修習所屬學系（組、班）開設之**電機通訊學院、資訊學院或工程學院**各院必修「AI程式設計」共4學分，實際課程名稱請詳見「各系必選修科目表」。

Students are required to complete the 4-credit "Fundamentals of AI Programming" course required by their respective college— **the College of Electrical and Communication Engineering, the College of Informatics, and the College of Engineering**. The actual course title should be referred to the "Required and Elective Course List of Each Department."

(二) 專業領域選修課程 (以下9門課擇2門修習)

Elective Courses — Professional Domain: Choose two of the following nine courses

課群名稱 Course Group Name	課號 Course ID	課程名稱 Course Name	學分 Credit(s)	學制 Academic Level	開課系所 Offering Unit
機器學習 Machine Learning	IE123	資訊與人工智慧概論 Introduction to Information Technology and Artificial Intelligence	3	大學部 Undergraduate	工業工程與管理學系 Department of Industrial Engineering and Management
	EG302	人工智慧概論 Introduction to Artificial Intelligence	3	大學部 Undergraduate	工程學院 College of Engineering
	IM304	人工智慧應用 Application to Artificial Intelligence	3	大學部 Undergraduate	資訊管理學系 Department of Information Management
	IN322	機器學習 Machine Learning	3	大學部 Undergraduate	資訊學院英語學士班 International Bachelor Program in Informatics
	EEB330	人工智慧與深度學習 Introduction to Artificial Intelligence and Deep Learning	3	大學部 Undergraduate	電機工程學系 Department of Electrical Engineering
	AI004	人工智慧導論 Introduction to Artificial Intelligence	3	大學部 Undergraduate	AI聯盟 TAICA
	AI006	生成式人工智慧與機器學習導論 Introduction to Generative Artificial Intelligence and Machine Learning	3	大學部 Undergraduate	AI聯盟 TAICA

課群名稱 Course Group Name	課號 Course ID	課程名稱 Course Name	學分 Credit(s)	學制 Academic Level	開課系所 Offering Unit
電腦視覺 Computer Vision	CS362/ IN314	影像處理概論 Introduction to Image Processing	3	大學部 Undergraduate	資訊工程學系/資訊學院英語學士班 Department of Computer Science and Engineering/ International Bachelor Program in Informatics
	EEB215	電腦視覺與影像處理概論 Introduction to Computer Vision and Image Processing	3	大學部 Undergraduate	電機工程學系 Department of Electrical Engineering

(三) 終端實作必修課程 (以下4門課擇1門修習)

Required Courses — Terminal Practice: Choose one of the following four courses

課號 Course ID	課程名稱 Course Name	學分 Credit(s)	學制 Academic Level	開課系所 Offering Unit	備註 Remarks
IE438	深度學習神經網路概論與實作 Introduction and Practices to Deep Learning Neural Networks	3	大學部 Undergraduate	工業工程與管理學系 Department of Industrial Engineering and Management	
EEC425	人工智慧與影像辨識 Artificial Intelligence and Image Identification	3	大學部 Undergraduate	電機工程學系 Department of Electrical Engineering	
EEB438	AI醫學應用入門與實作：機器與深度學習醫學應用實例 Medical AI Workshop: Machine learning and Deep Learning in Medicine	2	大學部 Undergraduate	電機工程學系 Department of Electrical Engineering	
AI509	電腦視覺實務與深度學習 Computer Vision Practice with Deep Learning	3	碩士班 Master Program	AI聯盟 TAICA	

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

1、 在第二階段之專業領域選修課程中，學生須至少修習一門非所屬學系（組、班）開設之科目。 In the second-stage Professional Domain Electives, students must complete at least one

course offered outside their own department, program, or class.

2、 修讀本學程之學生須修畢至少12學分，包含基礎素養必修課程2門、專業領域選修課程2門、終端實作必修課程1門，即授予學程證書。 Students enrolled in this program must complete at least 12 credits, including two required courses in Foundational Competency, two elective courses in the Professional Domain, and one required course in Terminal Practice, to be awarded the program certificate.

3、 為避免影響畢業時程，不建議學生於大四下學期始修習終端實作必修課程。 Students are advised not to enroll in a Terminal Practice course for the first time during the second semester of their senior year, in order to avoid conflicts with their graduation schedule.

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

五、學程主責教師 Program Director：電機系乙組/法沙可教授 Electrical Engineering (Program B)/ Prof. Isack Farady

六、負責規劃單位 Responsible Planning Unit：人工智慧學分學程委員會Artificial Intelligence Credit Program Committee