

國立勤益科技大學 114 學年度進修部四年制產攜 2.0 - 產學攜手合作計畫  
資訊工程系智慧科技菁英專班學分計畫表

National Chin-Yi University of Technology Continuing Education Office  
Curriculum for 2025 Department of Computer Science and Information Engineering Four-Year Bachelor  
Program of Elite Program in Smart Technology

112.10.20 系課程會議審議通過  
112.10.31 系務會議審議通過  
112.11.22 院課程會議審議通過  
112.12.07 校課程委員會及112.12.21臨時教務會議審議通過  
114.11.06 系課程會議審議及系務會議審議通過  
114.11.13 院課程會議審議通過  
114.12.04 校課程委員會及114.12.23臨時教務會議審議通過

科目	Courses	上學期First Semester			下學期Second Semester		
		學分 Credit	正課 Lecture	實習 Internship	學分 Credit	正課 Lecture	實習 Internship
共同必修科目(24學分)General Required Courses(24credits hours)							
第一學年First Year							
國文(一)	Chinese (I)	2	2	0			
科技英文(一)	English for Science and Technology (I)	2	2	0			
藝術鑑賞	Art Appreciation	1	1	0			
職場職能與倫理	Occupational Competency and Ethics	2	2	0			
體育(一)	Physical Education (I)	0	2	0			
國文(二)	Chinese (II)				2	2	
科技英文(二)	English for Science and Technology (II)				2	2	
體育(二)	Physical Education (II)				0	2	
微積分(一)	Calculus (I)				3	3	
第二學年Second Year							
憲法與民主	Constitution and Democracy	2	2	0			
微積分(二)	Calculus (II)	3	3	0			
體育(三)	Physical Education(III)	0	2	0			
體育(四)	Physical Education(IV)				0	2	
音樂鑑賞	Music Appreciation				1	1	
第三學年Third Year							
歷史與文化	History and Culture	2	2	0			
人際關係與溝通協調	Interpersonal Communication and Coordination	2	2	0			
科目	Courses	上學期First Semester			下學期Second Semester		
		學分 Credit	正課 Lecture	實習 Internship	學分 Credit	正課 Lecture	實習 Internship
專業必修科目(67學分)Department Required Courses(67credits hours)							
第一學年First Year							
△程式設計與實習(一)	Computer Programming and Experiment (I)	2	1	2			
計算機概論	Introduction to Computer	3	3	0			
產業實務實習(一)	Industrial Practice Internship (I)	3	0	6			
△數位邏輯概論	Introduction to Digital Logic	3	3	0			
△程式設計與實習(二)	Computer Programming and Experiment (II)				2	1	
產業實務實習(二)	Industrial Practice Internship (II)				3	0	
△數位邏輯與實習	Digital Logic and Experiment				2	1	
基本電學	Basic Electricity				3	3	
第二學年Second Year							
產業實務實習(三)	Industrial Practice Internship (III)	3	0	6			
△資料結構	Data Structures	3	3	0			
電子電路與實習	Experiment of Electronics Circuit	2	1	2			
△Web程式設計與實習	Web Programming	2	1	2			
單晶片原理	Theory of Microcontroller	3	3	0			
線性代數	Linear Algebra				3	3	
離散數學	Discrete Mathematics				3	3	
產業實務實習(四)	Industrial Practice Internship (IV)				3	0	
計算機組織與結構	Computer Organization and Architecture				3	3	
第三學年Third Year							
工程數學	Engineering Mathematics	3	3	0			
資料庫概論	Introduction to Database System	3	3	0			
產業實務實習(五)	Industrial Practice Internship (V)	3	0	6			
產業實務實習(六)	Industrial Practice Internship (VI)				3	0	
作業系統	Operating System				3	3	
第四學年Fourth Year							
產業實務實習(七)	Industrial Practice Internship (VII)	3	0	6			
產業實務實習(八)	Industrial Practice Internship (VIII)				3	0	
科目	Courses	上學期First Semester			下學期Second Semester		
		學分 Credit	正課 Lecture	實習 Internship	學分 Credit	正課 Lecture	實習 Internship
專業選修科目Department Electives Courses							
第一學年First Year							

單晶片概論	Introduction to Microcontroller				3	3	0
第二學年Second Year							
電腦網路概論	Introduction to Computer Network	3	3	0			
資訊與多媒體工程實務	Information and Multimedia Engineering	3	2	2			
晶片設計實務	Chip Design Practice	3	3	0			
可編程系統晶片設計SOPC	SOC Chip Design SOPC	3	3	0			
電子儀表學	Electronic Instruments	3	3	0			
物件導向系統分析	Object-Oriented System Analysis	3	3	0			
生理工程導論	Introduction to Physiological Engineering	3	3	0			
△C語言程式設計	C Programming Language	3	3	0			
計算機圖學	Generalization of Computer Graphics	3	3	0			
介面技術與實習	Interface Technology and Experiment	3	2	2			
多媒體概論	Introduction to Multimedia	3	3	0			
電腦軟體應用與設計	Application and Design of Computer Software	3	3	0			
人際溝通	Interpersonal Communication				3	3	0
勞動法規	Labor Standards Act and its Enforcement Rule				3	3	0
單晶片應用	Application of Microcontroller				3	3	0
機電整合	Mechatronics				3	3	0
工作研究	Work Study				3	3	0
△C#程式語言	C# Programming Language				3	3	0
物件導向系統設計	Object-Oriented System Design				3	3	0
網路協定分析	Internet Protocols Analysis				3	3	0
多媒體編碼概論	Introduction to Multimedia Coding				3	3	0
生醫訊號處理	Biomedical Signal Processing				3	3	0
網頁設計與網站管理	Web Design				3	3	0
平面顯示器導論	Introduction to Flat-Panel Displays				3	3	0
使用者介面設計	User Interface Design				3	3	0
△verilog 硬體描述語言	Verilog Hardware Description Language				3	3	0
系統整合設計與實習	System Conformity Design and Practice				3	2	2
可編程矽智財設計	IP Design				3	3	0
第三學年Third Year							
信號與系統	Signals and Systems	3	3	0			
數位邏輯設計	Digital Logic Design	3	3	0			
嵌入式系統概論	Introduction to Embedded Systems	3	3	0			
實務專題(一)	Project Study (I)	2	0	4			
積體電路概論	Introduction to Integrated Circuit	3	3	0			
3D電腦動畫	3D Computer Animation	3	3	0			
Linux系統實務	Practical Guide to Linux Administration	3	3	0			
網路程式設計	Network Programming	3	3	0			
感測資訊擷取技術	Data Mining and Information Sensing Techniques	3	3	0			
計算機系統與效能	Computer System and Performance	3	3	0			
多媒體安全導論	Introduction to Multimedia Security	3	3	0			
動態網站應用與設計	Web Applications and Design	3	3	0			
虛擬實境設計	Virtual Reality Design	3	3	0			
多平台遊戲設計實務	Multi-Platform Game Design Practice	3	2	2			
智慧生活科技概論	Introduction to Smart Living Technologies	3	3	0			
系統分析與設計實務	System Analysis and Design Practice	3	3	0			
系統性創新與應用	Systematic Innovation and Application	3	3	0			
色彩學概論	Introduction to Color Science	3	3	0			
機率	Probability	3	3	0			
數位影像處理導論	Introduction to Digital Image Processing	3	3	0			
視訊技術處理	Introduction to Video Signal Processing	3	3	0			
語音控制原理	Concept of Speech Controlling	3	3	0			
人工智慧概論	Introduction to Artificial Intelligence Systems	3	3	0			
數位信號處理與實習	Digital Signal Processing and Experiment	3	2	2			
多媒體設計	Multimedia Design	3	3	0			
物聯網概論	Introduction to IoT	3	3	0			
巨量資料處理概論	Introduction to Big Data and its Processing	3	3	0			
△Scripting程式語言	Scripting Language	3	3	0			
△演算法	Algorithms				3	3	0
嵌入式系統與實習	Embedded System and Experiment				3	2	2
生涯規劃	Career Planning and Development				3	3	0
電子元件與材料	Electronic Components and Materials				3	3	0
基礎電漿原理與應用	Basic Plasma Principles and Applications				3	3	0
RF設計概論	Introduction to RF Circuit Design				3	3	0
實務專題(二)	Project Study (II)				2	0	4
雲端應用實務	Practice of Cloud Application				3	2	2
3D電腦動畫實務	3D Computer Animation Practice				3	2	2
3D列印技術	3D Printing Technology				3	3	0
無線網路概論	Introduction to Wireless Network				3	3	0

資訊安全導論	Introduction to Information Security					3	3	0								
智慧電子應用設計概論	Introduction to Innovative Electronic Design					3	3	0								
軟式計算	Soft Computing					3	3	0								
生物辨識導論	Introduction to Biometrics Identification					3	3	0								
電腦繪圖	Computer Graphics					3	3	0								
數值分析	Numerical Analysis					3	3	0								
影像辨識	Image Recognition					3	3	0								
雲端運算概論	Introduction to Cloud Computing					3	3	0								
計畫型選修																
雲端環境管理與維護	Cloud Environment Management and Maintenance					3	3	0								
第四學年Fourth Year																
電子構裝技術概論	Introduction to Electronic Assembly Technology	3	3	0												
顯微鏡結構觀察及其試片準備	Microscopic Structure Observation and Sample Preparation	3	3	0												
科技報告寫作	Technical Report Writing	3	3	0												
無線感測網路應用與設計	Wireless Sensor Network Applications and Design	3	3	0												
程式方法概論	Introduction to Programming Methodology	3	3	0												
專業證照輔導-網路架設乙級	Professional License Counseling- Network Setup , Level B	3	3	0												
企業資源規劃	Enterprise Resource Planning	3	3	0												
管理資訊系統	Management Information Systems	3	3	0												
擴增實境設計	Augmented Reality Design	3	3	0												
神經網路概論	Introduction To Neural Network	3	3	0												
電腦視覺導論	Introduction To Computer Vision	3	3	0												
△機器人控制與感測	Robot Control and Sensing	3	3	0												
電子設計自動化 (EDA)	Electronic Design Automation (EDA)					3	3	0								
△MatLab 程式開發與工程應用	MATLAB Program Development and Project Application					3	3	0								
△.net程式設計實務	Practice of .NET Programming					3	3	0								
車載網路技術與應用	Vehicle Network Technologies and Application					3	3	0								
機器視覺應用	Machine Vision Applications					3	3	0								
高動態範圍影像處理	High Dynamic Range Image Processing					3	3	0								
網路認證輔導	Network Certification Training Program					3	3	0								
網路安全技術	Introduction to Network Security					3	3	0								
國際證照輔導：OCP JP	International Certification Training - OCPJP					3	3	0								
供應鏈資訊系統	Supply Chain Information System					3	3	0								
節能電路設計與應用	Energy-saving Circuit Design and Application					3	3	0								
高動態影像處理技術	High Dynamic Image Processing Technology					3	3	0								
電腦視覺家庭保全之應用	Computer Vision with Applications in Home Security					3	3	0								
系統性創新方法導論	Introduction to Systematic Innovation Methods in TRIZ					3	3	0								
電腦視覺實務	Implementation of Computer Vision					3	2	2								
科目	Courses	上學期First Semester			下學期Second Semester											
		學分 Credit	正課 Lecture	實習 Internship	學分 Credit	正課 Lecture	實習 Internship									
共同選修科目General Elective Courses																
第一學年First Year																
全民國防教育軍事訓練(一)	All-Out Defense Education Military Training (I)	1	2	0												
工程實務訓練(一)	Engineering Practice Training (I)	3	3	0												
全民國防教育軍事訓練(二)	All-Out Defense Education Military Training (II)					1	2	0								
工程實務訓練(二)	Engineering Practice Training (II)					3	3	0								
第二學年Second Year																
全民國防教育軍事訓練(三)	All-Out Defense Education Military Training (III)	1	2	0												
生命關懷實務	Life Concerns	3	3	0												
工程實務訓練(三)	Engineering Practice Training (III)	3	3	0												
全民國防教育軍事訓練(四)	All-Out Defense Education Military Training (IV)					1	2	0								
工程實務訓練(四)	Engineering Practice Training (IV)					3	3	0								
第三學年Third Year																
體育選修	Physical Elective Course	1	2	0												
工程實務訓練(五)	Engineering Practice Training (V)	3	3	0												
工程實務訓練(六)	Engineering Practice Training (VI)					3	3	0								
第四學年Fourth Year																
體育選修	Physical Elective Course	1	2	0												
科技越南語(一)	Vietnamese for Science and Technology (I)	3	3	0												
工程實務訓練(七)	Engineering Practice Training (VII)	3	3	0												
工程實務訓練(八)	Engineering Practice Training (VIII)					3	3	0								
科技越南語(二)	Vietnamese for Science and Technology (II)					3	3	0								
學分/時數統計 Credit/Hour Total	第一學年First Year				第二學年Second Year				第三學年Third Year				第四學年Fourth Year			
	上學期 First Semester		下學期 Second Semester		上學期 First Semester		下學期 Second Semester		上學期 First Semester		下學期 Second Semester		上學期 First Semester		下學期 Second Semester	
	學分 Credit	學時 Hour	學分 Credit	學時 Hour	學分 Credit	學時 Hour	學分 Credit	學時 Hour	學分 Credit	學時 Hour	學分 Credit	學時 Hour	學分 Credit	學時 Hour	學分 Credit	學時 Hour
必修科目學分/時數 Required Courses Credit / Hour	18	24	17	24	18	25	13	18	13	16	8	11	3	6	3	6

最低選修科目學分/時數 Minimum Electives Courses Credit / Hour	0	0	0	0	3	3	6	6	6	6	9	9	9	9	9	
總學分數/時數累計 Credits / Hours Total	18	24	17	24	21	28	19	24	19	22	17	20	12	15	12	15

備註Note:

- 一、 畢業至少應修滿 131 學分【必修 91 學分，選修至少 40 學分(其中至少需含本系專業選修 30 學分)】。  
Students should complete at least 131 credits before graduation, including 91 required credits, 40 elective credits (elective credits should have at least 30 credits from department elective courses).
- 二、 課程名稱前有標示「△」符號者，為「程式設計課程」。  
Courses with a "△" refers to an application design course.
- 三、 課程名稱前有標示「●」符號者，為「職能專業課程」。  
Courses with a "●" refer to a professional competence course.
- 四、 課程名稱前有標示「AI」符號者，為「人工智慧相關課程」。  
Courses with an "AI" refer to an artificial intelligence related course.
- 五、 為因應法規變更、評鑑建議或政府計畫規定等外在因素，本系保有調整學分計畫之權利。若有修訂，將於學期開始前公告，並明確說明修訂內容、影響範圍及相關配套措施，以保障學生權益。  
The department reserves the right to adjust the curriculum in response to external factors such as changes in regulations, suggestions of evaluation and accreditation, or government program regulations. If there are any revisions, will be announced before the start of the semester, and the revised content, scope of impact, and related supporting measures will be clearly stated to protect the rights and interests of students.
- 六、 特殊選修課程經系課程委員會審議通過，於系網公告後始得認專業選修學分。  
Special elective courses must be reviewed and approved by the Department Curriculum Committee and subsequently announced on the department's website before they can be counted as credits of the Department's Required Courses.