

國立勤益科技大學進修部四年制114學年度智慧自動化工程系學分計畫表

National Chin-Yi University of Technology Continuing Education Division
Curriculum for 2025 Four-Year Bachelor Program of Department of Intelligent Automation Engineering

113.10.30 系課程委員會及 113.10.30 系務會議審議通過
113.11.19 113學年度第1學期第1次院課程會議審議通過
113.12.05 校課程委員會及113.12.24 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(28學分)General Required Courses(28credits hours)							
第一學年First Year							
國文(一)	Chinese (I)	3	3	0			
大一英文(一)	Freshman English (I)	2	2	0			
英文聽講(一)	English Listening and Speaking (I)	1	1	0			
體育(一)	Physical Education (I)	0	2	0			
國文(二)	Chinese (II)				3	3	
大一英文(二)	Freshman English (II)				2	2	
英文聽講(二)	English Listening and Speaking (II)				1	1	
體育(二)	Physical Education (II)				0	2	
第二學年Second Year							
歷史與文化(一)	History and Culture (I)	2	2	0			
音樂鑑賞(一)	Music Appreciation (I)	1	1	0			
體育(三)	Physical Education (III)	0	2	0			
歷史與文化(二)	History and Culture (II)				2	2	
音樂鑑賞(二)	Music Appreciation (II)				1	1	
藝術鑑賞(一)	Art Appreciation (I)				1	1	
體育(四)	Physical Education (IV)				0	2	
第三學年Third Year							
博雅通識課程	Liberal Education Curriculums	2	2	0			
憲法與民主(一)	Constitution and Democracy (I)	2	2	0			
藝術鑑賞(二)	Art Appreciation (II)	1	1	0			
博雅通識課程	Liberal Education Curriculums				2	2	
憲法與民主(二)	Constitution and Democracy (II)				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
專業必修科目(75學分)Department Required Courses(75credits hours)							
第一學年First Year							
微積分(一)	Calculus (I)	3	3	0			
程式語言(一)	Computer Programming (I)	3	3	0			
電腦輔助機械製圖	Computer Aided Mechanical Drawing	3	0	3			
智慧自動化工程概論	Introduction to Intelligent Automation Engineering	2	2	0			
微積分(二)	Calculus (II)				3	3	
程式語言(二)	Computer Programming (II)				3	3	
靜力學	Statics				3	3	
工業4.0概論	Introduction to Industry 4.0				2	2	
第二學年Second Year							
工程數學	Engineering Mathematics	3	3	0			
精密量測原理與實習	Precision Measurement and Practice	3	0	3			
動力學	Dynamics	3	3	0			
材料力學	Mechanics of Materials	3	3	0			
●「AI」人工智慧概論	Introduction to Artificial Intelligence	2	2	0			
●工業電子學與實習	Industrial Electronics and Practice				3	0	
●熱流工程概論	Introduction to Thermal-Fluid Engineering				3	3	
●「AI」△機器學習	Machine Learning				3	3	
●電腦輔助工程分析	Computer Aided Engineering Analysis				3	0	
第三學年Third Year							
●△順序控制與實習	Sequence Control and Practice	3	0	3			
●流體力學	Fluid Mechanics	3	3	0			
●電腦輔助熱流分析	Computer Aided Thermal-Fluid Analysis	3	1	2			
●半導體材料及先進材料概論	Introduction of Semiconductor Materials and Advanced Materials	3	3	0			
●「AI」△物聯網應用與實習	Internet of Things and Practice				3	0	
●機光電整合系統設計與實習	Mechatronics System Design and Practice				3	0	
●感測器原理應用與實習	Practice and Applications of Sensors				3	0	
●半導體設備設計應用概論	Introduction to Semiconductor Equipment Design and Application				3	3	
●系統工程概論	Introduction to System Engineering				3	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

專業選修科目 Department Electives Courses

第三學年 Third Year

●生產品質工程實務	Production Quality Engineering Practice	3	3	0			
●風能系統概論	Introduction to Wind Power Generation System	3	3	0			
製造學	Manufacturing Processes	3	3	0			
●△微電腦控制與實習	Microcomputer Control and Practice	3	0	3			
●機械設計實習	Mechanical Design Practice	3	0	3			
●「AI」△工業影像檢測與分析	Industrial Image Detection and Analysis				3	0	3
●精密模具設計與加工	Precision Mold Design and Manufacturing				3	0	3
●工具機系統設計實務	Practice and Design of Machine Tool System				3	3	0
●△網宇實體系統應用實務	Practice of Cyber Physical System				3	0	3
●「AI」△人工智慧與數位設計技術	Artificial Intelligence and Digital Design Technology				3	0	3
●工程管理	Engineering Management				2	2	0

智慧製造應用模組

●多軸精密加工實務技術	Practical Technology of Multi-axis Precision Machining	3	0	3			
●雲端生產數據導論	Introduction to Cloud Production Data	3	3	0			
●「AI」機械系統故障診斷與預測實務	Fault Diagnosis and Prediction of Mechanical System				3	0	3
●△機器人程式設計	Programing and Robotics				3	0	3

機光電整合應用模組

●數值分析	Numerical Analysis	3	3	0			
●△自動化光學檢測	Automated Optical Inspection	3	1	2			
●△資料處理與統計分析	Data Processing and Statistical Analysis				3	2	1

第四學年 Fourth Year

●工具機控制器實務	Practice of Controllers for Machine Tools	3	0	3			
●△工業APP設計實務	Practice of Industrial APP Design	3	0	3			
企業社會責任	Corporate Social Responsibility	3	2	1			
專利分析	Patent Analysis	2	2	0			
科技英文	English for Science and Technology	2	2	0			
●離岸風電運維與自動化實務	Offshore Wind Farm: O&M and Automation Practice	3	3	0			
●「AI」巨量資料處理概論	Introduction to Mass Data Processing				3	3	0
●「AI」智能工廠實務	Smart Factory Practice				3	0	3
●「AI」企業智慧自動化的輔導案例分析	Case Study of Enterprise Intelligent Automation Counseling				3	1	2
工業安全	Industrial Safety				2	2	0

智慧製造應用模組

●「AI」大數據於智慧製造應用	Big Data in Smart Manufacturing Application	3	3	0			
●高等電腦數位同步模擬分析	Advanced Computer Digital Synchronization Simulation Analysis	3	3	0			
●「AI」△智慧機械聯網整合技術	Networking Technology of Intelligent Mechanical				3	0	3
●先進製造實務	Advanced Manufacturing Practice				3	0	3

機光電整合應用模組

●△工業用機器人	Industrial Robot	3	3	0			
●醫工設備概論	Introduction to Biomedical Engineering Instrumentation	3	3	0			
●自動化量測實務	Automated Measurement Practice				3	0	3
●「AI」△智能設備開發應用實務	Equipment Development and Application Practice				3	0	3

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			
全民國防教育軍事訓練(二)	All-Out Defense Education Military Training (II)				1	2	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			
全民國防教育軍事訓練(四)	All-Out Defense Education Military Training (IV)				1	2	0

第三學年 Third Year

全民國防教育軍事訓練(五)	All-Out Defense Education Military Training (V)	1	2	0			
體育選修	Physical Elective Course	1	2	0			
體育選修	Physical Elective Course				1	2	0

第四學年 Fourth Year

體育選修	Physical Elective Course	1	2	0			
體育選修	Physical Elective Course				1	2	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	17	19	17	19	17	19	16	18	17	17	19	19	0	0	0	0
最低選修科目學分/時數 Minimum Electives Courses Credit / Hour	0	0	0	0	0	0	0	0	1	2	1	2	10	10	13	13

總學分數/時數累計 Credits / Hours Total	17	19	17	19	17	19	16	18	18	19	20	21	10	10	13	13
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備註Note:

- 一、 畢業至少應修滿 128 學分【必修 103 學分，選修至少 25 學分(其中至少需含本系專業選修 12 學分)】。
Students should complete at least 128 credits before graduation, including 103 required credits, 25 elective credits (elective credits should have at least 12 credits from department elective courses).
- 二、 博雅通識課程三大領域中，應修習二門不同領域課程，學分總計至少4學分。
Among the 3 core areas of liberal education curriculum, students should take 4 or more credits in 2 different areas.
- 三、 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.
- 四、 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.
- 五、 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.
- 六、 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.