

國立勤益科技大學進修部四年制113學年度電機工程系學分計畫表

National Chin-Yi University of Technology Continuing Education Division
Curriculum for 2024 Four-Year Bachelor Program of Department of Electrical Engineering

112.11.02.系課程會議通過
112.11.08.系務會議通過
112.11.22.院課程委員會會議審議通過
112.12.07.校課程委員會會議及112.12.21.臨時教務會議審議通過
113.03.28.系課程會議及113.04.24.系務會議修正通過
113.04.30.院課程會議審議修正通過
113.5.21.校課程委員會會議及113.6.6.臨時教務會議審議修正通過
113.12.05.校課程委員會會議及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							
體育(三)	Physical Education (III)	0	2	0			
音樂鑑賞(一)	Music Appreciation (I)	1	1	0			
音樂鑑賞(二)	Music Appreciation (II)				1	1	
體育(四)	Physical Education (IV)				0	2	
第三學年Third Year							
藝術鑑賞(一)	Art Appreciation (I)	1	1	0			
博雅通識課程	Liberal Education Curriculums	2	2	0			
憲法與民主(一)	Constitution and Democracy (I)				2	2	
博雅通識課程	Liberal Education Curriculums				2	2	
藝術鑑賞(二)	Art Appreciation (II)				1	1	
第四學年Fourth Year							
歷史與文化(一)	History and Culture (I)	2	2	0			
憲法與民主(二)	Constitution and Democracy (II)	2	2	0			
歷史與文化(二)	History and Culture (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(61學分)Department Required Courses(61credits hours)							
第一學年First Year							
微積分(一)	Calculus (I)	3	3	0			
電路學(一)	Electric Circuit Analysis (I)	3	3	0			
計算機概論	Introduction to Computer	3	3	0			
邏輯設計	Logic Design	3	3	0			
△計算機程式	Computer Programming				3	3	
電路學(二)	Electric Circuit Analysis (II)				3	3	
微積分(二)	Calculus (II)				3	3	
第二學年Second Year							
工程數學(一)	Engineering Mathematics (I)	3	3	0			
△計算機程式實習	Computer Programming Practice	1	0	3			
電子學(一)	Electronics (I)	3	3	0			
電子實習(一)	Electronics Practice (I)	1	0	3			
電機機械	Electric Machinery	3	3	0			
電子學(二)	Electronics (II)				3	3	
電子實習(二)	Electronics Practice (II)				1	0	
工程數學(二)	Engineering Mathematics (II)				3	3	
電機機械實習	Electric Machinery Practice				1	0	
第三學年Third Year							
工業配電設計	Industrial Power Distribution Design	3	3	0			
△微處理機及實習	Microprocessor and Practice	3	2	2			
自動控制	Automatic Control	3	3	0			
工業配電設計實習	Industrial Power Distribution Design Practice				1	0	
電力電子學	Power Electronics				3	3	
電機控制	Electric Drive Control				3	3	
第四學年Fourth Year							
電機控制實習	Electric Drive Control Practice	1	0	3			

電力系統	Power System	3	3	0			
電力電子學實習	Power Electronics Practice	1	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
專業選修科目Department Electives Courses							
第一學年First Year							
計算機應用領域Computer Application Field Elective Courses							
數位系統設計	Digital System Design				3	3	0
電能科技領域Power & Energy Technology Field Elective Courses							
能源應用	Energy Application	3	3	0			
消防工程	Fire Protection Engineering				3	3	0
電腦輔助繪圖設計及實習	Computer Aided Drafting Design and Practice				3	2	2
機電控制領域Mechanical & Electrical Control Field Elective Courses							
△PLC應用及實習	PLC Application and Practice	3	2	2			
油氣壓應用	Hydraulic and Pneumatic Application				3	3	0
△圖控程式設計及實習	Graphical Programming and Practice				3	2	2
第二學年Second Year							
計算機應用領域Computer Application Field Elective Courses							
△視窗程式設計	Windows Programming Design				3	3	0
網路分析	Network Analysis				3	3	0
網路語言I/O應用	Network Language I/O Application				3	3	0
電能科技領域Power & Energy Technology Field Elective Courses							
電力工程	Power Engineering				3	3	0
機電控制領域Mechanical & Electrical Control Field Elective Courses							
氣壓工程	Pneumatic Engineering	3	3	0			
第三學年Third Year							
計算機應用領域Computer Application Field Elective Courses							
專業軟體應用及實習	Professional Software Application and Practice	3	2	2			
資訊網路	Information Networks	3	3	0			
△Python程式設計	Python Programming	3	3	0			
△Python程式應用	Python Programming Application				3	3	0
超大型積體電路概論	Introduction to Very Large Scale Integration (VLSI) Design				3	3	0
數位影像處理及實習	Digital Image Processing and Practice				3	2	2
電能科技領域Power & Energy Technology Field Elective Courses							
發變電工程	Generation Transformation Engineering	3	3	0			
電力品質	Power Quality	3	3	0			
燃料電池概論	Introduction to Fuel Cell	3	3	0			
電磁干擾及防護	Electromagnetic Interference and Protection				3	3	0
電腦輔助電機設計及實習	Computer Aided Design and Practice of Electrical Machinery				3	2	2
電池概論	Introduction to Batteries				3	3	0
機電控制領域Mechanical & Electrical Control Field Elective Courses							
智慧整合感控系統	Intelligent Cyber-Physical System	3	3	0			
感測器原理與應用	Principle and Application of Sensors	3	3	0			
高階可程式控制器應用	Advanced Programmable Logic Controller	3	3	0			
△數位信號處理及實習	Digital Signal Processing and Practice				3	2	2
物聯網電子系統應用與設計	IoT Electronic Systems Application and Design				3	3	0
無線感測網路	Wireless Sensor Network				3	3	0
控制系統實務	Control System Practice				3	2	2
信號與系統	Signals and Systems				3	3	0
感測器應用及實習	Sensors Application and Practice				3	2	2
第四學年Fourth Year							
計算機應用領域Computer Application Field Elective Courses							
類神經網路應用	Neural Network and Application	3	3	0			
影像處理	Image Processing				3	3	0
數位通訊系統	Digital Communication System				3	3	0
△微控制器應用及實習	Microcontroller Application and Practice				3	2	2
數位影像處理	Digital Image Processing				3	3	0
電能科技領域Power & Energy Technology Field Elective Courses							
電機設備保護及實習	Electrical Equipment Protection and Practice	3	2	2			
切換式電源轉換器設計	Switching Power Supply Converter Design	3	3	0			
太陽光電發電系統設計及應用	Photovoltaic Power Generation Systems Design and Application	3	3	0			
風力發電工程	Wind Power Generation Engineering	3	3	0			
風力發電工程實務	Wind Power Generation Engineering Practice				3	3	0
電能儲存技術	Electricity Storage Technology				3	3	0
△MATLAB程式設計	MATLAB Programming				3	3	0

用電設備檢驗與維護	Electrical Equipment Inspection and Maintenance				3	3	0									
配電系統自動化	Electrical Power Distribution System Automation				3	3	0									
捷運機電系統概論	Introduction to MRT Electro-Mechanical-System				3	3	0									
機電控制領域Mechanical & Electrical Control Field Elective Courses																
系統動態模擬	System Dynamic Simulation	3	2	2												
微機電系統	Micro Electro Mechanical System (MEMS)				3	3	0									
△機電整合及實習	Mechatronics and Practice				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				
共同專業選修General Department Electives 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												
光電概論	Introduction to Optoelectronic	3	3	0												
電機概論	Introduction to Electric Machinery	3	3	0												
物理(一)	Physics (I)	3	3	0												
物理(二)	Physics (II)				3	3	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									
科技英文	English for Science and Technology				3	3	0									
第三學年Third Year																
體育選修	Physical Education Elective	1	2	0												
全民國防教育軍事訓練(五)	All-Out Defense Education Military Training (V)	1	2	0												
線性代數	Linear Algebra	3	3	0												
電磁學	Basic Electromagnetics	3	3	0												
體育選修	Physical Education Elective				1	2	0									
第四學年Fourth Year																
體育選修	Physical Education Elective	1	2	0												
工業安全衛生	Industrial Safety Hygiene	3	3	0												
產業趨勢分析	Industry Trend Analysis	3	3	0												
個人行銷與形象管理	Individual Marketing and Image Management	3	3	0												
勞工行政與法令	Labor Administration and Law	3	3	0												
體育選修	Physical Education Elective				1	2	0									
工廠管理	Factory Management				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	20	15	17	12	18	9	15	12	15	12	14	9	13	2	2
最低選修科目學分/時數 Minimum Electives Courses Credit / Hour	0	0	3	3	3	3	3	3	6	6	6	6	6	6	12	12
總學分數/時數累計 Credits / Hours Total	18	20	18	20	15	21	12	18	18	21	18	20	15	19	14	14

備註Note:

- 畢業至少應修滿 128 學分【必修 89 學分，選修至少 39 學分(其中至少需含本系專業選修 26 學分)】。
Students should complete at least 128 credits before graduation, including 89 required credits, 39 elective credits (elective credits should have at least 26 credits from department elective courses).
- 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.
- 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.
- 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.
- 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.
- 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.