

國立勤益科技大學 112 學年度日間部二年制冷凍空調與能源系機電能源與環境控制專班學分計畫表
 National Chin-Yi University of Technology
 Curriculum Planning of 2023 Two-Year College Industry-Academia Collaboration Program for
 Mechatronics, Energy and Environment Control in Department of Refrigeration, Air Conditioning and
 Energy Engineering

111.11.15.系課程會議審議通過
 111.11.17.系務會議審議通過
 111.11.30.系課程會議追認通過
 111.12.19.系課程會議修訂通過
 111.11.29.院課程會議審議通過
 111.12.13.校課程會議及 111.12.22.臨時教務會議審議通過
 111.12.29.系務會議審議通過
 112.5.16.院課程會議通過
 112.06.01.校課程委員會議及 112.06.15.臨時教務會議審議通過

科目 Courses	第一學年 First Year						第二學年 Second Year						第三學年 Third Year				
	上學期 First Semester			下學期 Second Semester			科目 Courses	上學期 First Semester			下學期 Second Semester			科目 Courses	上學期 First Semester		
	學分 Credits	正課 Le cture	實習 Int ern shi p	學分 Credits	正課 Le cture	實習 Int ern shi p		學分 Credits	正課 Le cture	實習 Int ern shi p	學分 Credits	正課 Le cture	實習 Int ern shi p		學分 Credits	正課 Le cture	實習 Int ern shi p
學分 Credits																	
共同科目(17 學分) General Required Courses (17 credits hours)																	
華語聽說(一) Chinese Listening and speaking	3	5	0				華語聽說(三) Chinese Listening and speaking (III)	3	3	0							
華語讀寫(一) Chinese Reading and writing	3	5	0														
體育(一) Physical Education (I)	0	2	0														
華語聽說(二) Chinese Listening and Speaking (II)				3	5	0											
華語讀寫(二) Chinese Reading and Writing (II)				3	5	0											
藝術與哲學 Art and philosophy				2	2	0											
體育(二) Physical Education (II)				0	2	0											
小計	6	12	0	8	14	0		3	3	0							
校訂必修科目(35 學分) Professional Required Courses(35 credits hours)																	
工程數學(一) Engineering Mathematics (I)	3	3	0				實務專題(一) Project Study (I)	2	0	6							
熱力學 Thermodynamics	3	3	0				能源工程原理與實習 Energy Engineering Principle and Practices	3	2	2							
環境控制 Environmental control	3	3	0				產業實習(一) Industry practice (I)				9	0	9				
冷凍空調基礎裝修實務 Basic Practices of Refrigeration and Air-Conditioning	3	2	2														
空調工程與實習 Air- Condition Engineering and Practices				3	2	2											
冷凍工程及實習 Refrigeration Engineering and Practices				3	2	2											
機電整合實務 Mechatronics integration practice				3	2	2											

必修

小計		12	11	2	9	6	6	小計		5	2	8	9	0	9				
校訂選修科目(20學分) Professional Electives Courses(20 credits hours)																			
專業選修	自動控制 Automatic Control	3	3	0				工業安全 Industry Safety	3	3	0					產業實習(二) industry internship (II)	9	0	9
	燃料電池概論 Introduction to Fuel Cells	3	3	0				現代控制 Modern Control	3	3	0					專案研究 Project research	3	3	0
	變頻節能控制 Variable Frequency Energy Saving Control	3	3	0				振動與噪音控制 Vibration and Noise Control	3	3	0					通風工程 Ventilation and Air Moving Engineering	3	3	0
	虛擬儀控軟體應用 Basic Programming and Application of Virtual Instrument Software	3	3	0				冷凍空調系統故障分析 Refrigeration and Air- Conditioning System Problem Diagnostic and Repair Procedure	3	3	0					綠建築與照明節能 Energy Saving of Green Building and Lighting	3	3	0
	模糊控制概論 Fuzzy Control Theory				3	3	0	熱交換器設計 Heat Exchanger Design	3	3	0								
	電腦立體製圖 Computer 3D graphics				3	3	0	工程力學 Engineering Mechanics	3	3	0								
	消防控制概論 Introduction to Fire Fighting Engineering				3	3	0	無塵室技術 Cleanroom Technology	3	3	0								
	工程數學(二) Engineering Mathematics (II)				3	3	0	電腦輔助設計與實習 Computer Aided Design	3	1	2								
	電子設備冷卻技術 Cooling Technique of Electronic Equipment				3	3	0	精密加工技術 Precision Machining Technique	3	3	0								
	科技溝通 Communication of Science and Technology				3	3	0	風力發電 Wind Power Generation					3	3	0				
	冷凍空調設備與實習 Equipment and Practices of Refrigeration and Air- Conditioning				3	2	2	實務專題(二) Project Study (II)						2	0	6			
	冷凍空調裝修實務 Practice of Refrigeration and Air-Conditioning Installation and Maintenance				3	2	2	特殊空調系統 Distinctive Air-Conditioning System						3	3	0			
								流場分析專業軟體應用 Computational Fluid Dynamics						3	3	0			
								校外實習(暑期) Off-campus internship on summer							2	0	2		
							冷凍空調工程規劃及管理 Planning and Management of Refrigeration and Air- Conditioning Engineering							3	3	0			
備註	<p>一、 畢業至少應修 72學分(必修52學分，本系專業選修20學分)。 Students should complete at least 72 credits before graduation, including 52 required credits, 20 elective credits (elective credits should have at least 20 credits from department elective courses)</p> <p>二、 學生須於一年級第二學期結束前通過華語文能力A2(含)級以上測驗。如未能通過華語文能力A2(含)級以上測驗者，則學校應准予退學。 students must pass the Chinese Language Proficiency Test of A2 (inclusive) or above before the end of the second semester of the first grade. Those who fail to pass the Chinese language proficiency test of A2 (included) or above will be expelled from the school.</p> <p>三、 學生應於第一學期修畢華語輔導課程(0學分5學時)。 Students should complete the Extracurricular Chinese Class in the first Semester.</p>																		