

中信科技大學 四年制 冷凍空調與能源系 日間部 課程規劃表 (適用112學年度入學)
 CTBC University of Science and Technology Curriculum of Refrigeration Air Conditioning and Energy Department
 for Four-Year Bachelor's Degree Program-Day Division (Effective from Fall 2023)

科目名稱 Subject			第一學年 1st school year				第二學年 2nd school year				第三學年 3rd school year				第四學年 4th school year			
			上學期 1st semester		下學期 2nd semester		上學期 1st semester		下學期 2nd semester		上學期 1st semester		下學期 2nd semester		上學期 1st semester		下學期 2nd semester	
			學分 Credits	時數 Hours	學分 Credits	時數 Hours	學分 Credits	時數 Hours	學分 Credits	時數 Hours	學分 Credits	時數 Hours	學分 Credits	時數 Hours	學分 Credits	時數 Hours	學分 Credits	時數 Hours
校訂 課程 Stipulated Courses	通識 基礎 必修 Required General Education Courses	國文(1)(2) Chinese (1) (2)	2/ 2		2/ 2													
		英文聽力與閱讀(1)(2) English Listening and Reading(1)(2)	2/ 2		2/ 2													
		體育(1)(2)(3) Physical Education(1)(2)(3)	2/ 2		2/ 2		2/ 2											
		服務教育與大學社會責任(1)(2) Service Education and University Social Responsibility (1)(2)	1/ 1		1/ 1													
		小 計Subtotal	7/ 7		7/ 7		2/ 2		0/ 0		0/ 0		0/ 0		0/ 0		0/ 0	
	通識博 雅必修 Required Liberal Arts Courses	創意思考與AI智慧生活 Creative Thinking and AI Smart Living			2/ 2													
		倫理與品格 Ethics and Character Education					2/ 2											
		科學與自然、人文與社會 Science and Nature, Humanities and Social Sciences					2/ 2		2/ 2		2/ 2		2/ 2					
		創意實作 Innovations and Implementations															2/ 2	
		公民教育 Citizenship Education															2/ 2	
		小 計Subtotal	0/ 0		2/ 2		2/ 2		2/ 2		2/ 2		2/ 2		0/ 0		4/ 4	
	一般 選修 General Elective Courses	英文閱讀與寫作 English Reading and Writing					2/ 2											
		體育(4) Physical Education(4)							2/ 2									
		全民國防教育軍事訓練(1)(2)(3)(4) National Defense Education and Military Training (1)(2)(3)(4)	2/ 2		2/ 2		2/ 2		2/ 2									
		人文與創意跨域學習 Interdisciplinary of Humanities and Creativities Learning					2/ 2		2/ 2		2/ 2		2/ 2		2/ 2			
		小 計Subtotal	2/ 2		2/ 2		6/ 6		6/ 6		2/ 2		2/ 2		2/ 2		0/ 0	
專業必 修課程 Professional Required Courses	院必修 課程 Required College Courses	微積分 Calculus	3/ 3															
		物理 Physics	3/ 3															
		電腦軟體應用 Computer Software Application			2/ 2													
		職場倫理 Employment Ethics			2/ 2													
		半導體概論 Introduction of Semiconductor							2/ 2									
		小 計Subtotal	6/ 6		4/ 4		0/ 0		2/ 2		0/ 0		0/ 0		0/ 0		0/ 0	
	專業必 修課程 Professional Required Courses	工程圖學 Engineering Drawing	3/ 3															
		熱力學 Thermodynamics	3/ 3															
		冷凍空調原理 Principles of Refrigeration and Air Conditioning			3/ 3													
		電工學 Electricity Engineering			3/ 3													
		能源工程 Energy Engineering					3/ 3											
		流體力學 Fluid Mechanics					3/ 3											

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系必修 課程 Required Department Courses	冷凍空調裝修實習(1) Maintenance & Practice of Refrigeration and Air Conditioning(1)						3/ 3											
	冷凍工程與設計 Refrigeration Engineering and Design							3/ 3										
	空調工程與設計 Air Conditioning Engineering and Design									3/ 3								
	冷凍空調自動控制 Automatic Control of Refrigeration and Air Conditioning									3/ 3								
	空調設計實務 Design Practice of Air Conditioning											3/ 3						
	機電與能源實習 Practice of Mechatronics and Energy												3/ 3					
	實務專題(1)(2) Practical Project(1)(2)										1/ 3	1/ 3						
	小 計Subtotal		6/ 6		6/ 6		9/ 9		3/ 3		7/ 9		7/ 9		0/ 0		0/ 0	
系專業選修 課程 Professional Elective Courses	工業安全衛生 Industrial Safety and Health		2/ 2															
	基礎冷凍空調裝修實習 Basic Maintenance & Practice of Refrigeration and Air Conditioning				3/ 3													
	水電實務基本技能實習 Basic Practice in Electrical, Plumbing & Air Conditioning Engineering				3/ 3													
	電子學 Electronics						3/ 3											
	可程式控制與實習 Programmable Logic Control and Practice						3/ 3											
	電器修護實習 Electric Repairing Practice						3/ 3											
	冷凍空調裝修實習(2) Maintenance & Practice of Refrigeration and Air Conditioning(2)							3/ 3										
	冷凍空調原理實驗 Experiment of Refrigeration and Air Conditioning Principle							3/ 3										
	流體機械 Fluid Machinery							3/ 3										
	熱傳學 Heat Transfer							3/ 3										
	物聯網工程與網路分析 Internet Engineering and Network Analysis							3/ 3										
	太陽能工程 Solar Energy Engineering									3/ 3								
	電腦輔助冷凍空調繪圖 Computer Aided Refrigeration and Air Conditioning Drafting									3/ 3								
	熱交換器設計 Heat Exchanger Design									3/ 3								
	電力電子學 Power Electronics									3/ 3								
	冷凍空調節能技術 Energy-Saving Technology in Refrigeration and Air Conditioning											3/ 3						
	消防工程 Fire Protection Engineering												3/ 3					

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	通風工程 Ventilation Engineering											3/ 3						
	半導體廠務工程 Semiconductor Facility Engineering													3/ 3				
	智慧能源管理技術 Smart Energy Management Technology													3/ 3				
	風力發電 Wind Power													3/ 3				
	冷凍空調工程 Management of Refrigerating and Air Conditioning Engineering													3/ 3				
	LED原理與應用 Principle and Application of LED													3/ 3				
	產業校外實習 Industrial Off-Campus Internship													9/				
	電腦輔助空調系統分析 Computer Aided Air Conditioning System Analysis															3/ 3		
	智慧財產權 Intellectual Property Right															2/ 2		
	冷凍空調系統設計 Design & Construction of refrigeration and Air-Conditioning System															3/ 3		
	學期校外實習 Off-campus Semester Internship															9/		
	小 計Subtotal		2/ 2		6/ 6		9/ 9		15/ 15		12/ 12		9/ 9		24/ 15		17/ 8	
	擬開最低選修學分 Proposed Minimum Elective Credits	合 計Total	2/ 2		3/ 3		6/ 6		9/ 9		9/ 9		6/ 6		9/ 9		5/ 5	

112年05月23日 校課程發展委員會會議通過Amended Date：2023-05-23
 113年07月30日 校課程發展委員會會議修正通過Amended Date：2024-07-30
 114年01月07日 校課程發展委員會會議修正通過Amended Date：2025-01-07

備註
Note

一、畢業總學分至少128學分：
 The total number of credits completed to be eligible to graduate shall not be less than 128 credits.
 1.校訂必修30學分(含通識基礎必修16學分、通識博雅必修14學分)。
 The stipulated compulsory credits shall be 30 credits.(16 credits for required general education courses, and 14 credits for required liberal arts courses.)
 2.專業必修50學分(院必修12學分、系必修38學分)。
 The professional compulsory credits shall be 50 credits.(12 credits for required college courses, and 38 credits for required department courses.)
 3.系專業選修至少26學分。
 The professional elective credits shall be not less than 26 credits.
 4.跨系選修至少9學分。
 The number of inter-department elective credits shall be not less than 9 credits.
 ※「微學分課程」最多採計12學分。
 The number of 'Micro-Credit Courses' credits shall be up to 12credits.

二、畢業門檻：Graduation Threshold
 1.學生於修業年限內，應修畢「校訂必修」、「專業必修」、「系專業選修」、「跨系選修」共計128學分。
 Students are required to complete a total of 128 credits of " Stipulated Compulsory Course", "Professional Compulsory Course", "Department Professional Elective Course", and "Inter-College Elective Courses " within their academic years.
 2.系專業能力門檻(中信科技大學冷凍空調與能源系畢業門檻實施要點辦理)。
 Department Professional Threshold (CTBC University of Science and Technology Regulations of Graduation Threshold of Refrigeration Air Conditioning and Energy Department)
 3.英文能力門檻(中信科技大學輔導學生取得英檢證照實施辦法辦理)。
 English Proficiency Threshold (CTBC University of Science and Technology Regulations of Tutoring Students to Get English Proficiency Certificates)

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	三、校訂課程：Stipulated Courses 1.校訂課程不須依先後順序修課，不得互抵者，包括「國文(1)(2)、英文聽力與閱讀(1)(2)、體育(1)(2)(3)(4)」課程。 Stipulated courses are not required to be taken in sequence and the credits shall not be mutually transferred, including "Chinese (1) (2), English listening and reading (1) (2), and physical education (1) (2) (3) (4)" courses. 2.校訂課程不須依先後順序修課，得互抵者，僅為「服務教育與大學社會責任(1)(2)」課程。 Stipulated courses are not required to be taken in sequence and those that may be mutually complemented by each other may be only "Service Education and University Social Responsibility (1) (2)". 3.校訂課程不須依先後順序修課，包括「全民國防教育軍事訓練(1)(2)(3)(4)」課程。 Stipulated courses are not required to be taken in sequence, including National Defense Education and Military Training (1)(2)(3)(4). 4.「創意思考與AI智慧生活」、「倫理與品格」課程在一年級下學期、二年級上學期開課，得依實際情形上下學期調整。「倫理與品格」課程含括環境倫理、生命倫理及性別倫理三門，依實際情形排定一門，學生擇一修課即可。 Creative Thinking and Training and AI Smart Life shall be offered at the second semester of the freshman and at the first semester of the sophomore year and be adjusted based on the actual situation in the first and second semesters. Ethics and Character Education includes three courses: environmental ethics, bioethics, and gender ethics. Each course may be arranged according to the actual situation, and students shall choose one course. 5.「人文與創意跨域學習」依實際情形排定一門課程。 "Interdisciplinary Learning of Humanities and Creativity" shall be offered according to the actual situation. 四、專業課程：Professional Courses: 1.「實務專題(1)(2)」課程應依先後順序修課，得互抵。 Practical Project(1)(2) shall be taken in sequence and the credits shall not be mutually transferred. 2.「冷凍空調裝修實習(1)(2)」課程應依先後順序修課，不得互抵。															