

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114學年度入學)

CTBC University of Science and Technology

Department of Curriculum of Refrigeration Air Conditioning and Energy
for Four-Year Bachelor's Degree Program-Day Division (Effective from Fall 2025)

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	中文閱讀與表達(1)(2) Chinese Reading and Expression(1)(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													
		體育(1)(2)(3) Physical Education(1)(2)(3)	2/ 2		2/ 2		2/ 2											
		多元語言 Multilingual Learning					2/ 2											
		英文聽力與閱讀(1)(2) English Listening and Reading(1)(2)					2/ 2		2/ 2									
		小 計 Subtotal	5/ 5		5/ 5		6/ 6		2/ 2		0/ 0		0/ 0		0/ 0		0/ 0	
	通識 博雅 必修 Required Liberal Arts Courses	健康與生活領域 Health and Life category	2/ 2		2/ 2													
		創意思考與訓練領域 Creative Thinking and Training			2/ 2													
		跨域探索領域(1) Liberal Arts and Interdisciplinary Learning category(1)					2/ 2											
		資訊與智慧生活領域 Information and Smart Life category					2/ 2											
		生命與永續領域 Life and Sustainability category							2/ 2		2/ 2							
		人文與社會領域 Humanities and Social Sciences category									2/ 2							
		藝術與美感領域 Art and Beauty category											2/ 2					
		小 計 Subtotal	2/ 2		4/ 4		4/ 4		2/ 2		4/ 4		2/ 2		0/ 0		0/ 0	
	一般 選修 General Elective Courses	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									
		跨域探索領域(2)(3)(4)(5) Liberal Arts and Interdisciplinary Learning category(2)(3)(4)(5)							2/ 2		2/ 2		2/ 2		2/ 2			
		小 計 Subtotal	2/ 2		2/ 2		2/ 2		4/ 4		2/ 2		2/ 2		2/ 2		0/ 0	
	院必修 課程 Required College Courses	數學演練習作 Math Drills	2/ 2															
		生活物理 Life Physics	2/ 2															
		電腦軟體應用 Computer Software Application			2/ 2													
		職場倫理 Employment Ethics			2/ 2													
		創意實作 Innovations and Implementations					2/ 2											
		半導體概論 Introduction of Semiconductor					2/ 2											
		簡報製作與表達 Presentation and Expression							2/ 2									
		小 計 Subtotal	4/ 4		4/ 4		4/ 4		2/ 2		0/ 0		0/ 0		0/ 0		0/ 0	
		AI 輔助程式設計 AI-Assisted Programming	2/ 2															
		熱力學 Thermodynamics	2/ 2															

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專業必修 課程 Professional Required Courses	系必修 課程 Required Department Courses	工程圖學 Engineering Drawing	2/ 2															
		AI 輔助互動式學習 AI-assisted interactive learning			2/ 2													
		冷凍空調原理實驗 Experiment of Refrigeration and Air Conditioning Principle			2/ 2													
		冷凍空調設備安裝實習 Refrigeration and air conditioning equipment installation internship					2/ 2											
		冷凍空調系統維修實習 Refrigeration and air conditioning system maintenance internship					2/ 2											
		流體力學 Fluid Mechanics						2/ 2										
		能源工程 Energy Engineering						2/ 2										
		冷凍工程與設計 Refrigeration Engineering and Design						2/ 2										
		空調工程與設計 Air Conditioning Engineering and Design									2/ 2							
		冷凍空調自動控制 Automatic Control of Refrigeration and Air Conditioning										2/ 2						
		實務專題(1)(2)(3)(4) Project(1)(2)(3)(4)					2/ 2	2/ 2		2/ 2	2/ 2	2/ 2						
		小 計 Subtotal	6/ 6		4/ 4		6/ 6	8/ 8		4/ 4	4/ 4	0/ 0	0/ 0					
		水電實務基本技能實習 Basic Practice in Electrical, Plumbing & Air Conditioning Engineering	2/ 2															
		電腦輔助繪圖 Computer Assisted Drafting	2/ 2															
		冷凍空調原理 Refrigeration and Air Conditioning Principle	2/ 2															
		電工學 Electricity Engineering			2/ 2													
		冷凍空調基礎技術實習 Basic Refrigeration and Air Conditioning Technology Internship			2/ 2													
		冷凍空調測試與調試實習 Refrigeration and air conditioning testing and commissioning internship			2/ 2													
		微控器應用實習 Microcontroller Application Practice			2/ 2													
		家電結構與電路實習 Home Appliance Structure and Circuit Practice					2/ 2											
		家电维修與安全檢測實習 Home Appliance Repair and Safety Testing Internship					2/ 2											
		電力電子學 Power Electronics					2/ 2											
		可程式控制實習 Programmable Logic Control Practice					2/ 2											
		風力發電 Wind Power						2/ 2										

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系專業選修課程 Professional Elective Courses	冷凍空調節能與控制實習 Refrigeration and air conditioning energy saving and control practice							2/ 2									
	冷凍空調診斷與維修實習 Refrigeration and air conditioning diagnosis and maintenance internship							2/ 2									
	感測器應用與實習 Applications and Laboratory Practice of Sensors							2/ 2									
	太陽能工程 Solar Energy Engineering									2/ 2							
	室內配線實務實習 Indoor wiring practice internship									2/ 2							
	智慧生活應用實習 Smart Life Application Internship									2/ 2							
	機電與能源實習 Practice of Mechatronics and Energy											2/ 2					
	通風工程 Ventilation Engineering											2/ 2					
	熱傳學 Heat Transfer											2/ 2					
	半導體廠務工程 Semiconductor Facility Engineering											2/ 2					
	低溫工程 Cryogenic Engineering													2/ 2			
	冷凍空調節能技術 Energy-Saving Technology in Refrigeration and Air Conditioning													2/ 2			
	流體機械 Fluid Machinery													2/ 2			
	空調設計實務 Design Practice of Air Conditioning													2/ 2			
	冷凍空調工程管理 Management of Refrigerating and Air Conditioning Engineering													2/ 2			
	工業安全衛生 Industrial Safety and Health													2/ 2			
	學期校外實習 Off-campus Internship													9/			
	節能減碳技術 Energy-saving and carbon-reduction technologies															2/ 2	
	AI與能源管理技術 AI and Energy Management Technology															2/ 2	
	物聯網應用與實習 Practical Training of Iot															2/ 2	
	熱交換器設計 Heat Exchanger Design															2/ 2	
	電腦輔助空調系統分析 Computer Aided Air Conditioning System Analysis															2/ 2	
	冷凍空調系統設計 Design & Construction of Refrigeration and Air-Conditioning System															2/ 2	
	校內實習(1)(2)(3)(4)(5)(6) On-campus					2/ 2		2/ 2		2/ 2		2/ 2		2/ 2		2/ 2	

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產業校外實習 Industrial Off-Campus Internship																9/
小 計 Subtotal	6/ 6		8/ 8		10/ 10		10/ 10		8/ 8		10/ 10		23/ 14		23/ 14	
擬開最低選修學分 Proposed Minimum Elective Credits	合 計 Total		4/ 4		6/ 6		4/ 4		4/ 4		4/ 4		10/ 10		10/ 10	

114年07月08日 校課程發展委員會會議通過Amended Date：2025-07-08

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36學分(含通識基礎必修18學分、通識博雅必修18學分)。

The stipulated compulsory credits shall be 36 credits.(18 credits for required general education courses, and 18 credits for required liberal arts courses.)

2.專業必修46學分(院必修14學分、系必修32學分)。

The professional compulsory credits shall be 46 credits.(14 credits for required college courses, and 32 credits for required department courses.)

3.系專業選修至少34學分。

The professional elective credits shall be not less than 34 credits.

4.跨系選修至多12學分。

The number of inter-department elective credits shall be up to 12 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(依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)

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「中文閱讀與表達(1)(2)、英文聽力與閱讀(1)(2)、體育(1)(2)(3)」課程。

Stipulated courses are not required to be taken in sequence and the credits shall not be mutually transferred, including 「Chinese Reading and Expression(1)(2), English listening and reading (1)(2), and physical education (1)(2)(3)」 courses.

2.校訂課程不須依先後順序修課，得互抵者，包括「服務教育與大學社會責任(1)(2)」、「健康生活領域」、「跨域探索領域(1)(2)(3)(4)(5)(6)」、「生命與永續領域」課程。

Stipulated courses are not required to be taken in sequence, and those that may be mutually substituted include 「Service Education and University Social Responsibility (1)(2)」, 「Health and Life category」, 「Liberal Arts and Interdisciplinary Learning category (1)(2)(3)(4)(5)(6)」, and 「Life and Sustainability category」 courses.

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 (1)(2)(3)(4)」.

四、專業課程 Professional Courses：

1.「實務專題(1)(2)(3)(4)」課程應依先後順序修課，得互抵。

「Project(1)(2)(3)(4)」 shall be taken in sequence and may complement each other.

2.「校內實習(1)(2)(3)(4)(5)(6)」課程不須依先後順序修課。

「On-Campus Internship(1)(2)(3)(4)(5)(6)」 are not required to be taken in sequence.