

國立勤益科技大學113學年度進修部四年制產攜2.0-產學訓模式
 冷凍空調與能源系冷凍空調與能源專班學分計畫表

National Chin-Yi University of Technology Continuing Education Division
 Curriculum for 2024 Department of Refrigeration, Air-Conditioning, and Energy Engineering Four-Year
 Bachelor Program of Refrigeration, Air-Conditioning and Energy Engineering Industry-Academia-Training

112.10.11系課程會議審議通過
 112.10.27系務會議審議通過
 112.11.23院課程會議審議通過
 112.12.07校課程委員會及112.12.21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(24學分)General Required Courses(24credits hours) | | | | | | | |
| 第一學年First Year | | | | | | | |
| 國文(一) | Chinese (I) | 2 | 2 | 0 | | | |
| 勞動法規 | Laws and Regulations of Labor | 3 | 3 | 0 | | | |
| 體育(一) | Physical Education (I) | 0 | 2 | 0 | | | |
| 工程倫理 | Ethics in Engineering | | | | 2 | 2 | 0 |
| 國文(二) | Chinese (II) | | | | 2 | 2 | 0 |
| 體育(二) | Physical Education (II) | | | | 0 | 2 | 0 |
| 第二學年Second Year | | | | | | | |
| 人際溝通 | Interpersonal Communication | 3 | 3 | 0 | | | |
| 英文(一) | English (I) | 3 | 3 | 0 | | | |
| 體育(三) | Physical Education (III) | 0 | 2 | 0 | | | |
| 英文(二) | English (II) | | | | 3 | 3 | 0 |
| 體育(四) | Physical Education (IV) | | | | 0 | 2 | 0 |
| 第三學年Third Year | | | | | | | |
| 音樂鑑賞 | Music Appreciation | 2 | 2 | 0 | | | |
| 藝術概論 | Introduction to Arts | 2 | 2 | 0 | | | |
| 通識領域課程 | Liberal Education | | | | 2 | 2 | 0 |
| 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(57學分)Department Required Courses(57credits hours) | | | | | | | |
| 第一學年First Year | | | | | | | |
| 物理(一) | Physics (I) | 3 | 3 | 0 | | | |
| 微積分(一) | Calculus (I) | 3 | 3 | 0 | | | |
| 工業安全與衛生 | Industry Safety and Hygiene | | | | 3 | 3 | 0 |
| 冷凍空調產業概論 | Introduction to Refrigeration and Air-Conditioning Industry | | | | 3 | 3 | 0 |
| 第二學年Second Year | | | | | | | |
| △計算機程式 | Computer Program | 3 | 3 | 0 | | | |
| 企業實習(一) | Internship (I) | 4 | 0 | 4 | | | |
| 熱力學 | Thermodynamics | 3 | 3 | 0 | | | |
| 企業實習(二) | Internship (II) | | | | 4 | 0 | 4 |
| 電路學 | Electric Circuits | | | | 3 | 3 | 0 |
| 第三學年Third Year | | | | | | | |
| 企業實習(三) | Internship (III) | 4 | 0 | 4 | | | |
| 冷凍工程 | Refrigeration Engineering | 3 | 3 | 0 | | | |
| 空調工程 | Air-Conditioning Engineering | 3 | 3 | 0 | | | |
| 企業實習(四) | Internship IV) | | | | 4 | 0 | 4 |
| 能源工程 | Energy Engineering | | | | 3 | 3 | 0 |
| 第四學年Fourth Year | | | | | | | |
| 企業實習(五) | Internship (V) | 4 | 0 | 4 | | | |
| 流體機械 | Fluid Machinery | 3 | 3 | 0 | | | |
| 企業實習(六) | Internship (VI) | | | | 4 | 0 | 4 |
| 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 |
| 職訓中心基礎訓練課程(11學分)Regional Branch General Required Courses(11credits hours) | | | | | | | |
| 第一學年First Year | | | | | | | |
| 冷凍空調原理 | Principles of Refrigeration and Air-Conditioning | 3 | 3 | 0 | | | |
| 電子學及實習(一) | Electronics and Practice (I) | 2 | 1 | 3 | | | |
| 電機應用及實習 | Electrical Application and Practices | 3 | 2 | 2 | | | |
| 電腦輔助繪圖 | Computer Aided Drawing | | | | 3 | 3 | 0 |

| 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 | | | | | | | | | |
| 職訓中心基礎訓練課程(17學分)Regional Branch General Required Courses(17credits hours) | | | | | | | | | | | | | | | | |
| 第一學年First Year | | | | | | | | | | | | | | | | |
| 冷凍空調基礎裝修實務 | Basic Practices for Refrigeration and Air-Conditioning Installation and Repair | 3 | 2 | 2 | | | | | | | | | | | | |
| 基礎冷凍空調實習 | Fundamentals of Refrigeration and Air-Conditioning Practice | 3 | 2 | 2 | | | | | | | | | | | | |
| 太陽能工程 | Solar Energy Engineering | | | | 2 | 2 | 0 | | | | | | | | | |
| 冷凍空調設計及實習 | HVAC System Design and Practice | | | | 3 | 2 | 2 | | | | | | | | | |
| 冷凍空調設備與實習 | HVAC and R Equipment and Practice | | | | 3 | 2 | 2 | | | | | | | | | |
| 冷凍空調裝修實務 | Practice of Refrigeration and Air-Conditioning Installation and Maintenance | | | | 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 | | | | | | | | | |
| 專業選修科目Department Electives Courses | | | | | | | | | | | | | | | | |
| 第二學年Second Year | | | | | | | | | | | | | | | | |
| △PLC應用 | PLC Application | 3 | 3 | 0 | | | | | | | | | | | | |
| 冷凍冷藏應用技術 | Application Technique of Freezing and Cold Storage | 3 | 3 | 0 | | | | | | | | | | | | |
| 低溫工程 | Cryogenic Engineering | | | | 3 | 3 | 0 | | | | | | | | | |
| 電腦軟體應用及實習 | Computer Software Application and Practice | | | | 3 | 3 | 0 | | | | | | | | | |
| 第三學年Third Year | | | | | | | | | | | | | | | | |
| 用電設備檢驗 | Electrical Equipment Inspection | 3 | 3 | 0 | | | | | | | | | | | | |
| 消防工程概論 | Introduction to Fire Engineering | 3 | 3 | 0 | | | | | | | | | | | | |
| 冷凍空調自動控制 | Refrigeration and Air Conditioning Automatic Control | | | | 3 | 3 | 0 | | | | | | | | | |
| 第四學年Fourth Year | | | | | | | | | | | | | | | | |
| 冷凍空調工程規劃與管理 | Planning and Management of Refrigeration and Air-Conditioning Engineering | 3 | 3 | 0 | | | | | | | | | | | | |
| 能源管理技術 | Energy Management Technology | 3 | 3 | 0 | | | | | | | | | | | | |
| 通風工程 | Ventilation and Air Moving Engineering | 3 | 3 | 0 | | | | | | | | | | | | |
| 無塵室技術 | Cleanroom Technology | 3 | 3 | 0 | | | | | | | | | | | | |
| 冷凍空調系統故障分析 | Troubleshooting of Refrigeration and Air-Conditioning System | | | | 3 | 3 | 0 | | | | | | | | | |
| 冷凍空調節能技術 | Energy Saving Techniques for HVAC and R | | | | 3 | 3 | 0 | | | | | | | | | |
| 綠建築與照明節能 | Energy Saving of Green Building and Lighting | | | | 3 | 3 | 0 | | | | | | | | | |
| 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 | | | | | | | | | | | | |
| 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 | 19 | 24 | 13 | 15 | 16 | 18 | 10 | 12 | 14 | 14 | 9 | 9 | 7 | 7 | 4 | 4 |
| 最低選修科目學分/時數 Minimum Electives Courses Credit / Hour | 6 | 8 | 11 | 14 | 0 | 0 | 3 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 9 | 9 |
| 總學分數/時數累計 Credits / Hours Total | 25 | 32 | 24 | 29 | 16 | 18 | 13 | 15 | 14 | 14 | 12 | 12 | 10 | 10 | 13 | 13 |

備註Note:

- 一、 畢業至少應修滿 128 學分【必修 92 學分，選修至少 36 學分(其中至少需含本系專業選修 0 學分)】。
Students should complete at least 128 credits before graduation, including 92 required credits, 36 elective credits (elective credits should have at least 0 credits from department elective courses).
- 二、 通識教育學院所開設之「博雅通識課程」學分數(時)為2學分2學時或3學分3學時，經 101 學年度第二學期校課程委員會會議通過。
Liberal Arts General Study courses provided by College of General Education, are divided into 2 hours of course with 2 credits or 3 hours course with 3 credits, ratified by the School Course Committee in 2012.
- 三、 第一學年必須選讀*中彰投分署基礎訓練課程28學分。
In the first academic year, students must select 28 credits of basic training courses at Taichung-Changhua-Nantou Regional Branch(中彰投分署), Workforce Development Agency, Ministry of Labor.
- 四、 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.
- 五、 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.
- 六、 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.