

National Chin-Yi University of Technology Continuing Education Division  
Curriculum for 2024 Department of Computer Science and Information Engineering Four-Year Bachelor  
Program of Elite Program in Smart Technology

114.12.04校課程委員會會議及114.12.23時教務會議審議通過

共同選修科目 General Elective Courses

| 第一學年First Year                     |   |                   |               |                  |                    |               |                  |
|------------------------------------|---|-------------------|---------------|------------------|--------------------|---------------|------------------|
| 工程實務訓練(一)                          | Engineering Practice Training (I)                 | 3                 | 3             | 0                |                    |               |                  |
| 全民國防教育軍事訓練(一)                      | All-Out Defense Education Military Training (I)   | 1                 | 2             | 0                |                    |               |                  |
| 工程實務訓練(二)                          | Engineering Practice Training (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                    |   |                   |               |                  |                    |               |                  |
| 生命關懷實務                             | Life Concerns                                     | 3                 | 3             | 0                |                    |               |                  |
| 全民國防教育軍事訓練(三)                      | All-Out Defense Education Military Training (III) | 1                 | 2             | 0                |                    |               |                  |
| 工程實務訓練(三)                          | Engineering Practice Training (III)               | 3                 | 3             | 0                |                    |               |                  |
| 工程實務訓練(四)                          | Engineering Practice Training (IV)                |                   |               |                  | 3                  | 3             | 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                     |   |                   |               |                  |                    |               |                  |
| 工程實務訓練(五)                          | Engineering Practice Training (V)                 | 3                 | 3             | 0                |                    |               |                  |
| 體育選修                               | Physical Elective Course                          | 1                 | 2             | 0                |                    |               |                  |
| 工程實務訓練(六)                          | Engineering Practice Training (VI)                |                   |               |                  | 3                  | 3             | 0                |
| 第四學年Fourth Year                    |   |                   |               |                  |                    |               |                  |
| 工程實務訓練(七)                          | Engineering Practice Training (VII)               | 3                 | 3             | 0                |                    |               |                  |
| 科技越南語(一)                           | Vietnamese for Science and Technology (I)         | 3                 | 3             | 0                |                    |               |                  |
| 工程實務訓練(八)                          | Engineering Practice Training (VIII)              |                   |               |                  | 3                  | 3             | 0                |
| 科技越南語(二)                           | Vietnamese for Science and Technology (II)        |                   |               |                  | 3                  | 3             | 0                |
| 科目                                 | Courses   | 上學期First Semester |               |                  | 下學期Second Semester |               |                  |
|                                    |   | 學分<br>Credit      | 正課<br>Lecture | 實習<br>Internship | 學分<br>Credit       | 正課<br>Lecture | 實習<br>Internship |
| 專業選修科目Department Electives Courses |   |                   |               |                  |                    |               |                  |
| 第一學年First Year                     |   |                   |               |                  |                    |               |                  |
| 單晶片概論                              | Introduction to Microcontroller                   |                   |               |                  | 3                  | 3             | 0                |
| 第二學年Second Year                    |   |                   |               |                  |                    |               |                  |
| 介面技術與實習                            | Interface Technology and Experiment               | 3                 | 2             | 2                |                    |               |                  |
| 可編程系統晶片設計SOPC                      | SOC Chip Design SOPC                              | 3                 | 3             | 0                |                    |               |                  |
| △C語言程式設計                           | C Programming Language                            | 3                 | 3             | 0                |                    |               |                  |
| 多媒體概論                              | Introduction to Multimedia                        | 3                 | 3             | 0                |                    |               |                  |
| 物件導向系統分析                           | Object-Oriented System Analysis                   | 3                 | 3             | 0                |                    |               |                  |
| 計算機圖學                              | Generalization of Computer Graphics               | 3                 | 3             | 0                |                    |               |                  |
| 生理工程導論                             | Introduction to Physiological Engineering         | 3                 | 3             | 0                |                    |               |                  |
| 晶片設計實務                             | Chip Design Practice                              | 3                 | 3             | 0                |                    |               |                  |
| 資訊與多媒體工程實務                         | Information and Multimedia Engineering            | 3                 | 2             | 2                |                    |               |                  |
| 電子儀表學                              | Electronic Instruments                            | 3                 | 3             | 0                |                    |               |                  |
| 電腦軟體應用與設計                          | Application and Design of Computer Software       | 3                 | 3             | 0                |                    |               |                  |
| 電腦網路概論                             | Introduction to Computer Network                  | 3                 | 3             | 0                |                    |               |                  |
| △C#程式語言                            | C# Programming Language                           |                   |               |                  | 3                  | 3             | 0                |
| △verilog 硬體描述語言                    | Verilog Hardware Description Language             |                   |               |                  | 3                  | 3             | 0                |
| 人際溝通                               | Interpersonal Communication                       |                   |               |                  | 3                  | 3             | 0                |
| 工作研究                               | Work Study  |                   |               |                  | 3                  | 3             | 0                |
| 多媒體編碼概論                            | Introduction to Multimedia Coding                 |                   |               |                  | 3                  | 3             | 0                |
| 系統整合設計與實習                          | System Conformity Design and Practice             |                   |               |                  | 3                  | 2             | 2                |
| 使用者介面設計                            | User Interface Design                             |                   |               |                  | 3                  | 3             | 0                |
| 物件導向系統設計                           | Object-Oriented System Design                     |                   |               |                  | 3                  | 3             | 0                |
| 可編程矽智財設計                           | IP Design   |                   |               |                  | 3                  | 3             | 0                |
| 平面顯示器導論                            | Introduction to Flat-Panel Displays               |                   |               |                  | 3                  | 3             | 0                |
| 生醫訊號處理                             | Biomedical Signal Processing                      |                   |               |                  | 3                  | 3             | 0                |
| 勞動法規                               | Labor Standards Act and its Enforcement Rule      |                   |               |                  | 3                  | 3             | 0                |
| 單晶片應用                              | Application of Microcontroller                    |                   |               |                  | 3                  | 3             | 0                |
| 網頁設計與網站管理                          | Web Design  |                   |               |                  | 3                  | 3             | 0                |
| 網路協定分析                             | Internet Protocols Analysis                       |                   |               |                  | 3                  | 3             | 0                |
| 機電整合                               | Mechatronics                                      |                   |               |                  | 3                  | 3             | 0                |
| 第三學年Third Year                     |   |                   |               |                  |                    |               |                  |
| △Scripting程式語言                     | Scripting Language                                | 3                 | 3             | 0                |                    |               |                  |
| 3D電腦動畫                             | 3D Computer Animation                             | 3                 | 3             | 0                |                    |               |                  |
| Linux系統實務                          | Practical Guide to Linux Administration           | 3                 | 3             | 0                |                    |               |                  |
| 人工智慧概論                             | Introduction to Artificial Intelligence Systems   | 3                 | 3             | 0                |                    |               |                  |
| 積體電路概論                             | Introduction to Integrated Circuit                | 3                 | 3             | 0                |                    |               |                  |
| 嵌入式系統概論                            | Introduction to Embedded Systems                  | 3                 | 3             | 0                |                    |               |                  |
| 智慧生活科技概論                           | Introduction to Smart Living Technologies         | 3                 | 3             | 0                |                    |               |                  |
| 虛擬實境設計                             | Virtual Reality Design                            | 3                 | 3             | 0                |                    |               |                  |
| 視訊技術處理                             | Introduction to Video Signal Processing           | 3                 | 3             | 0                |                    |               |                  |
| 感測資訊擷取技術                           | Data Mining and Information Sensoring Techniques  | 3                 | 3             | 0                |                    |               |                  |
| 實務專題(一)                            | Project Study (I)                                 | 2                 | 0             | 4                |                    |               |                  |
| 網路程式設計                             | Network Programming                               | 3                 | 3             | 0                |                    |               |                  |
| 語音控制原理                             | Concept of Speech Controlling                     | 3                 | 3             | 0                |                    |               |                  |
| 數位信號處理與實習                          | Digital Signal Processing and Experiment          | 3                 | 2             | 2                |                    |               |                  |

|   |  |            |                        |            |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
|---|--|------------|------------------------|------------|-----------------------|------------|------------------------|------------|-----------------------|------------|------------------------|------------|-----------------------|------------|------------------------|------------|
| 數位影像處理導論                                    | Introduction to Digital Image Processing                 | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 數位邏輯設計                                      | Digital Logic Design                                     | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 機率  | Probability  | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 巨量資料處理概論                                    | Introduction to Big Data and its Processing              | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 多平台遊戲設計實務                                   | Multi-Platform Game Design Practice                      | 3          | 2                      | 2          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 多媒體安全導論                                     | Introduction to Multimedia Security                      | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 多媒體設計                                       | Multimedia Design  | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 色彩學概論                                       | Introduction to Color Science                            | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 系統分析與設計實務                                   | System Analysis and Design Practice                      | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 系統性創新與應用                                    | Systematic Innovation and Application                    | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 物聯網概論                                       | Introduction to IoT                                      | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 信號與系統                                       | Signals and Systems                                      | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 計算機系統與效能                                    | Computer System and Performance                          | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 動態網站應用與設計                                   | Web Applications and Design                              | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 3D列印技術                                      | 3D Printing Technology                                   |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 3D電腦動畫實務                                    | 3D Computer Animation Practice                           |            |                        |            | 3                     | 2          | 2                      |            |                       |            |                        |            |                       |            |                        |            |
| RF設計概論                                      | Introduction to RF Circuit Design                        |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 軟式計算  | Soft Computing   |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 嵌入式系統與實習                                    | Embedded System and Experiment                           |            |                        |            | 3                     | 2          | 2                      |            |                       |            |                        |            |                       |            |                        |            |
| 智慧電子應用設計概論                                  | Introduction to Innovative Electronic Design             |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 無線網路概論                                      | Introduction to Wireless Network                         |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 雲端運算概論                                      | Introduction to Cloud Computing                          |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 雲端應用實務                                      | Practice of Cloud Application                            |            |                        |            | 3                     | 2          | 2                      |            |                       |            |                        |            |                       |            |                        |            |
| 雲端環境管理與維護                                   | Cloud Environment Management and Maintenance             |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 資訊安全導論                                      | Introduction to Information Security                     |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 電子元件與材料                                     | Electronic Components and Materials                      |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 電腦繪圖  | Computer Graphics  |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 實務專題(二)                                     | Project Study (II)                                       |            |                        |            | 2                     | 0          | 4                      |            |                       |            |                        |            |                       |            |                        |            |
| △演算法  | Algorithms   |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 影像辨識  | Image Recognition  |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 數值分析  | Numerical Analysis                                       |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 生物辨識導論                                      | Introduction to Biometrics Identification                |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 生涯規劃  | Career Planning and Development                          |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 基礎電漿原理與應用                                   | Basic Plasma Principles and Applications                 |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 第四學年Fourth Year                             |  |            |                        |            |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 企業資源規劃                                      | Enterprise Resource Planning                             | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 科技報告寫作                                      | Technical Report Writing                                 | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 無線感測網路應用與設計                                 | Wireless Sensor Network Applications and Design          | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 程式方法概論                                      | Introduction to Programming Methodology                  | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 電子構裝技術概論                                    | Introduction to Electronic Assembly Technology           | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 電腦視覺導論                                      | Introduction To Computer Vision                          | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 管理資訊系統                                      | Management Information Systems                           | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| △機器人控制與感測                                   | Robot Control and Sensing                                | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 擴增實境設計                                      | Augmented Reality Design                                 | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 顯微鏡結構觀察及其試片準備                               | Microscopic Structure Observation and Sample Preparation | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 神經網路概論                                      | Introduction To Neural Network                           | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| 專業證照輔導-網路架設乙級                               | Professional License Counseling- Network Setup , Level B | 3          | 3                      | 0          |                       |            |                        |            |                       |            |                        |            |                       |            |                        |            |
| △△.net程式設計實務                                | Practice of .NET Programming                             |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| △△MatLab 程式開發與工程應用                          | MATLAB Program Development and Project Application       |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 高動態影像處理技術                                   | High Dynamic Image Processing Technology                 |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 高動態範圍影像處理                                   | High Dynamic Range Image Processing                      |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 國際證照輔導：OCP JP                               | International Certification Training - OCPJP             |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 系統性創新方法導論                                   | Introduction to Systematic Innovation Methods in TRIZ    |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 車載網路技術與應用                                   | Vehicle Network Technologies and Application             |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 供應鏈資訊系統                                     | Supply Chain Information System                          |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 節能電路設計與應用                                   | Energy-saving Circuit Design and Application             |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 電子設計自動化（EDA）                                | Electronic Design Automation (EDA)                       |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 電腦視覺家庭保全之應用                                 | Computer Vision with Applications in Home Security       |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 電腦視覺實務                                      | Implementation of Computer Vision                        |            |                        |            | 3                     | 2          | 2                      |            |                       |            |                        |            |                       |            |                        |            |
| 網路安全技術                                      | Introduction to Network Security                         |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 網路認證輔導                                      | Network Certification Training Program                   |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 機器視覺應用                                      | Machine Vision Applications                              |            |                        |            | 3                     | 3          | 0                      |            |                       |            |                        |            |                       |            |                        |            |
| 學分/時數統計<br>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<br>First Semester                                    |            | 下學期<br>Second Semester |            | 上學期<br>First Semester |            | 下學期<br>Second Semester |            | 上學期<br>First Semester |            | 下學期<br>Second Semester |            | 上學期<br>First Semester |            | 下學期<br>Second Semester |            |
|   | 學分<br>Credit   | 學時<br>Hour | 學分<br>Credit           | 學時<br>Hour | 學分<br>Credit          | 學時<br>Hour | 學分<br>Credit           | 學時<br>Hour | 學分<br>Credit          | 學時<br>Hour | 學分<br>Credit           | 學時<br>Hour | 學分<br>Credit          | 學時<br>Hour | 學分<br>Credit           | 學時<br>Hour |
| 必修科目學分/時數<br>Required Courses Credit / Hour | 18   | 24         | 16                     | 23         | 17                    | 24         | 13                     | 18         | 13                    | 16         | 8                      | 11         | 3                     | 6          | 3                      | 6          |

|   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 最低選修科目學分/時數<br>Minimum Electives Courses Credit<br>/ Hour | 0  | 0  | 0  | 0  | 3  | 3  | 6  | 6  | 6  | 6  | 9  | 9  | 9  | 9  | 9  | 9  |
| 總學分數/時數累計<br>Credits / Hours Total                        | 18 | 24 | 16 | 23 | 20 | 27 | 19 | 24 | 19 | 22 | 17 | 20 | 12 | 15 | 12 | 15 |

備註Note:

- 一、 畢業至少應修滿 131 學分【必修 91 學分，選修至少 45 學分(其中至少需含本系專業選修 30 學分)】。  
Students should complete at least 131 credits before graduation, including 91 required credits, 45 elective credits (elective credits should have at least 30 credits from department elective courses).
- 二、 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.
- 三、 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.
- 四、 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.