

國立勤益科技大學 108 學年度日間部四年制機械工程系學分計畫表  
National Chin-Yi University of Technology  
Curriculum for 2019 Four-Year Bachelor Program of Department of Mechanical Engineering

108.3.14 系課程及 108.4.11 系務會議審議通過；  
108.5.9. 院課程會議審議通過；  
108.5.21. 校課程委員會會議及 108.5.30. 教務會議審議通過  
109.12.10. 校課程委員會會議及 109.12.17. 教務會議審議修正通過  
110.05.25. 校課程委員會會議及 110.06.15. 教務會議審議修正通過

| 科目   | Courses  | 上學期 First Semester |               |                | 下學期 Second Semester |               |                |
|--|--|--------------------|---------------|----------------|---------------------|---------------|----------------|
|  |  | 學分<br>Credits      | 正課<br>Lecture | 實習<br>Practice | 學分<br>Credits       | 正課<br>Lecture | 實習<br>Practice |
| 共同必修科目(30 學分) General Required Courses (30credits )    |  |                    |               |                |                     |               |                |
| 第一學年First Year   |  |                    |               |                |                     |               |                |
| 國文(一)  | Chinese ( I )                                    | 3                  | 3             | 0              |                     |               |                |
| 大一英文(一)  | Freshman English ( I )                           | 2                  | 2             | 0              |                     |               |                |
| 英文聽講(一)  | Listening and Speaking ( I )                     | 1                  | 1             | 0              |                     |               |                |
| 歷史與文化(一)   | History and Culture ( I )                        | 2                  | 2             | 0              |                     |               |                |
| 音樂鑑賞   | Music Appreciation                               | 1                  | 1             | 0              |                     |               |                |
| 體育(一)  | Physical Education ( I )                         | 0                  | 2             | 0              |                     |               |                |
| 全民國防教育軍事訓練   | National Defense Education and Military Training | 0                  | 2             | 0              |                     |               |                |
| 勞作與社會服務教育(一)   | Labor and Social services Education ( I )        | 0                  | 0             | 1              |                     |               |                |
| 國文(二)  | Chinese ( II )                                   |                    |               |                | 3                   | 3             | 0              |
| 大一英文(二)  | Freshman English ( II )                          |                    |               |                | 2                   | 2             | 0              |
| 英文聽講(二)  | Listening and Speaking ( II )                    |                    |               |                | 1                   | 1             | 0              |
| 歷史與文化(二)   | History and Culture ( II )                       |                    |               |                | 2                   | 2             | 0              |
| 藝術鑑賞   | Art Appreciation                                 |                    |               |                | 1                   | 1             | 0              |
| 體育(二)  | Physical Education ( II )                        |                    |               |                | 0                   | 2             | 0              |
| 全民國防教育軍事訓練   | National Defense Education and Military Training |                    |               |                | 0                   | 2             | 0              |
| 勞作與社會服務教育(二)   | Labor and Social services Education ( II )       |                    |               |                | 0                   | 0             | 1              |
| 第二學年Second Year  |  |                    |               |                |                     |               |                |
| 博雅通識課程   | Liberal Education                                | 2                  | 2             | 0              |                     |               |                |
| 體育(三)  | Physical Education ( III )                       | 0                  | 2             | 0              |                     |               |                |
| 博雅通識課程   | Liberal Education                                |                    |               |                | 2                   | 2             | 0              |
| 博雅通識課程   | Liberal Education                                |                    |               |                | 2                   | 2             | 0              |
| 體育(四)  | Physical Education ( IV )                        |                    |               |                | 0                   | 2             | 0              |
| 第三學年Third Year   |  |                    |               |                |                     |               |                |
| 博雅通識課程   | Liberal Education                                | 2                  | 2             | 0              |                     |               |                |
| 博雅通識課程   | Liberal Education                                |                    |               |                | 2                   | 2             | 0              |
| 憲法與民主  | Constitution and Democracy                       |                    |               |                | 2                   | 2             | 0              |
| 第四學年Fourth Year (無必修課程No General Required Courses)     |  |                    |               |                |                     |               |                |
| 專業必修科目(74 學分) Department Required Courses (74credits ) |  |                    |               |                |                     |               |                |
| 第一學年First Year   |  |                    |               |                |                     |               |                |
| 微積分(一)   | Calculus ( I )                                   | 3                  | 3             | 0              |                     |               |                |
| 程式語言   | Computer Programming                             | 3                  | 3             | 0              |                     |               |                |
| 工廠實習   | Workshop Practices                               | 1                  | 0             | 3              |                     |               |                |
| 電腦輔助機械製圖   | Computer Aided Mechanical Drawing                | 1                  | 0             | 3              |                     |               |                |
| 材料科學與工程(一)   | Material Science and Engineering ( I )           | 3                  | 3             | 0              |                     |               |                |
| 微積分(二)   | Calculus ( II )                                  |                    |               |                | 3                   | 3             | 0              |
| 材料科學與工程(二)   | Material Science and Engineering ( II )          |                    |               |                | 3                   | 3             | 0              |
| 精密製造實習   | Precision Manufacturing Practices                |                    |               |                | 1                   | 0             | 3              |
| 靜力學  | Statics  |                    |               |                | 3                   | 3             | 0              |
| 製造學  | Manufacturing Processes                          |                    |               |                | 3                   | 3             | 0              |
| 第二學年Second Year  |  |                    |               |                |                     |               |                |
| 材料力學(一)  | Mechanics of Materials ( I )                     | 3                  | 3             | 0              |                     |               |                |
| 工程數學(一)  | Engineering Mathematics ( I )                    | 3                  | 3             | 0              |                     |               |                |
| 電機學  | Electrical Engineering                           | 3                  | 3             | 0              |                     |               |                |
| 動力學(一)   | Dynamics ( I )                                   | 3                  | 3             | 0              |                     |               |                |
| 氣壓學  | Pneumatic Control                                | 3                  | 3             | 0              |                     |               |                |
| 材料試驗   | Engineering Material Lab                         | 1                  | 0             | 3              |                     |               |                |
| 工程數學(二)  | Engineering Mathematics ( II )                   |                    |               |                | 3                   | 3             | 0              |
| 機械工程實驗(一)  | Mechanical Engineering Practices ( I )           |                    |               |                | 1                   | 0             | 3              |
| 應用電子學(一)   | Applied Electronics ( I )                        |                    |               |                | 3                   | 3             | 0              |
| 機構學  | Mechanisms                                       |                    |               |                | 3                   | 3             | 0              |
| 熱力學(一)   | Thermodynamics ( I )                             |                    |               |                | 3                   | 3             | 0              |
| 自動控制   | Automatic Controls                               |                    |               |                | 3                   | 3             | 0              |
| 第三學年Third Year   |  |                    |               |                |                     |               |                |
| 流體力學(一)  | Fluid Mechanics ( I )                            | 3                  | 3             | 0              |                     |               |                |
| 機械設計(一)  | Design of Machine Elements ( I )                 | 3                  | 3             | 0              |                     |               |                |
| 熱傳學  | Heat Transfer                                    | 3                  | 3             | 0              |                     |               |                |

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 實務專題 (一)  | Project study ( I )                       | 2 | 0 | 6 |   |   |   |
| 機械工程實驗(二)   | Mechanical Engineering Practices ( II )   | 1 | 0 | 3 |   |   |   |
| 實務專題 (二)  | Project study ( II )                      |   |   |   | 2 | 0 | 6 |
| 電腦輔助工程分析(一)   | Computer Aided Engineering Analysis ( I ) |   |   |   | 3 | 3 | 0 |
| 機械工程實驗(三)   | Mechanical Engineering Practices ( III )  |   |   |   | 1 | 0 | 3 |
| 第四學年Fourth Year (無必修課程No Department Required Courses) |   |   |   |   |   |   |   |

| 科目  | Courses  | 上學期 First Semester |               |                | 下學期 Second Semester |               |                |
|---|--|--------------------|---------------|----------------|---------------------|---------------|----------------|
|   |  | 學分<br>Credits      | 正課<br>Lecture | 實習<br>Practice | 學分<br>Credits       | 正課<br>Lecture | 實習<br>Practice |
| 共同選修科目 General Electives Courses  |  |                    |               |                |                     |               |                |
| 第一學年First Year (無排定共同選修課程 None)   |  |                    |               |                |                     |               |                |
| 第二學年Second Year   |  |                    |               |                |                     |               |                |
| 全民國防教育軍事訓練(三)   | National Defense Education and Military Training (Ⅲ) | 1                  | 2             | 0              |                     |               |                |
| 全民國防教育軍事訓練(四)   | National Defense Education and Military Training (Ⅳ) |                    |               |                | 1                   | 2             | 0              |
| 第三學年Third Year  |  |                    |               |                |                     |               |                |
| 體育選修  | Physical Education, Elective Course                  | 1                  | 2             | 0              | 1                   | 2             | 0              |
| 全民國防教育軍事訓練(五)   | National Defense Education and Military Training (Ⅴ) | 1                  | 2             | 0              |                     |               |                |
| 第四學年Fourth Year<br>(無必修課程)  |  |                    |               |                |                     |               |                |
| 體育選修  | Physical Education, Elective Course                  | 1                  | 2             | 0              | 1                   | 2             | 0              |
| 專業選修科目 Professional Electives Courses   |  |                    |               |                |                     |               |                |
| 第一學年First Year & (無排定專業選修課程 None)   |  |                    |               |                |                     |               |                |
| 第二學年Second Year   |  |                    |               |                |                     |               |                |
|   |  |                    |               |                |                     |               |                |
| 選修學程<br>第三學年Third Year  |  |                    |               |                |                     |               |                |
| 機械設計與電腦輔助 選修學程 Category of Machine Elements Design and Computer Aided Engineering |  |                    |               |                |                     |               |                |
| 材料力學(二)   | Mechanics of Materials (Ⅱ)                           | 3                  | 3             | 0              |                     |               |                |
| 熱工學   | Engineering of Thermodynamics                        | 3                  | 3             | 0              |                     |               |                |
| 動力學(二)  | Dynamics (Ⅱ)   | 3                  | 3             | 0              |                     |               |                |
| 數值分析  | Numerical Analysis                                   | 3                  | 3             | 0              |                     |               |                |
| 光學  | Optics   | 3                  | 3             | 0              |                     |               |                |
| 動態系統分析  | Dynamic System Analysis                              | 3                  | 3             | 0              |                     |               |                |
| 有限元素分析  | Finite Element Analysis                              | 3                  | 3             | 0              |                     |               |                |
| 創意性機構設計   | Innovative Mechanism Design                          |                    |               |                | 3                   | 3             | 0              |
| 高等材料力學  | Advanced Mechanics of Materials                      |                    |               |                | 3                   | 3             | 0              |
| 機械設計(二)   | Design of Machine Elements (Ⅱ)                       |                    |               |                | 3                   | 3             | 0              |
| 振動學   | Vibrations   |                    |               |                | 3                   | 3             | 0              |
| 流體力學(二)   | Fluid Mechanics (Ⅱ)                                  |                    |               |                | 3                   | 3             | 0              |
| 工程問題電腦解析  | Engineering Problems Solving by Computer             |                    |               |                | 3                   | 3             | 0              |
| 逆向工程  | Reverse Engineering                                  |                    |               |                | 3                   | 3             | 0              |
| 製造與材料工程 選修學程 Category of Manufacturing and Material Engineering                   |  |                    |               |                |                     |               |                |
| 精密加工技術  | Precision Machining Technology                       | 3                  | 3             | 0              |                     |               |                |
| 塑性加工  | Plastic Processing                                   | 3                  | 3             | 0              |                     |               |                |
| 非傳統加工   | Nontraditional Machining                             | 3                  | 3             | 0              |                     |               |                |
| 精密鑄造  | Precision Castings                                   | 3                  | 3             | 0              |                     |               |                |
| 銲接學   | Weldings   | 3                  | 3             | 0              |                     |               |                |
| 熱處理   | Heat Treatments                                      | 3                  | 3             | 0              |                     |               |                |
|   |  |                    |               |                |                     |               |                |
| 精密模具設計與加工   | Precision Mold Design and Manufacturing              |                    |               |                | 3                   | 3             | 0              |
| CNC 加工(一)   | Computer Numerical Control and Manufacturing (Ⅰ)     |                    |               |                | 3                   | 3             | 0              |
| 製程規劃  | Production Process Planning                          |                    |               |                | 3                   | 3             | 0              |
| 3D 參數化機械設計  | 3D Parametric Mechanical Design                      |                    |               |                | 3                   | 3             | 0              |
| 陶瓷材料  | Ceramic Materials                                    |                    |               |                | 3                   | 3             | 0              |
| 奈米材料概論  | Introduction to Nano-materials                       |                    |               |                | 3                   | 3             | 0              |
| 電腦輔助整合與應用   | Integrated and application of Computer-Aided         |                    |               |                | 3                   | 3             | 0              |
| 自動化 選修學程 Category of Automation Engineering                                       |  |                    |               |                |                     |               |                |
| C 程式與語言設計   | C-Language and Programming                           | 3                  | 3             | 0              |                     |               |                |
| LabVIEW 程式設計與應用   | LabVIEW Programming and Applications                 | 3                  | 3             | 0              |                     |               |                |
| 應用電子學(二)  | Applied Electronics (Ⅱ)                              | 3                  | 3             | 0              |                     |               |                |
| 電子電路模擬與設計   | Simulation and Design of Electronic Circuits         | 3                  | 3             | 0              |                     |               |                |
| 自動裝配  | Automatic Assembly                                   | 3                  | 3             | 0              |                     |               |                |
| 數位電子學   | Digital Electronics                                  | 3                  | 3             | 0              |                     |               |                |
| 感測器原理與應用  | Principles and Applications of Sensors               |                    |               |                | 3                   | 3             | 0              |
| 機電整合  | Theory and Practice of Mechatronics                  |                    |               |                | 3                   | 3             | 0              |
| PC Based 控制   | PC based Control                                     |                    |               |                | 3                   | 3             | 0              |

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 微控制器  | Microcontrollers                                    |   |   |   | 3 | 3 | 0 |
| 數位 IC 實務  | Practices of Digital ICs                            |   |   |   | 3 | 3 | 0 |
|   |   |   |   |   |   |   |   |
| 其它專業選修課程 Other professional electives courses                                     |   |   |   |   |   |   |   |
| 線性代數  | Linear Algebra                                      | 3 | 3 | 0 |   |   |   |
| 物理學(一)  | Physics (I)   | 3 | 3 | 0 |   |   |   |
| 高等工程數學  | Advanced Engineering Mathematics                    | 3 | 3 | 0 |   |   |   |
| 科技英文  | English for Science and Technology                  | 3 | 3 | 0 |   |   |   |
| 工業日文(一)   | Industrial Japanese(I)                              | 3 | 3 | 0 |   |   |   |
| 電腦輔助立體製圖  | Computer Aided 3D Drawings                          | 3 | 3 | 0 |   |   |   |
| 工程倫理  | Ethics in Engineering                               | 3 | 3 | 0 |   |   |   |
| 機器人控制實務   | Practices of Robot Control                          | 3 | 3 | 0 |   |   |   |
| 鑄造學   | Foundry Technology                                  | 3 | 3 | 0 |   |   |   |
| 切削刀具學   | Tooling for Metal Cutting                           | 3 | 3 | 0 |   |   |   |
| 微成形概論   | Introduction to Micro-forming                       | 3 | 3 | 0 |   |   |   |
| 機器人學  | Robotics  | 3 | 3 | 0 |   |   |   |
| 半導體製程   | Semiconductor Fabrication Process                   | 3 | 3 | 0 |   |   |   |
| 可再生能源技術與應用  | Technology and Application of Renewable Energy      | 3 | 3 | 0 |   |   |   |
| MATLAB 軟體在工程上的應用  | Engineering Applications of MATLAB Software         | 3 | 3 | 0 |   |   |   |
| 塑膠模具設計  | Plastic Injection Mold Design                       | 3 | 3 | 0 |   |   |   |
| 可靠度工程   | Introduction to Reliability Engineering             | 3 | 3 | 0 |   |   |   |
| 積體電路與介面   | ICs and Interfaces                                  | 3 | 3 | 0 |   |   |   |
| 精密機械概論  | Introduction to Precision Machinery                 | 3 | 3 | 0 |   |   |   |
| 創意性工程設計   | Innovative Engineering Design                       | 3 | 3 | 0 |   |   |   |
| 工具機組裝技術   | Machine Tools Assembly Technology                   | 3 | 3 | 0 |   |   |   |
| 精密工具機技術   | Precision Machine Tools Technology                  | 3 | 3 | 0 |   |   |   |
| 自動化光學量測系統   | Automatically optical measurement system            | 3 | 3 | 0 |   |   |   |
| 校外實習(寒假一)   | Out-of-campus Intern Practice (in winter I)         | 1 | 0 | 1 |   |   |   |
| 校外實習(寒假二)   | Out-of-campus Intern Practice (in winter II)        | 1 | 0 | 1 |   |   |   |
| 半導體製程設備   | Equipment for Semiconductor Fabrication Process     |   |   |   | 3 | 3 | 0 |
| 綠色工程實務  | Practices of Green Engineering                      |   |   |   | 3 | 3 | 0 |
| 工廠管理  | Factory Management                                  |   |   |   | 3 | 3 | 0 |
| 新產品開發管理   | New Products Development and Management             |   |   |   | 3 | 3 | 0 |
| 板金彈性製造系統  | Flexible Manufacturing System for Sheet Metal king  |   |   |   | 3 | 3 | 0 |
| Java 程式語言設計   | Java-Language Programming                           |   |   |   | 3 | 3 | 0 |
| 現代控制  | Modern Controls                                     |   |   |   | 3 | 3 | 0 |
| 變頻元件開流體   | VFD Elements and Thyristors                         |   |   |   | 3 | 3 | 0 |
| 工業日文(二)   | Industrial Japanese (II)                            |   |   |   | 3 | 3 | 0 |
| 生質能源技術與應用   | Technology and Application of Biomass Energy        |   |   |   | 3 | 3 | 0 |
| 物理學(二)  | Physics (II)  |   |   |   | 3 | 3 | 0 |
| CAE 概論  | Introduction to CAE                                 |   |   |   | 3 | 3 | 0 |
| 塑膠材料  | Plastic Materials                                   |   |   |   | 3 | 0 | 3 |
| 半導體材料   | Semiconductor Materials                             |   |   |   | 3 | 3 | 0 |
| 奈米工程技術概論  | Introduction to Nanotechnology                      |   |   |   | 3 | 3 | 0 |
| 奈米科技物理  | Nanotechnology Physics                              |   |   |   | 3 | 3 | 0 |
| 液壓系統設計  | Hydraulic System Design                             |   |   |   | 3 | 3 | 0 |
| 工具機結構分析   | Structural Analysis for Machine Tools               |   |   |   | 3 | 3 | 0 |
| 智慧機械聯網整合技術  | The networking technology of Intelligent mechanical |   |   |   | 3 | 3 | 0 |
| 影像處理  | Numerical Analysis                                  |   |   |   | 3 | 3 | 0 |
| 校外實習(暑假期一)  | Out-of-campus Intern Practice (in summer I)         |   |   |   | 3 | 0 | 3 |
| 校外實習(暑假期二)  | Out-of-campus Intern Practice (in summer II)        |   |   |   | 0 | 0 | 3 |
| 第四學年Fourth Year   |   |   |   |   |   |   |   |
| 機械設計與電腦輔助 選修學程 Category of Machine Elements Design and Computer Aided Engineering |   |   |   |   |   |   |   |
| 微機電系統   | Microelectromechanical Systems (MEMS)               | 3 | 3 | 0 |   |   |   |
| 流體機械  | Fluid Machinery                                     | 3 | 3 | 0 |   |   |   |
| 快速原型加工  | Rapid Prototyping Processes                         | 3 | 3 | 0 |   |   |   |
| 電腦輔助產品設計  | Computer-Aided Product Design                       | 3 | 3 | 0 |   |   |   |
| 電腦輔助工程分析(二)   | Computer Aided Engineering Analysis (II)            | 3 | 3 | 0 |   |   |   |
| 電腦輔助工業設計  | Computer Aided Industrial Design                    | 3 | 3 | 0 |   |   |   |
|   |   |   |   |   |   |   |   |
| 工具機設計與量測  | Design and Measurement for Machine Tools            |   |   |   | 3 | 3 | 0 |
| 機械系統設計  | Mechanical System Design                            |   |   |   | 3 | 3 | 0 |
| 多重物理耦合分析  | Coupled Multi-physics Analysis                      |   |   |   | 3 | 3 | 0 |
| 電腦輔助模流分析  | Computer Aided Mold-flow Analysis                   |   |   |   | 3 | 3 | 0 |
| 製造與材料工程 選修學程 Category of Manufacturing and Material Engineering                   |   |   |   |   |   |   |   |
| 快速原型加工  | Rapid Prototyping Processes                         | 3 | 3 | 0 |   |   |   |
| 產品開發製造  | Products Development and Manufacturing              | 3 | 3 | 0 |   |   |   |
| 電腦輔助製造  | Computer Aided Manufacturing                        | 3 | 3 | 0 |   |   |   |

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 電腦輔助工程分析(二)                                   | Computer Aided Engineering Analysis ( II )                          | 3 | 3 | 0 |   |   |   |
| 掃描式電子顯微鏡原理與應用                                 | Principles and Applications of Scanning Electronic Microscope (SEM) | 3 | 3 | 0 |   |   |   |
| 腐蝕工程  | Introduction to Corrosion Engineering                               | 3 | 3 | 0 |   |   |   |
| 工具設計  | Tool Design   |   |   |   | 3 | 3 | 0 |
| 太陽能概論   | Introduction to Solar Energy  |   |   |   | 3 | 3 | 0 |
| 燃料電池概論  | Introduction to Fuel Cells  |   |   |   | 3 | 3 | 0 |
| 自動化 選修學程 Category of Automation Engineering   |   |   |   |   |   |   |   |
| 伺服機構  | Servomechanism  | 3 | 3 | 0 |   |   |   |
| 自動化機構設計                                       | Design of Automatic Mechanisms                                      | 3 | 3 | 0 |   |   |   |
| 自動化生產系統                                       | Automatic Manufacturing System                                      | 3 | 3 | 0 |   |   |   |
| 可程式控制器  | Programmable Logic Controllers                                      | 3 | 3 | 0 |   |   |   |
| 液壓學   | Hydraulics Controls   | 3 | 3 | 0 |   |   |   |
| 模糊控制  | Fuzzy Controls  | 3 | 3 | 0 |   |   |   |
| 數位控制  | Digital Controls  |   |   |   | 3 | 3 | 0 |
| 信號與系統   | Signals and Systems   |   |   |   | 3 | 3 | 0 |
| 其它專業選修課程 Other professional electives courses |   |   |   |   |   |   |   |
| 科技論文寫作  | Technical Thesis Writing  | 3 | 3 | 0 |   |   |   |
| 幾何光學  | Geometric Optics  | 3 | 3 | 0 |   |   |   |
| 生醫力學概論  | Introduction to Biomedical Mechanics                                | 3 | 3 | 0 |   |   |   |
| 空氣動力學   | Aerodynamics  | 3 | 3 | 0 |   |   |   |
| 汽車工程  | Automotive Engineering  | 3 | 3 | 0 |   |   |   |
| 金屬熱處理   | Metal Heat Treatment  | 3 | 3 | 0 |   |   |   |
| 粉末冶金  | Powder Metallurgy   | 3 | 3 | 0 |   |   |   |
| 電腦整合製造  | Computer Integrated Manufacturing                                   | 3 | 3 | 0 |   |   |   |
| 非破壞檢驗   | Non-Destructive Testing   | 3 | 3 | 0 |   |   |   |
| 機械動力學   | Dynamics of Machinery   | 3 | 3 | 0 |   |   |   |
| 造型藝術與創新設計                                     | Styling Art and Innovative Design                                   | 3 | 3 | 0 |   |   |   |
| 衝壓模設計   | Stamping Die Design   | 3 | 3 | 0 |   |   |   |
| 最佳化設計   | Optimization Design   | 3 | 3 | 0 |   |   |   |
| 光電概論  | Introduction to photo-electronics                                   | 3 | 3 | 0 |   |   |   |
| 工程統計學   | Engineering Statistics  | 3 | 3 | 0 |   |   |   |
| 工具機控制器實務                                      | The Practice of Controllers for Machine Tools                       | 3 | 3 | 0 |   |   |   |
| 智慧製造技術  | Intelligent manufacturing technology                                | 3 | 3 | 0 |   |   |   |
| 航空產業概論  | Introduction to Aeronautical Manufacturing                          | 3 | 3 | 0 |   |   |   |
| 向量與張量分析                                       | Vector and Tensor Analysis  |   |   |   | 3 | 3 | 0 |
| 複合材料力學  | Mechanics of Composite Materials                                    |   |   |   | 3 | 3 | 0 |
| 近代物理  | Modern Physics  |   |   |   | 3 | 3 | 0 |
| 彈塑性力學   | Mechanics of Elasticity and Plasticity                              |   |   |   | 3 | 3 | 0 |
| 品質管制  | Quality Control   |   |   |   | 3 | 3 | 0 |
| 品質管理工程  | Engineering of Quality Management                                   |   |   |   | 3 | 3 | 0 |
| 醫工設備概論  | Introduction to Instrumentation of Medical Engineering              |   |   |   | 3 | 3 | 0 |
| 工程經濟  | Engineering Economy   |   |   |   | 3 | 3 | 0 |
| 夾治具設計   | Jig and Fixture Design  |   |   |   | 3 | 3 | 0 |
| 微系統製造技術                                       | Fabrication Technologies of Micro-systems                           |   |   |   | 3 | 3 | 0 |
| 薄膜材料與應用                                       | Thin Film Materials with Applications                               |   |   |   | 3 | 3 | 0 |
| 精密量測  | Precision Measurement   |   |   |   | 3 | 3 | 0 |
| 五軸加工技術  | Technology of 5-axis Machine Tools                                  |   |   |   | 3 | 3 | 0 |
| 校外實習(一)                                       | Out-of-campus Intern Practice ( I )                                 | 9 | 0 | 9 |   |   |   |
| 校外實習(二)                                       | Out-of-campus Intern Practice ( II )                                |   |   |   | 9 | 0 | 9 |
| 專題師徒實習(一)                                     | Mentor-Apprentice Internship Course for Project (I)                 | 0 | 0 | 3 |   |   |   |
| 專題師徒實習(二)                                     | Mentor-Apprentice Internship Course for Project ( II )              |   |   |   | 0 | 0 | 3 |
| 師徒實務專題(一)                                     | Mentor-Apprentice Project study ( I )                               | 3 | 0 | 3 |   |   |   |
| 師徒實務專題(二)                                     | Mentor-Apprentice Project study ( II )                              |   |   |   | 3 | 0 | 3 |

備註 Note:

一、畢業至少應修滿 131 學分【必修 104 學分，選修至少 27 學分(須含本系專業選修至少 18 學分)】

Students should complete at least 131 credits before graduation, includes 104 required credits, 27 elective credits (elective credits should have at least 18 credits from professional elective courses).

二、本校訂有「國立勤益科技大學學生英文及資訊能力與服務學習畢業門檻辦法」，請依規定辦理。

Please follow the rule of "English, Computer Ability and Service Learning Graduation Threshold in National Chin-Yi University of Technology".

三、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 course with 2 credits or 3 hours course with 3 credits, ratified by the School Course Committee in 2012.