

學士後電子與光子學士學位學程  
Electronics and Photonics Post-undergraduate Second Degree Program  
114學年度-電子與AI應用組及光子與AI應用組

School Year 114-Electronics and AI Application Group & Photonics and AI Application Group

| 選別<br>Type                                                  | 科目名稱<br>Course Name                                                                                                | 學分<br>Credit | 第一學年<br>Grade 1 |     | 第二學年<br>Grade 2 |     | 備註<br>Note         |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------|-----------------|-----|-----------------|-----|--------------------|
|                                                             |                                                                                                                    |              | 1st             | 2nd | 1st             | 2nd |                    |
| 必修<br>Compulsory<br>credits                                 | 微積分<br>Calculus                                                                                                    | 3            | 3               |     |                 |     |                    |
|                                                             | 普通物理學<br>General Physics                                                                                           | 3            | 3               |     |                 |     |                    |
|                                                             | 電子學(一)(二)<br>Electronics (1)(2)                                                                                    | 6            | 3               | 3   |                 |     |                    |
|                                                             | 電腦程式與計算分析(一) 或 計算機概論<br>Computer Programming and Computational Analysis (1)<br>or Introduction to Computer Science | 3            | 3               |     |                 |     |                    |
|                                                             | 電腦程式與計算分析(二) 或 Python程式語言<br>Computer Programming and Computational Analysis (2)<br>or Python Programming Language | 3            |                 | 3   |                 |     |                    |
|                                                             | 電子學實驗(一)(二)<br>Electronic Laboratory (1)(2)                                                                        | 2            | 1               | 1   |                 |     |                    |
|                                                             | 工程數學<br>Engineering Mathematics                                                                                    | 3            |                 | 3   |                 |     |                    |
|                                                             | 電磁學(一)<br>Electromagnetics (1)                                                                                     | 3            |                 | 3   |                 |     |                    |
|                                                             | 資料庫管理<br>Database Management                                                                                       | 3            |                 |     | 3               |     |                    |
|                                                             | 光子學實驗 或 光學實驗<br>Photonics Lab. or Optics Lab.                                                                      | 2            |                 |     | 2               |     |                    |
|                                                             | 專題討論<br>Seminar                                                                                                    | 2            |                 |     | 1               | 1   | 專題討論必須修滿2學分        |
|                                                             | 資料分析與機器學習<br>Data analysis and machine learning                                                                    | 3            |                 |     |                 | 3   |                    |
|                                                             |                                                                                                                    |              |                 |     |                 |     |                    |
| 必選<br>(八選三)<br>Requlred<br>Course<br>(Choose 3<br>out of 8) | 近代物理<br>Modern physics                                                                                             | 9            |                 |     | 3               |     |                    |
|                                                             | 半導體物理與元件 或 半導體物理與元件(一)<br>Semiconductor Physics and Device<br>or Semiconductor Physics and Device (1)              |              |                 |     | 3               |     |                    |
|                                                             | 電磁學(二)<br>Electromagnetics (2)                                                                                     |              |                 |     | 3               |     |                    |
|                                                             | 半導體製程<br>Semiconductor Processing                                                                                  |              |                 |     | 3               |     |                    |
|                                                             | 邏輯設計與FPGA<br>Logic Design and Field Programmable Gate Array                                                        |              |                 |     | 3               |     | 修習「邏輯設計」學分可申請免修(註) |
|                                                             | 光電子學<br>Optoelectronics                                                                                            |              |                 |     |                 | 3   |                    |
|                                                             | 訊號與系統<br>Signals and Systems                                                                                       |              |                 |     |                 | 3   |                    |
|                                                             | 計算機組織<br>Computer Organization                                                                                     |              |                 |     |                 | 3   |                    |
|                                                             |                                                                                                                    |              |                 |     |                 |     |                    |
| 選修<br>Elective<br>Course                                    | 資料結構與演算法<br>Data Structures and Algorithms                                                                         | 3            |                 |     | 3               |     |                    |
|                                                             | 量子力學導論 或 量子力學(一)<br>Introduction to Quantum Mechanics or Quantum Mechanics (1)                                     | 3            |                 |     | 3               |     |                    |
|                                                             | 物理光學<br>Physical Optics                                                                                            | 3            |                 |     |                 | 3   | 修習「光學」學分可申請免修(註)   |
|                                                             | 巨量資料導論<br>Introduction to big data analysis                                                                        | 3            |                 |     |                 | 3   |                    |
|                                                             | 資料探勘與深度學習<br>Data Mining and Deep Learning                                                                         | 3            |                 |     |                 | 3   |                    |
|                                                             |                                                                                                                    |              |                 |     |                 |     |                    |

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|--------------------------|----------------------------------------------------------------------|--------------|-----------------|-----|-----------------|-----|------------|
|                          |                                                                      |              | 1st             | 2nd | 1st             | 2nd |            |
| 選修<br>Elective<br>Course | 電子電路系統設計 或 電路學<br>Electronic circuit system design or Circuit Theory | 3            |                 |     |                 | 3   |            |
|                          | 專題實作<br>Special topic implementation                                 | 1            |                 |     | 1               |     |            |
|                          | 微處理機原理與應用<br>Principles and Applications of Microprocessors          | 3            |                 |     | 3               |     |            |
|                          | 數位電路設計<br>Digital Circuit Design                                     | 3            |                 |     |                 | 3   |            |
|                          | 工程統計<br>Engineering Statistics                                       | 3            |                 |     |                 | 3   |            |
|                          | 固態物理導論<br>Introduction to Solid State Physics                        | 3            |                 |     | 3               |     |            |
|                          | 電子構裝技術<br>Electronic Packaging Technology For Electronics            | 3            |                 |     | 3               |     |            |
|                          | 半導體實務<br>Semiconductor Practice                                      | 1            |                 |     | 1               |     |            |
|                          | 量子力學(二)<br>Quantum Mechanics (2)                                     | 3            |                 |     |                 | 3   |            |
|                          | 半導體物理與元件(二)<br>Semiconductor Physics and Device (2)                  | 3            |                 |     |                 | 3   |            |
|                          | 雷射導論<br>Introduction to Laser                                        | 3            |                 |     |                 | 3   |            |
|                          |                                                                      |              |                 |     |                 |     |            |

(註)：欲申請免修，需填寫「免修學分申請表」

本學程最低畢業學分為 48 學分（必修 45 學分及選修 3 學分）  
 Minimum Total credits for Graduation : 48 (Required 45 Credit and Elective 5 Credit)