

國立彰化師範大學
電機工程學系學士班畢業條件表暨課程架構表
(115學年度入學學生適用)

National Changhua University of Education
Graduation Requirements and Course Structure for Bachelor's Program of Electrical Engineering
(Applicable for students in 115 academic year)

列印日期(Print Date:2026/02/26)

一.系必修課程

I.Department Required Courses

課程名稱 Course Name	學分/學時 Credit(s)/ Hour(s)	年級 Grade	學期 Semester
計算機概論 Introduction to Computer Science	3/3	1	1
普通物理 General Physics	3/3	1	1
程式設計 Program Design	3/3	1	1
微積分(一) Calculus I	3/3	1	1
工程數學(一) Engineering Mathematics I	3/3	1	2
微積分(二) Calculus II	3/3	1	2
電路技術 Circuit Theory Experiments	2/4	1	2
電路學(一) Circuit Theory I	3/3	1	2
線性代數 Linear Algebra	3/3	1	2
工程數學(二) Engineering Mathematics II	3/3	2	1
電子技術(一) Electronic Technology I	2/4	2	1
電子學(一) Electronics I	3/3	2	1
電路學(二) Circuit Theory II	3/3	2	1
邏輯設計與技術 Logic Design and Technology	3/3	2	1
訊號與系統 Signals and Systems	3/3	2	2
電子技術(二) Electronic Technology II	2/4	2	2
電子學(二) Electronics II	3/3	2	2
電磁學(一) Electromagnetics I	3/3	2	2

專題規劃與研究 Planning and Research for Special Topic	1/1	3	1
控制系統 Control System	3/3	3	1
電磁學(二) Electromagnetics II	3/3	3	1
電機機械與技術 Electric Machinery and Technology	3/3	3	1
電資產業概論與工程倫理 Introduction of Electrical Industry and Engineering Ethics	2/2	3	2
專題一(至少2學分) Special Topic I(2 credits is least required)			
系統實作專題(一) Special Topic for Systems I	2/4	3	2
研發實作專題(一) Special Topic for Research I	2/4	3	2
產業實作專題(一) Special Topic for Industry I	2/4	3	2
專題二(至少2學分) Special Topic II(2 credits is least required)			
系統實作專題(二) Special Topic for Systems II	2/4	4	1
研發實作專題(二) Special Topic for Research II	2/4	4	1
產業實作專題(二) Special Topic for Industry II	2/4	4	1

二.系選修課程

II.Department Elective Courses

課程名稱 Course Name	學分/學時 Credit(s)/ Hour(s)
物件導向程式設計與應用 Object-Oriented Programming and Applications	3/3
程式語言 Programming Language	3/3
計算機組織與結構 Computer Architecture	3/3
微控制器基礎與應用 Microcontroller Fundamentals and Applications	3/3
RFID應用 RFID Applications	3/3
介面電路應用與開發 Interface Circuit Applications and Development	3/3
近代物理 Modern Physics	3/3
通訊導論 Introduction to Communication	3/3
智慧感測與資料探勘 Intelligence Sensing and Data Prospecting	3/3

綠色能源科技 Green Energy Technology	3/3
機率與統計 Probability and Statistics	3/3
Python程式語言 Python Programming	3/3
射頻電路設計 RF Circuit Design	3/3
電力系統 Electric Power System	3/3
數位通訊導論 Introduction to Digital Communications	3/3
數值分析 Numerical Analysis	3/3
光電子學 Optoelectronics and Photonics	3/3
神經系統 Nervous System	3/3
軟硬體共同設計 Hardware Software Codesign	3/3
嵌入式作業系統 Embedded Operating Systems	3/3
無線通訊 Wireless Communications	3/3
無線通訊與聯網實務 Wireless Communication and Networking Practices	3/3
微波工程 Microwave Engineering	3/3
電力系統動態分析 Power System Dynamics Analysis	3/3
電力品質 Power Quality	3/3
電力電子學 Power Electronics	3/3
電腦視覺 Computer Vision	3/3
影像處理 Image Processing	3/3
數位電源系統 Digital Power System	3/3
模糊控制 Fuzzy Control	3/3
機器學習 Machine Learning	3/3
積體電路佈局與設計 Integrated Circuit Layout and Design	3/3
類神經網路 Neural Network	3/3
人工智慧 Artificial Intelligence	3/3

天線設計 Antenna Design	3/3
光纖通訊 Optical-Fiber Communication	3/3
肌肉骨骼系統與運動 Musculoskeletal System and Biomechanics	3/3
保護電驛 Protective Relaying	3/3
計算機網路 Computer Network	3/3
動態可重組式晶片系統開發 Dynamically Reconfigurable SoC Development	3/3
深度學習 Deep Learning	3/3
智慧物聯網應用與實務 Applications and Practices of Intelligent Internet of Things	3/3
雷射原理 Principles of Lasers	3/3
電源與電池管理系統 Energy and Battery Management Systems	3/3
電腦視覺專題 Special topics on computer vision	3/3
電腦輔助積體電路設計 Computer-Aided Design of Integrated Circuits	3/3
數位訊號處理 Digital Signal Processing	3/3
數位影像處理 Digital Image Processing	3/3
獨立研究 Independent Studies	2/2

三.先修科目

III.Prequisite Courses

先修課程 Prerequisite Course	後修課程 Subsequent Course
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四.畢業條件

IV.Graduation Requirements

<p>1.最低畢業學分數：128學分（含校必修28學分，系必修67學分，選修33學分），不含軍訓、體育、通識及教育學程學分。</p> <p>2.修讀本系開設課程，逕予計為畢業學分；修讀非本系開設課程，採計18學分為畢業選修學分，其中9學分需審核；其他畢業學分採計須經本系認定。</p> <p>3.學生須通過「國立彰化師範大學資訊能力檢定畢業門檻實施辦法」規定，方得畢業。</p> <p>4.「系統/研發/產業實作專題(一)」課程僅需選擇其中一門修讀，「系統/研發/產業實作專題(二)」課程僅需選擇其中一門修讀。</p>
<p>1. Minimum graduation credits: 128 credits including 28 credits of university-required courses, 67 credits of department-required courses and 33 credits of elective courses; excluding credits related to Military Training, Physical Education, General Education and Educational Programs.</p> <p>2. Any credit offered by our department is qualified and half of 18 credits of elective courses offered by the others need to be approved.</p> <p>3. The regulations of graduation threshold for information skills test of NCUE is required.</p> <p>4. One of the following courses: "Special Topic for Systems", "Special Topic for Research" or "Special Topic for Industry", is required to be taken in the semester.</p>