

國立暨南國際大學電機工程學系碩士班必選修科目一覽表
Master's Program Course Catalog of Department of Electrical Engineering,
National Chi Nan University

本表自(114)學年度起入學新生適用 Effective for students admitted in Fall, **2025**

最低畢業學分：25 學分；必修4學分，選修21學分（選修含資訊工程研究所、應用材料與光電工程研究所及本所所開授之專業選修課程，其中本所所開授之專業選修課程至少15學分）。

Master's students must earn a minimum of 25 required credits, including 4 credits from required courses of the Dept. of Electrical Engineering, and 21 credits from elective courses with at least 15 credits from elective courses of the Dept. of Electrical Engineering. In addition, students may earn up to 6 credits from elective courses at the Department of Computer Science and Information Engineering, and the Department of Applied Materials and Optoelectronics Engineering.

課程代號 Course Code	課程名稱(中文及英文) Course Name (Chinese and English)	學分數 Credits	修別 Course type (required/elective)	開課年級 Course availability	備註 Notes
235001	專題研究(一) Independent Study (I)	1	必 required	一上 Master 1st Semester	
235002	專題討論(一) Seminar (I)	1	必 required	一上 Master 1st Semester	
235025	專題研究(二) Independent Study (II)	1	必 required	一下 Master 2nd Semester	
235026	專題討論(二) Seminar (II)	1	必 required	一下 Master 2nd Semester	
235155	專題討論(三) Seminar (III)	1	選 elective	二上 Master 3rd Semester	兩年(含)以上畢業者則 必須選修「專題討論 (三)」及「專題討論 (四)」。

235156	專題討論(四) Seminar (IV)	1	選 elective	二下 Master 4th Semester	兩年(含)以上畢業者則 必須選修「專題討論 (三)」及「專題討論 (四)」。
235005	類比VLSI電路設計 Analog VLSI Circuits Design	3	選 elective	一上 Master 1st Semester	
235006	數位VLSI電路設計 Digital VLSI Circuits Design	3	選 elective	一上 Master 1st Semester	
235008	數位通訊 Digital Communications	3	選 elective	一上 Master 1st Semester	
235010	隨機程序 Stochastic Processes	3	選 elective	一上 Master 1st Semester	
235011	線性系統 Linear System Theory	3	選 elective	一上 Master 1st Semester	
235015	半導體元件特性與量測 Semiconductor Devices Characterization and Measurement	3	選 elective	一下 Master 2nd Semester	
235024	圖型識別 Pattern Recognition	3	選 elective	一下 Master 2nd Semester	
235029	固態物理 Solid-State Physics	3	選 elective	一下 Master 2nd Semester	

235047	微波元件 Microwave Devices	3	選 elective	一上 Master 1st Semester	
235048	射頻積體電路設計 RF Integrated Circuit Design	3	選 elective	一下 Master 2nd Semester	
235050	微波電路 Microwave Circuits	3	選 elective	一上 Master 1st Semester	
235059	微波量測 Microwave Measurement	3	選 elective	一下 Master 2nd Semester	
235060	系統最佳化 System Optimization	3	選 elective	一下 Master 2nd Semester	
235064	數位影像處理 Digital Image Processing	3	選 elective	一上 Master 1st Semester	
235069	數位訊號處理 Digital Signal Processing	3	選 elective	一上 Master 1st Semester	
235071	無線通訊 Wireless Communication	3	選 elective	一上 Master 1st Semester	
235083	固態電子實驗-半導體製程與量測 Solid-State Electronics Laboratory- Semiconductor Processing and Measurement	3	選 elective	一上 Master 1st Semester	

235084	半導體元件物理 Semiconductor Devices Physics	3	選 elective	一上 Master 1st Semester	
235085	半導體感測器 Semiconductor Sensors	3	選 elective	一上 Master 1st Semester	
235086	積體電路製程技術(一) Integrated Circuits Fabrication Technology(I)	3	選 elective	一上 Master 1st Semester	
235087	計算機網路 Computer Network	3	選 elective	一上 Master 1st Semester	
235088	軟體無線電 Software Radio	3	選 elective	一上 Master 1st Semester	
235089	平面天線設計 Planar Antenna Design	3	選 elective	一上 Master 1st Semester	
235090	MATLAB程式語言於電機工程之應用 Application of MATLAB in Electrical Engineering	3	選 elective	一上 Master 1st Semester	
235091	MATLAB機器學習應用程式設計 MATLAB Programming in Machine Learning	3	選 elective	一上 Master 1st Semester	
235092	智慧機器人原理與控制 Intelligent Robotics-Principles and Control	3	選 elective	一上 Master 1st Semester	

235093	第五代無線通訊系統簡介 Introduction to 5G Wireless Communication Systems	3	選 elective	一上 Master 1st Semester	
235094	微波工程 Microwave Engineering	3	選 elective	一下 Master 2nd Semester	
235095	軟硬體協同設計 Hardware/Software Codesign	3	選 elective	一上 Master 1st Semester	
235096	類比積體電路系統設計及應用 Analog VLSI System Design Applications	3	選 elective	一下 Master 2nd Semester	
235097	類比與數位訊號轉換器設計 Analog and Digital Signal Converter Design	3	選 elective	一上 Master 1st Semester	
235098	醫學電子學 Biomedical Electronics	3	選 elective	一下 Master 2nd Semester	
235100	積體電路製程技術(二) Integrated Circuits Fabrication Technology(II)	3	選 elective	一下 Master 2nd Semester	
235101	積體電路元件 Semiconductor Devices for Integrated Circuits	3	選 elective	一上 Master 1st Semester	
235103	機器人程式設計 Advanced Programming in Robotic Navigation	3	選 elective	一下 Master 2nd Semester	

235106	數值電磁方法 Numerical Methods in Electromagnetics	3	選 elective	一下 Master 2nd Semester	
235108	數位視訊技術 Digital Video Technology	3	選 elective	一上 Master 1st Semester	
235109	數位通訊應用 Digital Communication Theory and Technology	3	選 elective	一下 Master 2nd Semester	
235111	電磁相容 Electromagnetic Compatibility	3	選 elective	一上 Master 1st Semester	
235112	新世代無線通訊技術 New-Generation Wireless Communication Techniques	3	選 elective	一下 Master 2nd Semester	
235113	微波被動電路 Microwave Passive Circuits	3	選 elective	一上 Master 1st Semester	
235114	硬體描述語言與FPGA雛型 Hardware Description Language and FPGA Prototyping	3	選 elective	一下 Master 2nd Semester	
235117	無線通訊系統 Wireless Communication Systems	3	選 elective	一下 Master 2nd Semester	
235118	無線接收器模擬與製作 Wireless Receiver Simulation and Implementation	3	選 elective	一下 Master 2nd Semester	

235121	智慧型與適應性控制 Intelligent and Adaptive Control	3	選 elective	一上 Master 1st Semester	
235122	通訊系統模擬 Simulation of communication systems	3	選 elective	一下 Master 2nd Semester	
235123	深度學習與語音識別 Deep Learning and Speech Recognition	3	選 elective	一下 Master 2nd Semester	
235124	深度學習與圖型識別之TensorFlow程式設計與實作 Programming and Implementations of Deep Learning and Pattern Recognition with Tensorflow	3	選 elective	一下 Master 2nd Semester	
235126	偵測與估計 Detection and Estimation	3	選 elective	一下 Master 2nd Semester	
235130	科技簡報 Technical Presentation	2	選 elective	一上 Master 1st Semester	
235131	前瞻類比積體電路設計 Advanced analog integrated circuit design	3	選 elective	一下 Master 2nd Semester	
235132	非接觸式行動裝置充電導論 Introduction to Wireless Power Transfer (WPT) for Mobile Devices	3	選 elective	一上 Master 1st Semester	
235133	物聯網系統設計與實作 System Design and Development of Internet of Things	3	選 elective	一下 Master 2nd Semester	

235134	固態電子學 Physics for Solid-State Electronics	3	選 elective	一下 Master 2nd Semester	
235135	行動網路系統 Mobile Network Systems	3	選 elective	一下 Master 2nd Semester	
235138	生物感測器與換能器 Bio-Sensors and Transducers	3	選 elective	一上 Master 1nd Semester	
235140	半導體記憶體 Semiconductor Memories	3	選 elective	一下 Master 2nd Semester	
235141	太陽能電池 Solar Cells	3	選 elective	一下 Master 2nd Semester	
235142	天線陣列設計 Antenna Array Design	3	選 elective	一下 Master 2nd Semester	
235143	人工智慧與類神經網路 Artificial Intelligence and Neural Network	3	選 elective	一下 Master 2nd Semester	
235144	人工智慧與模糊類神經網路 Artificial intelligence and fuzzy neural network	3	選 elective	一下 Master 2nd Semester	
235146	RFID晶片設計 RFID Chip Design	3	選 elective	一下 Master 2nd Semester	

235147	半導體元件模擬 Simulation of Semiconductor Devices	3	選 elective	一下 Master 2nd Semester	
235148	奈米金氧半元件 Nano CMOS Devices	3	選 elective	一下 Master 2nd Semester	
235149	深度機器學習 Special Topics on Deep Machine Learning	3	選 elective	一下 Master 2nd Semester	
235152	鎖相環迴路設計 Phase Lock Loop Design	3	選 elective	一下 Master 2nd Semester	
235153	科技英文 Technical English	1	選 elective	一上 Master 1st Semester	
235154	機器學習之數學方法 Mathematical Methods for Machine Learning	3	選 elective	一下 Master 2nd Semester	