

國立暨南國際大學應用材料及光電工程學系碩士班必選修科目一覽表
Master's Program Course Catalog of Department of Applied Materials and Optoelectronic Engineering, National Chi Nan University

本表(111~114)學年度入學新生適用 Effective for students admitted in Fall, 2022、2023、2024

最低畢業學分：25 學分；必修 4 學分，選修 21 學分。 Master's program requirements: a minimum of 25 required credits, including 4 credits in Department required courses and 21 credits in elective courses.

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
285001	專題研究(一) Independent Study (I)	1	必 (R)	1上 (Master 1st Semester)	
285002	專題討論(一) Seminar (I)	1	必 (R)	1上 (Master 1st Semester)	
285016	專題研究(二) Independent Study(II)	1	必 (R)	1下 (Master 2nd Semester)	
285017	專題討論(二) Seminar (II)	1	必 (R)	1下 (Master 2nd Semester)	
專業選修課程					
285003	薄膜材料與工程 Thin Film Materials and Engineering	3	選 (E)	1上 (Master 1st Semester)	
285004	半導體元件物理(一) Semiconductor Device Physics(I)	3	選 (E)	1上 (Master 1st Semester)	
285005	固態物理 Solid State Physics	3	選 (E)	1上 (Master 1st Semester)	
285006	進階光學 Advanced Optics	3	選 (E)	1下 (Master 2nd Semester)	
285007	半導體元件物理(二) Semiconductor Device Physics(II)	3	選 (E)	1下 (Master 2nd Semester)	
285008	雷射原理與應用 Principle and application of laser	3	選 (E)	1下 (Master 2nd Semester)	

285009	光電半導體製程及量測 Optoelectronic Semiconductor Device Fabrication and Characterization Technology	3	選 (E)	1上 (Master 1st Semester)	
285010	有機/高分子光電材料與元件 Organic/Polymeric Optoelectronic Materials and Devices	3	選 (E)	1下 (Master 2nd Semester)	
285011	奈米光學 Nanooptics	3	選 (E)	1下 (Master 2nd Semester)	
285012	表面科學 Surface Science	3	選 (E)	1上 (Master 1st Semester)	
285013	光電模組與系統 Optoelectronic Modules and Systems	3	選 (E)	1下 (Master 2nd Semester)	
285014	非線性光學原理與材料 Nonlinear optical theory and materials	3	選 (E)	1下 (Master 2nd Semester)	
285015	光電子學 Photo Electronics	3	選 (E)	1下 (Master 2nd Semester)	
285020	發光二極體 Light Emitting Diode	3	選 (E)	1上 (Master 1st Semester)	
285022	有機電激發光材料與顯示技術 Organic Light Emitting Materials and Display Technology	3	選 (E)	1上 (Master 1st Semester)	
285023	奈米製作技術 Nano Fabrication Techniques	3	選 (E)	1上 (Master 1st Semester)	
285024	電池材料 Battery Materials	3	選 (E)	1上 (Master 1st Semester)	
285025	材料檢測與製程 Material characterizations and fabrications	3	選 (E)	1下 (Master 2nd Semester)	
285026	光電元件 Optoelectronic Devices	3	選 (E)	1上 (Master 1st Semester)	
285027	電子陶瓷 Electronic Ceramics	3	選 (E)	1下 (Master 2nd Semester)	
285028	奈米光電材料與元件 Nano Optoelectronic Materials and Devices	3	選 (E)	1下 (Master 2nd Semester)	

285029	光電與資訊科技 Optoelectronics and Information Technology	3	選 (E)	1下 (Master 2nd Semester)	
285030	生物醫學材料 Biomedical Materials	3	選 (E)	1上 (Master 1st Semester)	
285031	生醫光電 Biophotonics	3	選 (E)	1下 (Master 2nd Semester)	
285032	虛擬儀控程式設計 Programming of Virtual Instruments	3	選 (E)	1下 (Master 2nd Semester)	
285033	太陽能電池導論 Introduction to Solar Cells	3	選 (E)	1上 (Master 1st Semester)	
285034	固態電子元件 Solid State Electronic Devices	3	選 (E)	1下 (Master 2nd Semester)	
285035	資料擷取與感測電路 Data acquisition and sensing circuits	3	選 (E)	1下 (Master 2nd Semester)	
285036	進階LabVIEW程式設計 Advanced LabVIEW Programming Design	3	選 (E)	1下 (Master 2nd Semester)	
285037	固態電子學 Solid-State Electronics	3	選 (E)	1上 (Master 1st Semester)	
285038	儀器控制 Instrument Control	3	選 (E)	1下 (Master 2nd Semester)	
285039	固態電子學(二) Solid State Electronics(II)	3	選 (E)	1下 (Master 2nd Semester)	
285040	固態電子學(一) Solid State Electronics(I)	3	選 (E)	1上 (Master 1st Semester)	
285041	光電感測器及前置電路設計 Optical sensor and front-end readout circuit design	3	選 (E)	1下 (Master 2nd Semester)	
285042	儲能材料與元件 Energy storage materials and devices	3	選 (E)	1上 (Master 1st Semester)	

285043	CMOS影像感測器及系統設計 CMOS image sensor and system design	3	選 (E)	1下 (Master 2nd Semester)	
285044	固態電子物理 Solid State Electronic Physics	2	選 (E)	1上 (Master 1st Semester)	
285045	固態光學元件 Solid State Optical Devices	3	選 (E)	1上 (Master 1st Semester)	
285046	半導體製程技術 Semiconductor Processing Technology	3	選 (E)	1下 (Master 2nd Semester)	
285047	專題討論(三) Seminar (III)	1	選 (E)	2上 (Master 3rd Semester)	
285048	專題討論(四) Seminar (IV)	1	選 (E)	2下 (Master 4th Semester)	
285049	新世代能源材料 Next-Generation Energy Materials	3	選 (E)	1下 (Master 2nd Semester)	
285050	自動化光電量測 Automatic optoelectronic measurement	3	選 (E)	1下 (Master 2nd Semester)	
285051	科技英文概論 Introduction to scientific/technical English	1	選 (E)	1上 (Master 1st Semester)	
285053	機器學習(一) Machine learning (I)	3	選 (E)	1上 (Master 1st Semester)	
285052	高頻元件及電路分析 High frequency device and circuit analysis	3	選 (E)	1上 (Master 1st Semester)	
285054	磊晶工程 Epitaxy Engineering	3	選 (E)	1上 (Master 1st Semester)	
285056	液流電池與能源存取 Flow Batteries and Energy Storage	3	選 (E)	1上 (Master 1st Semester)	

285055	機器學習(二) Machine learning (II)	3	選 (E)	1下 (Master 2nd Semester)	
285057	機器學習與深度學習 Machine Learning and Deep Learning	3	選 (E)	1上 (Master 1st Semester)	
他系開設					
235005	類比VLSI電路設計 Analog VLSI Circuits Design	3	選 (E)	1上 (Master 1st Semester)	電機系(Department of Electrical Engineering)
235006	數位VLSI電路設計 Digital VLSI Circuits Design	3	選 (E)	1上 (Master 1st Semester)	電機系(Department of Electrical Engineering)
235085	半導體感測器 Semicondctor Sensors	3	選 (E)	1上 (Master 1st Semester)	電機系(Department of Electrical Engineering)
235086	積體電路製程技術(一) Integrated Circuits Fabrication Technology(I)	3	選 (E)	1上 (Master 1st Semester)	電機系(Department of Electrical Engineering)
235098	醫學電子學 Biomedical Electronics	3	選 (E)	1下 (Master 2nd Semester)	電機系(Department of Electrical Engineering)
235100	積體電路製程技術(二) Integrated Circuits Fabrication Technology(II)	3	選 (E)	1下 (Master 2nd Semester)	電機系(Department of Electrical Engineering)
235101	積體電路元件 Semiconductor Devices forIntegrated Circuits	3	選 (E)	1上 (Master 1st Semester)	電機系(Department of Electrical Engineering)
235117	無線通訊系統 Wireless Communication Systems	3	選 (E)	1下 (Master 2nd Semester)	電機系(Department of Electrical Engineering)
235141	太陽能電池 Solar Cells	3	選 (E)	1下 (Master 2nd Semester)	電機系(Department of Electrical Engineering)
235146	RFID晶片設計 RFID Chip Design	3	選 (E)	1下 (Master 2nd Semester)	電機系(Department of Electrical Engineering)
245002	材料化學(上) Material Science (I)	3	選 (E)	1上 (Master 1st Semester)	應化系(Department of applied chemistry)

245007	材料化學(下) Material Science (II)	3	選 (E)	1下 (Master 2nd Semester)	應化系(Department of applied chemistry)
245060	電化學 Electroanalytical Chemistry	3	選 (E)	1上 (Master 1st Semester)	應化系(Department of applied chemistry)
635008	現代半導體製程 Modern Semiconductor Device Fabrication Processes	3	選 (E)	1上 (Master 1st Semester)	光電產碩專班 MasterProgram of Optoelectronic and Material Engineering