國立彰化師範大學
光電科技研究所碩士班畢業條件表暨課程架構表
(113學年度入學學生適用)

National Changhua University of Education

Graduation Requirements and Course Structure for Master's Program of Graduate Institute of Photonics

(Applicable for students in 113 academic year)

列印日期(Print Date:2025/01/10)

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
半導體材料暨元件專題討論 Seminar in material and device of semiconductor	2/2	1	1
奈米光電專題討論 Seminar in Nano-optical electronics	2/2	1	1
顯示技術專題討論 Seminar in display technology	2/2	1	1
光資訊專題討論 Seminar in optical information	2/2	1	1
光電實驗技術 Electro-optical experiments	3/3	1	1
顯示技術專題討論 Seminar in display technology	2/2	1	2
光資訊專題討論 Seminar in optical information	2/2	1	2
奈米光電專題討論 Seminar in Nano-optical electronics	2/2	1	2
半導體材料暨元件專題討論 Seminar in material and device of semiconductor	2/2	1	2
光電子學 Optoelectronics	3/3	1	2
論文指導(一) Thesis Supervision I	3/0	2	1
顯示技術專題討論 Seminar in display technology	2/2	2	1
光資訊專題討論 Seminar in optical information	2/2	2	1
奈米光電專題討論 Seminar in Nano-optical electronics	2/2	2	1
半導體材料暨元件專題討論 Seminar in material and device of semiconductor	2/2	2	1
論文 Thesis	0/0	2	2
論文指導(二) Thesis Supervision II	3/0	2	2
顯示技術專題討論 Seminar in display technology	2/2	2	2
光資訊專題討論 Seminar in optical information	2/2	2	2
奈米光電專題討論	2/2	2	2

Seminar in Nano-optical electronics			
半導體材料暨元件專題討論 Seminar in material and device of semiconductor	2/2	2	2

二.系選修課程
Ⅱ.Department Elective Courses

課程名稱 Course Name	學分/學時 Credit(s)/ Hour(s)
量子力學(一) Quantum Mechanics I	3/3
薄膜光學特論 Special Topics of Thin Film Optics	3/3
發光材料與應用 Luminescent Materials and Their Applications	3/3
物理光學 Physical Optics	3/3
幾何光學 Geometrical Optics	3/3
半導體物理與元件 Semiconductor Physics and Device	3/3
傅氏光學 Fourier Optics	3/3
雷射原理與應用 Principle and application of Lasers	3/3
平面顯示器概論 Introduction to Flat Panel Displays	3/3
液晶光學專題研究(一) Special Topics in Liquid Crystal Displays I	3/3
有機薄膜電晶體專題研究(一) Monographic Study of Organic Thin Film Transistor I	3/3
薄膜電晶體設計與製程整合 The Design and Process Integration of Thin Film Transistors	3/3
光電數值模擬 Numerical Simulations for Optoelectronics	3/3
光子晶體專題研究(一) Special Topics in Photonic Crystal I	3/3
液晶導論 Introduction to Liquid Crystals	3/3
顯示器數值模擬 Numerical Simulations for Display Devices	3/3
綠能光電專題研究(一) Special Topics in Green Photonics I	3/3
視光顯示專題研究(一) Special Topics in Vision Display I	3/3
成像與照明 Imaging and Illumination	3/3
半導體物理導論 Introduction to Semiconductor Physics	3/3
光學透鏡設計與製造實務 Practical Technology of Optical Lens Design and Fabrication	3/3
生命科學研究法 Research Methods for Biosciences	3/3
生物技術	3/3

Biotechnology	
生醫光電專題研究(一) Special topics on biomedical photonics I	3/3
光電分子診斷與影像 Optoelectronics on Molecular Diagnosis and Imaging	3/3
應用生物學 Applied Biology	3/3
科技論文寫作 An Introduction to Scientific Writing	3/3
液晶光學專題研究(二) Special Topics in Liquid Crystal Displays II	3/3
有機薄膜電晶體專題研究(二) Monographic Study of Organic Thin Film Transistor II	3/3
光子晶體專題研究(二) Special Topics in Photonic Crystal II	3/3
顯示元件設計與製作 Design and Fabrication of Display Devices	3/3
綠能光電專題研究(二) Special Topics in Green Photonics II	3/3
視光顯示專題研究(二) Special Topics in Vision Display II	3/3
顯示光學 Display optics	3/3
生醫光電專題研究(二) Special topics on biomedical photonics II	3/3
微創手術光電技術 Advanced Opto-Electronics Technology of Minimally Invasive Surgery	3/3
影像認知與應用 Imaging Cognition & Application	3/3
量子力學(二) Quantum Mechanics II	3/3
光學系統設計 Optical System Design	3/3
半導體磊晶技術 Semiconductor Epitaxy Technology	3/3
半導體奈米結構光學 Optics of Semiconductor Nanostructures	3/3
光子晶體 Photonic Crystal	3/3
半導體通訊元件 Semiconductor Devices for Communication application	3/3
光學全像術及應用 Optical Holography and Applications	3/3
半導體製程 Semiconductor Process	3/3
半導體光學 Semiconductor Optics	3/3
半導體光學專題研究(一) Special Topics in Semiconductor Optics I	3/3
光電半導體元件 Optoelectronic Devices	3/3
光電半導體元件專題研究(一) Optoelectronic Devices Seminar I	3/3
半導體表面與界面	3/3

Semiconductor Surfaces and Interfaces	
半導體表面與界面專題(一) Semiconductor Surfaces and Interfaces Seminar I	3/3
奈米光子學 Nano-photonics	3/3
光電產業實務 Optical and electronic industrial practice	3/3
半導體產業實習(一) Practice in semiconductor industry I	3/3
光電產業實習(一) Internship of Optics and Photonics Industry I	3/3
薄膜電晶體特論 Special Topics of Thin Film Transistors	3/3
半導體磊晶特論 Special Topics in Semiconductor Epitaxy	3/3
太陽電池學特論 Solar Cell Seminar	3/3
半導體雷射 Semiconductor Lasers	3/3
光電半導體元件特論 Special Topics in Optoelectronic Devices	3/3
半導體雷射特論 Special Topics in Semiconductor Lasers	3/3
半導體物理特論 Special Topics in Semiconductor Physics	3/3
晶體光學 Optical Waves in Crystals	3/3
薄膜電晶體 Thin Film Transistor	3/3
半導體光學專題研究(二) Special Topics in Semiconductor Optics II	3/3
光電半導體元件專題研究(二) Optoelectronic Devices Seminar II	3/3
半導體表面與界面專題(二) Semiconductor Surfaces and Interfaces Seminar II	3/3
半導體元件及材料特性分析 Semiconductor Material and Device Characterization	3/3
半導體表面與界面特論 Advances Made in Semiconductor Surface and Interface Science	3/3
發光二極體特論 Special Topics in Light-Emitting Diodes	3/3
半導體產業實習(二) Practice in semiconductor industry II	3/3
光電產業實習(二) Internship of Optics and Photonics Industry II	3/3

三.先修科目
Ⅲ.Prerequisite Courses

先修課程 Prerequisite Course	後修課程 Subsequent Course

四.畢業條件
Ⅳ.Graduation Requirements

1. 最低畢業學分數為32學分，必修課程應修「光電實驗技術」3學分、「光電子學」3學分，以及「顯示技術專題討論」或「光資訊專題討論」或「奈米光電專題討論」或「半導體材料暨元件專題討論」8學分、選修18學分，不含「論文指導(一)(二)」6學分及教育學分；凡註冊後應至少修習一門科目(含論文)，否則應辦理休學。已修畢最低畢業學分數而論文尚在撰寫中者，次學年起每學期必須選修「論文」。
2. 本所學生可修習教育學程科目，但需視學校之規定修習。
3. 修業年限：以一至四年為限(不含休學期間)。
4. 凡選修本所及物理學系研究所所開設課程(不限學期)，一律可採認為畢業學分數；選修理學院國際碩士學位學程所開設之課程(不限學期)，經課程委員會同意後，可採認為畢業學分數。
5. 研究生應於申請學位考試前修習通過於「臺灣學術倫理教育資源中心」(https://ethics.nctu.edu.tw/)網路教學平台之「學術研究倫理教育」課程等相關規定。
6. 本校學生修習遠距教學課程，其修習學分(含抵免學分)總數以不超過畢業總學分之二分之一為限。
7. 本畢業條件之未盡事宜與例外情形，悉依本所課程委員會之決議辦理。

1. The minimum number of credits required for graduation is 32, which comprise 14 credits from compulsory courses, including "Electro-optical Experiments" for 3 credits, "Optoelectronics" for 3 credits, and "Seminar in Display Technology," " Seminar in Optical Information," "Seminar in Nano-optical Electronics," or "Seminar in Materials and Devices of Semiconductor" for 8 credits in total, plus 18 elective credits. The 6 credits for "Thesis Supervision I and II" and the credits for the Teacher Education Program are not counted as part of the minimum graduation requirements. After registration, students must enroll in at least one course (including "Thesis") or otherwise apply for a temporary suspension. Those who have completed the minimum graduation credits but are still working on their thesis must enroll in the "Thesis" course each semester starting from the next academic year.
2. Students in this Graduate Institute may take courses in the Teacher Education Program, subject to the school's regulations.
3. Duration of study: Limited to one to four years (excluding periods of temporary suspension).
4. Courses offered by this Graduate Institute and the Master's program of the Department of Physics are universally recognized for graduation credits, regardless of the semester taken. Courses offered by the "International Program for Master of Science in Materials and Biological Technology, and Science Education", upon approval by the Institute Curriculum Committee, are also recognized for graduation credits.
5. Graduate students must complete and pass the online courses for Academic Research Ethics Education on the online learning platform of the "Center for Taiwan Academic Research Ethics Education" (https://ethics.nctu.edu.tw/) and comply with the related regulations before applying for degree examinations.
6. NCUE students taking distance learning courses can count these credits (including transfer credits) towards their graduation, provided the total does not exceed half of the required graduation credits.
7. All matters not covered by these graduation requirements, as well as any exceptions, shall be handled in accordance with the resolutions of the Institute Curriculum Committee.