



課 綱 Course Outline  
光電工程學系碩士班

中文課程名稱 Course Name in Chinese	薄膜材料與光電元件技術				
英文課程名稱 Course Name in English	Thin film materials and optoelectronics device technology				
科目代碼 Course Code	OE_52910	班 別 Degree	碩士班 Master' s		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
讓學生在修習此一課程後，能對薄膜材料、真空技術、電漿技術與光電元件技術有深入的了解，做為未來從事微電子技術與半導體研究之根基。					
系教育目標 Dept.' s Education Objectives					
1	傳授科學知識，培訓實用技能。 Acquire science knowledge, develop practical skill				
2	培養工程倫理，啟發創新思維。 Sublimate engineering ethics, encourage creative thinking				
3	培養團隊精神，啟發獨創能力。 Develop the spirit of teamwork, and inspire the creative ability.				
4	提昇專業素養，拓展國際視野。 Develop professional ability, broaden global perspectives				
系專業能力 Basic Learning Outcomes				課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.' s Education Objectives	
A	具有獨立研究能力 Equipped with abilities of independent research.			●	
B	具有光電工程的專業知識及應用能力。 Professional knowledge and application ability of Opto-electronic engineering			●	
C	具有設計與執行實驗、報告撰寫與數據解釋之能力。 Abilities to design and execute experiment, write reports, and explain data			●	

D	使用儀器進行物件的分析及測試。 Analysis and test of devices by instruments	●
E	具備適當的英文能力，應用於學習與交流。 English language ability to study and interac	○
F	具有良好的溝通與團隊合作的能力。 Ability to communicate and teamwork	○
G	具有創新思維及終身學習的能力。 Creative thinking and life-long learning ability	●

圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated

課程大綱  
Course Outline

Topic 1: Thin Film and Crystal Structure  
Topic 2: Vacuum technology and vacuum pump  
Topic 3: Thin Film process and plasma  
Topic 4: Light Emitting Diode  
Topic 5: Laser Diode  
Topic 6: Photodetector  
Topic 7: Optoelectronic Display

資源需求評估（師資專長之聘任、儀器設備的配合．．．等）  
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

無特殊要求

課程要求和教學方式之建議  
Course Requirements and Suggested Teaching Methods

以指定教材按預訂進度進行教學。教學以講授、及討論為主，必要時以相關文獻資料或實務參訪加以補充。

其他  
Miscellaneous