國立東華大學

課　　綱　Course Outline

光電工程學系碩士班

中文課程名稱 Course Name in Chinese	晶體光學				
英文課程名稱 Course Name in English	Optical waves in crystals				
科目代碼 Course Code	OE__52300	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
建立電磁波與晶體中傳遞行為之觀念及分析能

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

1.Electromagnetic fields
2.Laser beam propagations
3.Polarization and Jones-vector representation
4.Electromagnetic propagation in anisotropic media
5.Jones calculus
6.Electro-optics and devices
7.Guided waves and integrated optic

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.)

無特殊需求

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

無

其他
Miscellaneous

Miscellaneous
1.Lecture Notes
2.optical waves in crystals, A. Yariv and P. Yeh