



課 綱 Course Outline
光電工程學系學士班

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| 中文課程名稱 Course Name in Chinese | 電磁學(二) | | | | |
| 英文課程名稱 Course Name in English | Electromagnetism (II) | | | | |
| 科目代碼 Course Code | OE_10150 | 班 別 Degree | 學士班 Bachelor's | | |
| 修別 Type | 學程 Program | 學分數 Credit(s) | 3.0 | 時 數 Hour(s) | 3.0 |
| 先修課程 Prerequisite | | | | | |
| 課程目標 Course Objectives | | | | | |
| (1) 認識光電領域常見科技。 (2) 增進學習光電專業課程之動機。 | | | | | |
| 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 skills | | | | |
| 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，促進協調合作 Promote teamwork spirit, inspire coordination and cooperation | | | | |
| 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 | 具有光電相關的物理、化學、材料及數學的知識。 Physics, chemistry, material, and math knowledge related to opto-electronic engineering | | | ● | |
| 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 | | | | |

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| E | 具備適當的英文能力，應用於學習與交流。 English language ability to study and interact | ● |
| 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. Maxwell' s equations
2. Plane electromagnetic waves (in free space, nonconductors, conductors, and plasma)
3. Fresnel' s equations
4. Guided waves
5. Radiations (Electric dipole antenna, Half-wave antenna, Antenna arrays, Magnetic dipole antenna)

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

課堂講演
作業 (30%), 期中考試 (30%), 期末考試 (40%)

其他
Miscellaneous