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②國玄東華大學

教學計劃表 Syllabus

| 課程名稱(中文) Course Name in Chinese | 電動力學(一) | | | 學年/學期 Academic Year/Semester | | 113/1 | |
|------------------------------------|----------------|-----------------------------|------------|---------------------------------------|--|-------|--|
| 課程名稱(英文) Course Name in English | Electrodynamic | Electrodynamics (I) | | | | | |
| 科目代碼 Course Code | APH_70800 | 系級 Department & Year | 博士 | 開課單位 Course-Offering Department | | 物理學系 | |
| 修別 Type | 必修 Required | 學分數/時間 Credit(s)/Hour(s) | | 3.0/3.0 | | | |
| 授課教師 Instructor | /紀信昌 | | | | | | |
| 先修課程 Prerequisite | | | | | | | |
| | 課 | 程描述 Cours | se Descrip | tion | | | |

https://drive.google.com/file/d/1-91pCbVmn403AtYQb3U0pL50e4Wd0Coo/view?usp=drive_link

課程目標 Course Objectives

- 1. 延續電磁學的理論基礎,介紹靜電學,邊界值問題,多極問題,介質,靜磁學,時間 變化場,馬克士威方程式,守恆定律,磁單極問題,對稱性,平面波等。導波管與共 振腔,簡單輻射系統,散射與折射,狹義相對論,電磁場中的帶電粒子,物體內能量 損耗,運動電荷的輻射,多極場,輻射阻尼,導波管與共振腔等問題。
- 2. 於理論的形成及解題的運算技巧給予必要的訓練。

| | 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 | 具備物理與相關應用領域之專業知識Possessing professional knowledge in physics and related application fields. | • |
| В | 能以物理知識與邏輯推理,分析解決物理問題Being able to analyze and solve physics problems based on basic knowledge in physics as well as logical reasoning. | • |
| С | 瞭解當代實驗儀器之原理,並具備操作實驗儀器之能力Understanding the principles of up-to-date equipment and being able to operate them for performing physics experiments. | |
| D | 能利用電腦處理各類物理問題Being able to use computers for solving various physics problems. | |
| Е | 對學術倫理有清楚正確之認知Properly and clearly acknowledging the academic ethics. | |
| F | 具備以口頭報告及論文寫作發表研究成果之能力Possessing the skills of oral presentation and scientific writing for publishing research findings. | |
| G | 具備科技發展之國際觀及外語溝通能力Having an international view of the technology developments and being able to use a foreign language for communications. | |

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

授課進度表 Teaching Schedule & Content

| 週次Week | 內容 Subject/Topics | 備註Remarks |
|--------|-------------------|-----------|
| 1 | | |
| 2 | | |
| 3 | | |

| 4 | | | | | | | |
|---|---|------------|--|--|--|--|--|
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | 期中考試週 Midterm Exam | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | 期末考試週 Final Exam | | | | | | |
| | 教 學 策 略 Teaching Strategies | | | | | | |
| 課堂講 | 爱 Lecture 分組討論Group Discussion 參觀實習」 | Field Trip | | | | | |
| 其他Mis | scellaneous: | | | | | | |
| 教 學 創 新 自 評 Teaching Self-Evaluation | | | | | | | |
| 創新教學(| Innovative Teaching) | | | | | | |
| 問題導口 | 向學習(PBL) | 型習(SBL) | | | | | |
| 翻轉教生 | 室 Flipped Classroom | | | | | | |
| 社會責任(Social Responsibility) | | | | | | | |
| 在地實踐Community Practice 產學合作 Industy-Academia Cooperation | | | | | | | |
| 跨域合作(Transdisciplinary Projects) | | | | | | | |
| | 學Transdisciplinary Teaching 跨院系教學Inter-collegiate Teaching | : | | | | | |
| 業師合 | 授 Courses Co-taught with Industry Practitioners | | | | | | |
| 其它 othe | r: | | | | | | |

| | 學期成績計算 | 草及多元 | 、評量方式 | 犬 Gradi | ng & As | sessmen | ts | | |
|-------------------------------------|---------------------------|----------|------------------|----------|----------|----------|---------|-----------|----|
| 配分項目 Items | 配分比例 Percentage | | | | | | ssessme | nts | |
| | | 測驗 會考 | 實作觀察 | 口頭 發表 | 專題 研究 | 創作 展演 | 卷宗評量 | 證照 檢定 | 其他 |
| 平時成績 General Performance | | | | | | | | | |
| 期中考成績 Midterm Exam | | | | | | | | | |
| 期末考成績 Final Exam | | | | | | | | | |
| 作業成績 Homework and/or Assignments | | | | | | | | | |
| 其他 Miscellaneous () | | | | | | | | | |
| | Grading & A | | 量方式和 ents Sup | | | ruction | ıs | | |
| | | | | | | | | | |
| Textbook & Ot | 教科書與參考 her References | | | | | - | | ks, etc.) | |
| | | | | | | | | | |
| | 教材網址(含線 ids & Teacher' | | | | | | | | |

其他補充說明(Supplemental instructions)