國立東華大學

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	Electrodynamics (I)				
科目代碼 Course Code	APH_50600	系級 Department & Year	碩士	開課單位 Course-Offering Department	物理學系
修別 Type	選修 Elective	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 Course Description

https://drive.google.com/file/d/1-9lpCbVmn403AtYQb3U0pL50e4WdOCoo/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.	●
B	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.	●
C	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.	
E	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

☐ 課堂講授 Lecture ☐ 分組討論Group Discussion ☐ 參觀實習 Field Trip

☐ 其他Miscellaneous:

教 學 創 新 自 評 Teaching Self-Evaluation

創新教學(Innovative Teaching)

☐ 問題導向學習(PBL) ☐ 團體合作學習(TBL) ☐ 解決導向學習(SBL)

☐ 翻轉教室 Flipped Classroom ☐ 磨課師 Moocs

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)

☐ 跨界教學Transdisciplinary Teaching ☐ 跨院系教學Inter-collegiate Teaching

☐ 業師合授 Courses Co-taught with Industry Practitioners

其它 other: _____

學期成績計算及多元評量方式 Grading & Assessments									
配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		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 (_____)									

評量方式補充說明
Grading & Assessments Supplemental instructions

教科書與參考書目（書名、作者、書局、代理商、說明）
Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址)
Teaching Aids & Teacher's Website(Including online teaching information. Personal website can be listed here.)

其他補充說明 (Supplemental instructions)