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②图 z 東華大學 教學計劃表 Svllabus

教子可到衣 Syllabus									
	名稱(中文) ume in Chinese	電磁學(一)					113/2		
	名稱(英文) ume in English	Electromagnetism(I)							
	Fig. Course Code OE_10080 Department 學二 Course-0				開課單位 Course-Offering Department	光電工程學系			
	修別 Type 學程 Program 學分數/時間 Credit(s)/Hour(s) 3.0						0/3.0		
	き課教師 structor	/徐裕奎							
	先修課程 Prerequisite								
		課	程描述 Course	e Descript	tion				
介紹電磁學	介紹電磁學中靜電、靜磁與動態電磁波的基本觀念								
				se Objecti					
	包括簡介三維空間 定律,最後並將詳								
糸専業能力 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							•		
L 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 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							0		
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/Topi	1	備註Remarks				
1									
2	Introduction of Electromagnetics Vector Addition and Subtraction Orthogonal Coordinate Systems								
Integrals Containing Vector Function Gradient of a Scalar Field									

4	Divergence of a Vector Field Divergence Theorem Curl of a Vector Field							
	Stokes' s Theorem							
5	Two Null Identities							
	Helmholtz's Theorem Coulomb's Law							
6	Gauss's Law and Application							
	Electric Potential							
7	Conductors in Static Electric Field Dielectrics in Static Electric Field							
·	Electric Flux Density and Dielectric Constant							
8	Electric Flux Density and Dielectric Constant							
0	Boundary Conditions for Electrostatic Fields							
9	期中考試週 Midterm Exam							
10	Capacitance and Capacitors Electrostatic Energy and Forces							
11	Poisson's and Laplace's Equations							
	Uniqueness of Electrostatic Solution							
12	Method of Images							
13	Boundary-value Problems (I)							
14	Boundary-value Problems (II)							
15	Current Density and Ohm's Law Electromotive Force and Kirchhoff's Voltage Law and Current Law							
	Power Dissipation and Joule's Law							
16								
17	期末考試週 Final Exam							
18	教師彈性補充教學							
	教 學 策 略 Teaching Strategies							
✓ 課堂講	授 Lecture	Field Trip						
其他Mi	scellaneous:							
	th 協 by the by the Tanahiman Calif Danahiman							
h1 22 L1 683 /	教學創新自評 Teaching Self-Evaluation							
創新教学(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)							
	踐Community Practice	on						
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 othe	r:							
1								

學期成績計算及多元評量方式 Grading & Assessments									
配分項目	配分比例 Percentage	多元評量方式 Assessments							
Items		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(含出缺席) General Performance (Attendance Record)	10%								
期中考成績 Midterm Exam	30%								
期末考成績 Final Exam	30%								
作業成績 Homework and/or Assignments	30%								
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.)

Textbook:

" Field and Wave Electromagnetics "

(Second Edition)

David K. Cheng

ADDISON-WESLEY Publishing Company.

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)