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②图 z 東華大學 教學計劃表 Svllabus

		教导	基計劃表	Sy 1 1	abus					
	名稱(中文) nme in Chinese	半導體材料AB	ester	114/1						
	名稱(英文) ame in English	Semiconductor Materials								
	十目代碼 rse Code	MS5060AB	系級 Department & Year	材料	材料科學與工程學系					
	修別 Type	選修 Elective								
	き課教師 structor	/林育賢								
	先修課程 Prerequisite									
	課程描述 Course Description									
Modern Semiconductor Devices for Integrated Circuits, First Edition introduces students to the world of modern semiconductor devices with an emphasis on integrated circuit applications. This course is appropriate for both undergraduate and graduate students.										
		課	程目標 Cour	se Object	ives					
讓學生在修習此一課程後,能對半導體材料有深入的了解,以利研究工作的進行。										
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.							0			
D Opto-	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 使用值										
E 具備i	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							0			
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										
		授課進	度 表 Teaching	g Schedul	e & Content					
週次Week	週次Week 內容 Subject/Topics				備註Remarks					
1	Introduction (a) History (b) Semiconductor (c) Semiconductor devices									
2 Electrons and Holes in Semiconductors (I)										

3

Electrons and Holes in Semiconductors (II)

4	Electrons and Holes in Semiconductors (III)						
5	國慶日(放假)						
6	Motion and Recombination of Electrons and Holes (I)						
7	補假						
8	Motion and Recombination of Electrons and Holes (II)						
9	期中考試週 Midterm Exam						
10	Motion and Recombination of Electrons and Holes (III)						
11	PN Junctions (I)						
12	PN Junctions (II)						
13	PN Junctions (III)						
14	PN Junctions (IV)						
15	Application to Optoelectronic Devices (I)						
16	Application to Optoelectronic Devices (II)						
17	期末考試週 Final Exam						
18	彈性補充教學						
教學策略 Teaching Strategies							
✓ 課堂講授 Lecture							
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							
社會責任(Social Responsibility)							
■ 在地實踐Community Practice ■ 産學合作 Industy-Academia Cooperation							
跨域合作(Transdisciplinary Projects)							
上 跨界教學Transdisciplinary Teaching 上 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	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)	30%	>							
期中考成績 Midterm Exam	25%	~							
期末考成績 Final Exam	35%	>							
作業成績 Homework and/or Assignments	5%								
其他 Miscellaneous (Classroom Attendance)	5%								

評量方式補充說明

Grading & Assessments Supplemental instructions

平時成績為小考的成績 (30%)

Classroom Attendance的分數: (出席次數/整學期點名次數)*5 (分)

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.)

粉科書

書名: Modern Semiconductor Devices for Integrated Circuits, Author: Chenming Calvin Hu

參考書目:

1. Semiconductor Devices Physics and Technology

Author: Author: S. M. Sze

2. Solid State Electronic Devices, Sixth edition Author: Ben G. Streetman and S. K. Banerjee

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)