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# ②图 i 東華大學 教學計劃表 Syllabus

		教导	學計劃表	Sylla	abus				
課程名 Course Nam	半導體元件		學年/學期 Academic Year/Se			ster 114/1			
	3稱(英文) ne in English	Semiconductor Devices							
	目代碼 rse Code	系級 開課單位 EE_31700 Department 学三 Course-Offering Department				電	電機工程學系		
	修別 Type	學程 Program	)/3.0	5.0					
	課教師 tructor	/林群傑							
先修課程 Prerequisite									
課程描述 Course Description									
————— 深入探討各科	重典型半導體元件	的操作方式及物:	理機制,藉此對	十半導體元件	<b>牛有深入的了解。</b>				
		課		se Objecti	ves				
			12 4 pp						
明使學生對目	目前主流半導體元	件有所瞭							
	Corr	課程目標與系專業能 力相關性 Correlation between Course Objectives and Dept.'s Education Objectives							
Δ	備工程、應用數學與 dge of engineerin				ite the basic		•		
R 培育系	統分析、模擬驗證	、實作實現之能力	· To cultivate		ability of analysis,		•		
verification and implementation of systems.  all ill ill ill ill ill ill ill ill ill									
	機本知學能技術與二 n professional in						•		
下 落實專	題製作之群體合作身	與團隊競爭之能力			of group cooperation		$\bigcirc$		
and teamwork competition.    Kange   Amount   A									
finding, logical analyzing, bottleneck overcoming and continuous learning.  了解學術倫理與智慧財產觀念,掌握產業更迭需求與具備多元專長之能力。To obtain the ability of multi-specialization and to meet the industry demand as well as to have the ability of academic ethics and concept of intellectual property									
T解國內外市場變化,具備基本科技英文閱讀溝通之能力。To understand the change of global market and the have the basic ability of reading and conversation in English.							0		
圖示說明Ⅱ	lustration :	● 高度相關 Hi	ghly correla	ated 〇中	度相關 Moderately	corre	lated		
授課進度表 Teaching Schedule & Content									
週次Week		內容	cs		備註Remarks				
1	Introduction to						本表僅供參考,實際進度 以課堂宣佈為準。		
2 Introduction to Solid State Electronics									

3	Introduction to Solid State Electronics							
4	Nonequilibrium Excess Carriers in Semiconductors							
5	Nonequilibrium Excess Carriers in Semiconductors							
6	The pn Junction Diode							
7	The pn Junction Diode							
8	Metal-Semiconductor and Semiconductor Heterojunctions							
9	期中考							
10	The Bipolar Transistor							
11	The Bipolar Transistor							
12	The Bipolar Transistor							
13	Fundamentals of the Metal-Oxide-Semiconductor Field-Effect Transistor							
14	Fundamentals of the Metal-Oxide-Semiconductor Field-Effect Transistor							
15	Metal-Oxide-Semiconductor Field-Effect Transistor: Additional Concepts							
16	期末考							
17	期末檢討							
18	彈性教學週							
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: <u>課堂討論</u>								
教 學 創 新 自 評 Teaching Self-Evaluation								
創新教學(	Innovative Teaching)							
問題導	向學習(PBL)                        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 □ 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	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)	20%			<b>~</b>					
期中考成績 Midterm Exam	40%	>							
期末考成績 Final Exam	40%	>							
作業成績 Homework and/or Assignments									
其他 Miscellaneous ()									

評量方式補充說明

Grading & Assessments Supplemental instructions

本表僅供參考,評分方式以課堂宣佈為準。

### 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.)

Donald A. Neamen, "Semiconductor Physics and Devices," 4th Edition, McGraw-Hill, New York.

## 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)

本表僅供參考,實際進度以課堂宣佈為準。