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## ② 图 z 東華大學 教學計劃表 Syllabus

	7人~	于可更1次 Oy I	Tabus							
課程名稱(中文) Course Name in Chinese	半導體物理AB		學年/學期 Academic Year/Seme	ster 113/1						
課程名稱(英文) Course Name in English	Semiconductor	Physics								
科目代碼 Course Code	PHYS3230AB	解課單位 PHYS3230AB								
修別 Type	學程 Program	學程 Program 學分數/時間 Credit(s)/Hour(s) 3.0/3.0								
授課教師 Instructor	/彭文平									
先修課程 Prerequisite										
	課	程描述 Course Descri	ption							
<ul><li>導體物理原理與基礎理論</li></ul>										
	課	· 经程目標 Course Object	etives							
<b></b> <b>E</b> 固態物理出發,介紹半導	體基礎知識,建立	理解固態電子元件運作原	京理的物理觀念與實際 <b>元</b>	件操作。						
				課程目標與系專業能						
	力相關性 Correlation betwee Course Objectives and Dept.'s Education Objectives									
		mental knowledge in phys		•						
		物理問題Being able to ar dge in physics as well a		•						
		理實驗儀器的能力Being ac em for performing physic		•						
D 能使用基礎電腦程式語 solving physics prob	•									
F 善用各種資訊平台進行:	論文資料蒐集的能力	Being able to use variou	us platforms for data							
	野以及外語溝通的能	カHaving an internationa								
technology developmen 能整合物理與其它領域。		to use a foreign langua integrate the knowledge								
of other fields.										
圖示說明Illustration			<u> </u>	correlated						
	授 課 進	度 表 Teaching Schedu	le & Content							
週次Week	内容	Subject/Topics		備註Remarks						
1 9/11 (Wed.):	9/11 (Wed.): Introduction to semiconductor physics									
2 9/18 (Wed.):	9/18 (Wed.): The crystal structure of solid									
3 9/25 (Wed.):	9/25 (Wed.): Introduction to quantum mechanics									
4 10/2 (Wed.):	4 10/2 (Wed.): Introduction to the quantum theory of solids									

5	10/9 (Wed.): Introduction to the quantum theory of solids/The semiconductor in equilibrium						
6	10/16 (Wed.): Conference meeting						
7	10/23 (Wed.): The semiconductor in equilibrium						
8	10/30 (Wed.): The semiconductor in equilibrium						
9	期中考試週 Midterm Exam 11/6 (Wed.): Carrier Transport phenomena						
10	11/13 (Wed.): Carrier Transport phenomena						
11	11/20 (Wed.): Nonequilibrium excess carriers in semiconductors						
12	11/27 (Wed.): Midterm Exam						
13	12/4 (Wed.): Presentation (The pn junction)						
14	12/11 (Wed.): Presentation (The pn junction diode)						
15	12/18 (Wed.): Presentation (Metal-semiconductor and semiconductor heterojunctions)						
16	12/25 (Wed.): Presentation (Fundamentals of the MOSFET)						
17							
18	18 期末考試週 Final Exam						
	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	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(含出缺席) General Performance (Attendance Record)									
期中考成績 Midterm Exam	35%								
期末考成績 Final Exam									
作業成績 Homework and/or Assignments	30%								
其他 Miscellaneous (Presentation and report)	35%		i 目 → lb :						

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.)

Semiconductor Physics and Devices (Donald A. Neamen, Fourth edition, 2012) McGRAW Hill International Editions

ISBN: 978-007-108902-9 東華書局 02-23114027, 0933328278

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)