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②图玄束華大學 粉學計劃表 5v11g

		教与	學計劃表 Syl	labus							
	名稱(中文) ame in Chinese	光電半導體製和	ester	113/1							
	課程名稱(英文) se Name in English Introduction to Semiconductor Manufacturing Technology for Optoelectronics										
	科目代碼 urse Code	MS57120	材料和	材料科學與工程學系							
	修別 Type	選修 Elective	0/3.0								
	授課教師 Instructor /魏茂國										
	先修課程 Prerequisite										
課程描述 Course Description											
				ctives							
	lying this course to facilitate		have an in-depth und		nductor	process					
	Corr	課程目標與系專業能 力相關性 Correlation between Course Objectives and Dept.'s Education Objectives									
			的知識。Acquire require materials science and (•					
B profe	具備材料科學的進階專業知識,並能應用於解決工程上之問題。Acquire required advanced										
C 具備	獨立研究之能力。Eq	uipped with capa	bilities of independent	research.							
	具備專業道德及責任感,與良好的溝通及團隊合作的能力。Acquire professional morality and responsibility, and capability of quality communication and team cooperation.										
E 具備適當的英文能力,應用於學習與交流。Acquire English capability used for learning and interaction.											
圖示說明]	Illustration :	● 高度相關 H	ighly correlated \bigcirc	中度相關 Moderately	correl	ated					
		授課進	度表 Teaching Schedu	ıle & Content							
週次Week	週次Week 內容 Subject/Topics										
1	Chapter 1: Int	roduction	oduction								
2	Holliday										
3	Chapter 2: Cry										
4	Chapter 2: Cry	Chapter 2: Crystal growth (2)									

5

6

Chapter 3: Silicon oxidation

Chapter 4: Photolithography (1)

7	Chapter 4: Photolithography (2)						
8	Chapter 5: Etching (1)						
9	期中考試週 Midterm Exam						
10	Chapter 5: Etching (2)						
11	Chapter 6: Diffusion (1)						
12	Chapter 6: Diffusion (2)						
13	Chapter 7: Ion implantation (1)						
14	Chapter 7: Ion implantation (2)						
15	Chapter 8: Film deposition (1)						
16	Chapter 8: Film deposition (2)						
17	期末考試週 Final Exam						
18							
教學策略 Teaching Strategies							
✓ 課堂講授 Lecture							
h) he h) 69 / 1	教學創新自評Teaching Self-Evaluation						
創新教學(Innovative Teaching)							
問題導向學習(PBL) ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■							
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	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%								出席
期中考成績 Midterm Exam	35%	~							
期末考成績 Final Exam	35%	>							
作業成績 Homework and/or Assignments	20%		✓						
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.)

Gray S. May and Simon M. Sze, Fundamentals of Semiconductor Fabrication, Int'l Ed., Wiley, 2004. (歐亞書局,02-77053358,林佳璟小姐)

施敏、梅凱瑞原著,林鴻志譯,半導體製程概論,高立圖書,2016 (全華書局)

- 1. Marc J. Madou, Fundamentals of Microfabrication, 2nd Ed., CRC Press (2002)
- 2. W. F. Smith and J. Hashemi, Foundations of materials science and engineering, 4th Ed., McGraw-Hill (2006)
- 3. W. D Callister, Jr., Materials science and engineering an introduction, 6th ed., John Wiley & Sons, Inc. (2003)
- 4. D. A. Porter, K. E. Easterling, and M. Y. Sherif, Phase Transformations in Metals and Alloys, 3rd ed., CRC Press (2009)

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.)

東華e學院

其他補充說明(Supplemental instructions)