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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	光電半導體製程 P年/學期 Academic Year/Semo				113/1	
	課程名稱(英文) See Name in English Introduction to Semiconductor Manufacturing Technology for Optoelectronics						
	科目代碼 urse Code	Sag   開課單位   MS_57120   Department & Year   G士   Course-Offering Department		Course-Offering	材料科學與工程學系		
	修別 Type	選修 Elective					
	受課教師 structor	/魏茂國					
	先修課程 requisite						
		課	程描述 Course Descr	iption			
 讓學生在修	習此一課程後,能	三對(光電)半導體	相關製程科技能有深入的	<b>为了解,以利研究工作的</b>	 り進行。		
				ctives			
	lying this course to facilitate		have an in-depth und		nductor	process	
系專業能力 Basic Learning Outcomes						呈目標與系專業能力相關性 relation between urse Objectives and Dept.'s Education Objectives	
	具備材料科學所需的進階物理、化學及數學的知識。Acquire required advanced physical, chemical, and mathematic knowledge for materials science and engineering.						
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	具備獨立研究之能力。Equipped with capabilities of independent research.						
	專業道德及責任感, responsibility, an		$\circ$				
	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 内容 Subject/Topics				1	黄註Remarks		
1	1 Chapter 1: Introduction						
2	Holliday						
3 Chapter 2: Crys		stal growth (1)					
4	Chapter 2: Cry	stal growth (2)	)				

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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						
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	多元評量方式 Assessments							
Items	Percentage	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 General Performance	10%								出席
期中考成績 Midterm Exam	35%	>							
期末考成績 Final Exam	35%	<b>~</b>							
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' 1 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)
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