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②國玄東華大學

教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	材料基礎實驗(三):微電子製程				學年/學期 Academic Year/Se	113/1		
課程名稱(英文) Course Name in English	Fundamental Experiments in Materials (III): Processing in Microelectronics							
科目代碼 Course Code	MS_30800	系級 Department 學三 & Year		開課單位 Course-Offering Department	材料科學與工程學系			
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)			2.0/			
授課教師 Instructor	/傅彦培/陳怡嘉/林育賢/魏茂國							
先修課程 Prerequisite								

課程描述 Course Description

課程目標是訓練材料系同學對台灣蓬勃發展的半導體工業所需的微電子製程有基礎認識與實際操作經驗,做未來進入就業的準備。

The goal of the course is to train students to gain a basic understanding and practical experience in microelectronic processes required by Taiwan's booming semiconductor industry in preparation for their future career..

課程目標 Course Objectives

課程目標是訓練材料系同學對台灣蓬勃發展的半導體工業所需的微電子製程有基礎認識與實際操作經驗,做未來進入就業的準備。

The goal of the course is to train students to gain a basic understanding and practical experience in microelectronic processes required by Taiwan's booming semiconductor industry in preparation for their future career.

	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	具備材料科學所需的物理、化學及數學的知識。Acquire required basic physical, chemical, and mathematic knowledge for materials science and engineering.	0
В	具備材料科學的專業知識,並能應用於解決工程上之問題。Acquire required professional knowledge for materials science and engineering, applicable in solving engineering problems.	•
С	具備邏輯思考、實驗執行、報告撰寫與數據解釋之能力。Equipped with capabilities of logic thinking, execution of experiment, and data interpretation.	•
D	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	0
Е	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.	0

圖示說明Illustration : ● 高度相關 Highly correlated ○中度相關 Moderately correlated

授課進度表 Teaching Schedule & Content

週次Week	內容 Subject/Topics	備註Remarks
1	課程介紹及分組	
2	二極體的認識與測試	
3	二極體開關	

4	電晶體開關					
5	雙極性電晶體的認識與測試					
6	RC 充放電實驗					
7	染料敏化太陽能電池製作					
8	太陽能電池電壓電流的量測					
9	期中考試週 Midterm Exam					
10	管型爐燒結製備 MOS 閘極					
11	霍爾測試					
12	無塵衣穿戴+矽晶圓清洗					
13	微影製程(1)					
14	微影製程(2)					
15	PDMS 模造+紫外線成型					
16	AFM 測量					
17	彈性補充教學					
18	期末考試週 Final Exam					
	教學策略 Teaching Strategies					
課堂講	授 Lecture	ield Trip				
 其他Mi	scellaneous:					
	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)				
社會責任(Social Responsibility)						
在地實踐Community Practice 產學合作 Industy-Academia Cooperation						
──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 othe	er:					

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									
期中考成績 Midterm Exam									
期末考成績 Final Exam	30%	~							
作業成績 Homework and/or Assignments	70%		~						
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.)

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)