

課程簡介 Course Introduction

開課班級 Department	電機工程學系
授課方式 Instructional Method	課堂教學、中文
課程代號 Course Reference Number	182056
課程名稱(中文) Course Title (Chinese)	材料科學專論
課程名稱(英文) Course Title (English)	Special Topics on Materials Science
學分數/時數 Credit Hours	3 / 3
必(選)修 Requirement / Elective Course	選修
授課老師 Instructor	盧陽明

課程目標 Learning Objectives

The object of this lesson is to give a basic material sciences knowledge and its application in the field of displays, electro-optical semiconductors, solar cells and sensors for graduate student.

課程大綱 Course Syllabus

週次 Week	課程單元大綱 Unit	教學方式 Instructional Method/Style/Teaching Style	參考資料或相關作業 References or Related Materials	評量方式 Grading
1	Introduction to materials science			
2	Atomic structure and chemical bonding(1)			
3	Atomic structure and chemical bonding(2)			
4	Crystal structure			
5	Geometry of crystal			
6	Solidification			
7	Defects in crystal			
8	Diffusion			
9	Phase Diagram			
10	Mid-term report			
11	Application of materials in displays(1)			
12	Application of materials in displays(2)			
13	Application of materials in photo-electro semiconductors			

14	Application of materials in solar cells(1)
15	Application of materials in solar cells(2)
16	Application of materials in sensors(1)
17	Application of materials in sensors(2)
18	Final report

單一課程對應校能力指標程度

The Degree to Which Single Course Corresponds to School Competence

編號 No.	校核心能力 School Core Competencies	符合程度 Degree of conformity
1	道德力 (Morality)	3
2	自學力 (Self-learning)	4
3	創造力 (Creativity)	4
4	溝通力 (Communication)	3
5	就業力 (Employability)	4

單一課程對應系能力指標程度

The Degree to Which Single Course Corresponds to Department Competence

代碼 No.	類別 Category	系核心能力 Department Core Competencies	符合程度 Degree of conformity
01	系所	具備專業知識運作及運用之能力	5
02	系所	發掘問題、實驗分析及驗證之能力	5
03	系所	創新思考開發之能力	5
04	系所	協調合作、領導團隊與管理規劃之能力	3
05	系所	中英文寫作與簡報之能力	4
06	系所	強化國際觀與國際交流之能力	4

單一課程對應院能力指標程度

The Degree to Which Single Course Corresponds to College Competence

編號 No.	院核心能力 College Core Competencies	符合程度 Degree of conformity
1	語文能力	4
2	溝通與合作能力	3
3	創新與實踐能力	3
4	專業知能	3

教科書或參考用書(備註) Textbooks or Reference Books(Remarks)

Foundations of materials science and engineering"

William F.Smith · Javad Hashemi

Published by McGraw-Hill · 2010

教學方法 Teaching Method

教學方法	百分比
Teaching Method	Percentage
講述	60.0
影片欣賞	20.0
個案研討	20.0
總和 Total	100.0

成績評量方式 Grading

評量方式	百分比
Grading	Percentage
出席狀況 上課情形	30.0
期中考	30.0
期末考	40.0
總和 Total	100.0