



課 綱 Course Outline
材料科學與工程學系學士班

中文課程名稱 Course Name in Chinese	半導體元件				
英文課程名稱 Course Name in English	Semiconductor Devices				
科目代碼 Course Code	MS_40800	班 別 Degree	學士班 Bachelor's		
修別 Type	學程 Program	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite	半導體材料導論				
課程目標 Course Objectives					
讓學生瞭解半導體材料基本性質與元件基本理論。 This course provides students with the basic properties of semiconductor materials and the basic theory of components.					
系教育目標 Dept.'s Education Objectives					
1	奠定理論基礎 Set the theoretical foundation				
2	訓練實用技能 Train the practical skill				
3	培養優質人格 Form the positive cher				
4	啟發創新思 Promote creative thinking				
5	開展國際視野 Develop global vision				
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.				○

B	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.	●
C	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	○
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 Highly correlated ○ 中度相關 Moderately correlated

課程大綱
Course Outline

本課程介紹各種固態電子元件，內容涵蓋：半導體基本特性、金屬與半導體接面、元件理論與製程簡介。

This course introduces various solid state electronic components, including: basic semiconductor properties, metal and semiconductor interfaces, component theory and process introduction.

資源需求評估 (師資專長之聘任、儀器設備的配合 . . . 等)

Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

專任師資乙名

投影機

Full-time faculty member, a projector

課程要求和教學方式之建議

Course Requirements and Suggested Teaching Methods

課堂講授、問題討論、作業練習與考試

Classroom lecture is the main focus, supplemented by problem solving

其他

Miscellaneous