



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	材料電特性分析				
英文課程名稱 Course Name in English	Electrical Characterization of Materials				
科目代碼 Course Code	MS_21300	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					
課程目標 Course Objectives					
讓材料系學生瞭解材料分析所需具備之基本電路理論與相關電子儀表及其分析方法。 This course provides students with an understanding of the basic circuit theory and related electronic instruments and their analytical methods required for materials analysis.					
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

1. 基本直流電路
2. 基本交流電路
3. 基本電子儀錶
4. 材料電特性、量測方法與原理
1. Basic DC circuit
2. Basic AC circuit
3. Basic electronic instrument
4. Electrical properties of materials, measurement methods and principles

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.)

專任師資一名、投影機、影印機等
Full-time faculty member, a projector and copy machine, etc.

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

課堂教學為主，習題講解為輔，以作業習作、考試鑑定學習成效
Classroom lecture is the main focus, supplemented by problem solving, with homework assignments and exams to determine the effectiveness of learning.

其他
Miscellaneous