



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	材料光譜學				
英文課程名稱 Course Name in English	Spectroscopy for Material Science				
科目代碼 Course Code	MS_41210	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					
材料的性質與結構分析所相關的電子光譜與震動光譜等之原理與應用。 The principles and applications of electron spectroscopy and vibrational spectroscopy related to the analysis of material properties and structures.					
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 character				
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. 紅外線光譜 (Infrared spectroscopy) 2. 拉曼光譜 (Raman spectroscopy) 3. 紫外-可見光吸收光譜 (UV-visible absorption spectroscopy) 4. 螢光光譜 (photoluminescence spectroscopy) 5. X光光電子發射能譜 (x-ray photo emission spectroscopy)		
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.)		
課堂講授所需之單槍投影 Projector		
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods		
其他 Miscellaneous		