



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	材料分析				
英文課程名稱 Course Name in English	Materials Characterization				
科目代碼 Course Code	MS__40000	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	無				
課程目標 Course Objectives					
簡介各種材料分析之原理及方式。 Introduction to the principles and methods of various material 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		
<p>簡介X-Ray、SEM、熱分析（包含：DSC、TMA及TGA）....等，之材料分析原理及應用範圍。使修習者能夠對於各種常見之材料分析方式，有基本且完整的認識。 This course introduces students to the basics of materials characterization. It will cover latest advanced technologies with fundamental mathematics, chemistry and physics concepts. The lectures also provide a more realistic picture of materials characterization.</p>		
<p>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.)</p>		
<p>具材料分析專長之師資。 Teachers with expertise in Materials Characterization</p>		
<p>課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods</p>		
<p>課堂講授為主、實習為輔。 Lectures are the main focus, supplemented by experiments.</p>		
<p>其他 Miscellaneous</p>		