國立東華大學

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

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.

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.)

具材料分析專長之師資。
Teachers with expertise in Materials Characterization

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

課堂講授為主、實習為輔。
Lectures are the main focus, supplemented by experiments.

其他
Miscellaneous