國立台灣科技大學 114學年 第2學期　課程大綱

Spring 2026 NTUST Course Outline

授課教師：周賢鎧

Instructor:Shyan-Kay Jou

課程名稱：材料微觀分析

Course Title：Characterization of materials

2026/11/3

課程代號： TX5413701 Course Code 學分數： 3 Credits	必選修：選修/半學年 Required/Electve:Elective/Half Yr. 先修課程： Prerequisites
節次教室： Time/Location	R2(T4-402) R3(T4-402) R4(T4-402)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	講授材料之微觀結構模型，包含結晶、玻璃、高分子、液晶之微觀結構分析。內容並包含孔狀矽晶、碳簇與超微粉末等介觀與奈米材料介紹。 This course focuses on structure models and analyses of various materials including crystals, glasses, polymers and liquid crystals. Micro-, meso- and nano-scaled structures are also included.
課程大綱： Outline of Lectures	1. Overview 2. Crystalline structure 3. Noncrystalline structure 4. Liquid crystals 5. Microstructure 6. Meso- and nano-scaled materials
授課方式： Method of Instruction	講授 Lecture：90% 分組討論 Group discussion：0% 案例研討 Case study：10% 操做練習 Practical exercises：0% 講授 Lecture：%
教科書： Textbooks	1. The Structure of Materials, by S. M. Allen and D. L. Thomas, John Wiley & Sons, Inc., 1999. 2. Physics of Amorphous Materials, 2nd ed., by S. R. Elliott, Longman Group (FE) Limited, 1990.
參考書目： References	Microstructural Characterization of Materials, by D. Brandon and W. D. Kaplan, John Wiley & Sons, Inc., 1999.
修課須知： Notice	
評量方式： Grading	Midterm 60% Term paper 40%
備註說明： Notes	