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：林宗寬

Instructor:LIN TSUNG KUAN

課程名稱：高分子物性與加工

Course Title：Physical Properties & Processing of Polymer

2026/11/3

課程代號：CH4304701 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：F6(華夏恆毅樓D402) F7(華夏恆毅樓D402) F8(華夏恆毅樓D402) Time/Location	
專業核心能力： Core Professional Competencies	
課程網址：https://www.ipas.org.tw/PMAE/ Course Website	
課程宗旨： Course Objectives	This course introduces the physical properties of polymers, polymer additives, polymer analysis methods, and polymer processing principles and techniques. Introduction; Types of Polymers Bonding in Polymers; Stereoisomerism; Polymer Morphology Characterization of Molecular Weight Polymer Solubility and Solutions Transition in Polymers Introduction to Polymer Synthesis Rubber Elasticity Purely Viscous Flow Viscometry and Tube Flows Introduction to Continuum Mechanics Linear Viscoelasticity Polymer Processing; Plastics; Rubber; Synthetic Fibers; Surface Finishes; Adhesives
課程大綱： Outline of Lectures	This course introduces the physical properties of polymers, polymer additives, polymer analysis methods, and polymer processing principles and techniques. Introduction; Types of Polymers Bonding in Polymers; Stereoisomerism; Polymer Morphology Characterization of Molecular Weight Polymer Solubility and Solutions Transition in Polymers Introduction to Polymer Synthesis Rubber Elasticity Purely Viscous Flow Viscometry and Tube Flows Introduction to Continuum Mechanics Linear Viscoelasticity Polymer Processing; Plastics; Rubber; Synthetic Fibers; Surface Finishes; Adhesives
授課方式： Method of Instruction	講授 Lecture：80% 分組討論 Group discussion：0% 案例研討 Case study：10% 操做練習 Practical exercises：10%

	講授 Lecture：%
教科書： Textbooks	
參考書目： References	1.Polymer Processing Principle and Design, Donald G. Baird and Dimitris I. Collias, Wiley. 2.Callister's Materials Science and Engineering Global Edition 10/e 作者：Callister ISBN：9781119453918 3.陳劉旺 丁金超編著,高分子加工,最新版,高立圖書公司 4.楊國明 王麗芬 王振乾 鍾宜璋編譯,高分子化學,一版,高立圖書公司,2011
修課須知： Notice	chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ee.ntust.edu.tw/var/file/27/1027/img/2508/369882204.pdf
評量方式： Grading	Attendance:10% Quiz:20% Midterm Exam:35% Final Exam:35%
備註說明： Notes	