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：白孟宜

Instructor:Meng-Yi Bai

課程名稱：生醫材料分析技術

Course Title：Instrumental Analysis for Biomaterials

2026/11/3

課程代號：BE5032301 Course Code 學分數：3 Credits	必選修：必修/半學年 Required/Electve:Required/Half Yr. 先修課程： Prerequisites
節次教室：R6(TR-616) R7(TR-616) R8(TR-616) Time/Location	
專業核心能力： Core Professional Competencies	
課程網址：non Course Website	
課程宗旨：This course aims at teaching engineering background students with fundamental techniques of all necessary knowledge of instrumental analysis. Course Objectives	
課程大綱： Outline of Lectures	Syllabus for class BE5032701 1142(Instrumental Analysis for Biomaterials) Instructor: Prof. Meng-Yi Bai Time and Room for class:R678, 13:20 pm-15:10 pm, AAEON building, TR-616 Office hour: Monday TR-917), 16:30-17:30 Week, Date Chapter no. 1, 02/26 Chapter 1. Introduction of Instrumental Analysis 2, 03/05 Chapter 1. Introduction of Biomaterials 3,03/12 Chapter 2. Nuclear Magnetic Resonance (1) 4, 03/19 Chapter 2. Nuclear Magnetic Resonance (2) 5, 03/26 Chapter 3. Liquid Chromatography (1) 6, 04/02 Chapter 3. Liquid Chromatography (2) 7, 04/09 Chapter 4. Ultraviolet-visible Spectrometry 8, 04/03 Chapter 5. Infrared Spectrometry (1) 9, 04/16 Midterm written examination 10, 04/23 Chapter 6. Thermogravimetric method 11, 04/30 Chapter 7. Auger, XPS surface analyses (Introduction of Theory) 12, 05/07 Chapter 7. Auger, XPS surface analyses (Peak Deconvolution Software Teaching: Bring Your Own Laptop.) 13, 05/14 Chapter 8. Elisa reader and Confocal spectroscopy 14, 05/21 Chapter 9. Electron Microscopy: SEM、TEM and Sample Preparation for Biomaterials 15, 05/28 Oral presentation (1)-(5) 16, 06/04 Oral presentation (6)-(10)
授課方式： Method of Instruction	講授 Lecture：87% 分組討論 Group discussion：13% 案例研討 Case study：0% 操做練習 Practical exercises：0% 講授 Lecture：non%

教科書： Textbooks	Principles of Instrumental Analysis 7/e AE, [Skoog/Holler] 9789814834346
參考書目： References	non
修課須知： Notice	non
評量方式： Grading	Mid-term examination(40 %), Final examination:(final paper report)+(final oral presentation)(40 %), attendance(20 %)
備註說明： Notes	All engineering background students are welcome