

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

2026/5/6

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| <p>課程代號： BE5032301 Course Code</p> <p>學分數： 3 Credits</p> | <p>必選修：必修/半學年 Required/Electve: Required/Half Yr.</p> <p>先修課程： Prerequisites</p> |
| <p>節次教室： R6(TR-616) R7(TR-616) R8(TR-616) Time/Location</p> | |
| <p>專業核心能力： Core Professional Competencies</p> | |
| <p>課程網址： non Course Website</p> | |
| <p>課程宗旨： This course aims at teaching engineering background students with fundamental techniques of all necessary knowledge of instrumental analysis. Course Objectives</p> | |
| <p>課程大綱： Syllabus for class BE5032701 Outline of Lectures</p> <p>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.</p> <ol style="list-style-type: none"> 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) | |
| <p>授課方式： 講授 Lecture : 87% Method of Instruction</p> <p>分組討論 Group discussion : 13%</p> <p>案例研討 Case study : 0%</p> <p>操做練習 Practical exercises : 0%</p> <p>講授 Lecture : non%</p> | |

教科書： Principles of Instrumental Analysis 7/e AE, [Skoog/Holler]
Textbooks 9789814834346

參考書目： non
References

修課須知： non
Notice

評量方式： Mid-term examination(40 %),
Grading Final examination:(final paper report)+(final oral presentation)(40 %),
attendance(20 %)

備註說明： All engineering background students are welcome
Notes