

## 生醫分析(Biomedical Analysis, 11110CHEM512000)

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### **Textbooks:**

1. Bioanalytical Chemistry, Andreas Manz, Nicole Pamme, Dimitri Lossifidis, Imperial College Press.
2. Bioanalytical Chemistry, Susan R. Mikkelsen, Eduardo Corton, Wiley-Interscience
3. Introduction to Fluorescence Sensing, Alexander P. Demchenko, Springer.

### **Brief Course Description**

Bioanalytical chemistry is a sub-discipline of analytical chemistry that involves the separation, detection, identification and quantification of biological samples in different settings. It often involves the study of molecules such as proteins, peptides, DNA and drugs.

### Contents

1. Chromatography
2. Electrophoresis
3. Mass Spectrometry
4. Spectroscopic Methods
5. Immunoassays
6. Quantitation of Total Proteins, Enzymes and Their Substrates
7. Detection of Carbohydrates and Biosensors
8. DNA isolation, Arrays and Sequencing
9. Detection and Analysis by Fluorescent Reporters
10. Sensing Inside Living Cells and Tissues

Midterm Exam: 50%

Final Exam: 50%

Website:

<https://eeclass.nthu.edu.tw/>