

CHEM4784 Bioanalytical Methods

Course Description:

This course reviews analytical methods to solve biological problems. It serves as a primer to the expanding field of bioanalysis. The topics covered by this course include: purification and separation of biomolecules, spectroscopic methods, electrophoresis, protein sequencing, enzyme assay, immunoanalysis, analysis and sequencing of nucleic acids, single molecule techniques, single cell analysis, and etc.

Main Course Outline (for reference only):

1. Introduction
2. Separation and purification of biomolecules
3. Optical spectroscopic methods
4. Analysis of Proteins
5. Structure and sequencing of proteins
6. Enzyme assay
7. Immunoanalysis
8. Analysis of nucleic acids
9. Biosensors and biochips
10. Single molecule techniques
11. Single cell analysis