

2024 Spring - Advanced Analytical Chemistry

Credits: 3

Course Coordinator: Yu-Ju Chen 陳玉如老師 yujuchen@gate.sinica.edu.tw

Classroom: B105, Institute of Chemistry, Academia Sinica

Class hour: Thursday, 09:00-12:00

Major Topics:

- Basics of Analytical Chemistry
- Physical Methods for Structural Characterization (NMR, MS, EM)
- Optical Microscopy
- Biosensor

Course Syllabus:

Week	Date	Topic	Professor
1	2/22	Orientation	Der-Lii Tzou
2	2/29	General Principles in Analytical Chemistry	Yu-Ju Chen
3	3/7	NMR Spectroscopy-Fundamental and Application I	Der-Lii Tzou
4	3/14	NMR Spectroscopy-Fundamental and Application II	Der-Lii Tzou
5	3/21	Fundamental of Mass Spectrometry	Yi-Sheng Wang
6	3/28	Application of Mass Spectrometry	Yu-Ju Chen
7	4/4	Tomb-Sweeping Festival	No Class
8	4/11	Lab (MS & NMR)	Der-Lii Tzou Yu-Ju Chen
9	4/18	Fundamentals of Light Microscopy	Chau-Hwang Lee
10	4/25	Super-resolution Light Microscopy	Chau-Hwang Lee
11	5/2	Electron Microscopy	Wei-Hau Chang
12	5/9	Midterm Exam	Yu-Ju Chen
13	5/16	Biophysical Fluorescence Spectroscopy	Jen-Tse Huang
14	5/23	SPR sensing	Pei-Kuen Wei
15	5/30	Biochip- Microarray and Biosensor	Ji-Yen Cheng
16	6/6	Microfluidics- Integration and Application	Hsiung-Lin Tu
17	6/13	Final Presentation (Final report deadline)	Der-Lii Tzou Yu-Ju Chen

Grading: Midterm Exam: 50% Final Presentation: 40% Attendance: 10%