

Analytical Chemistry, II

Scope:

This course covers the main instrumental analysis techniques used by chemists in the 21st century.

Contents (by topic):

1. Introduction
2. Electronic components and circuits
3. Signal processing
4. Atomic absorption spectroscopy
5. Atomic emission spectroscopy
6. * Mid-term exam I
7. Molecular absorption spectroscopy
8. Molecular emission spectroscopy
9. Infrared spectroscopy
10. Atomic mass spectrometry
11. Molecular mass spectrometry
12. * Mid-term exam II
13. Gas chromatography
14. Liquid chromatography
15. Electrophoresis
16. Radiochemical methods
17. Automated methods of analysis
18. * Final exam

Evaluation:

* The final score will be based on the scores obtained from quizzes (20%), mid-term exams (40%), and final exam (40%).

Requirements:

Students who have completed Analytical Chemistry I can attend this course.

Study material:

Handouts will be provided for selected topics.

Main textbook: D.A. Skoog, F.J. Holler, S.R. Crouch, *Principles of Instrumental Analysis, 7th Edition*, 2017, Cengage.

Other references will be cited in the handouts and/or slides displayed on the screen.

Teacher's office hour:

Time: Friday, 14:00-15:00.

Place: Chemistry Building, room 316

Useful links: (This section will be expanded.)

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Handouts (for the participants of this course only):

The handouts and other course materials are currently available in the [NTHU iLMS website](#). You have to log in.