



Expected Learning Outcomes



Indicator	Upon completion of the course, Student able to	Expected learning outcomes of program
Knowledge		
K1	Present principles, roles, classification of some analytical methods applied in food analysis; analysis results; advantages and disadvantages of analytical methods.	ELO2: Apply food science knowledge in food research, production, and development.
K2	Apply analytical methods: spectroscopic method, electrochemical method, extraction method and chromatographic method to analyze the presence of specific analytes in the field of food technology.	ELO2: Apply food science knowledge in food research, production, and development.
K3	Evaluate the analytical results obtained with current standards in the field of food technology.	ELO2: Apply food science knowledge in food research, production, and development.
Skills		
K4	Apply analytical methods adapted to the sample to be analyzed.	ELO11: Analyze quality and safety of raw food materials, in-processing food products and final food products.
K5	Effectively use tools and equipment of analytical chemistry.	ELO10: Apply skills in data collection and analysis for scientific research and surveys on practical food production issues
K6	Calculate results, discuss results and write reports.	ELO8: Use effectively information technology and modern equipment in food management, production and trading activities ELO10: Apply skills in data collection and analysis for scientific research and surveys on practical food production issues
Attitude		
K7	Perform self-discipline in learning and research	ELO14: Demonstrate start-up spirit of and lifelong learning motivation

Brief descriptions

Chapter 1: The basic concepts of analytical chemistry

Chapter 2: Spectroscopic methods

Chapter 3: Electrochemical methods

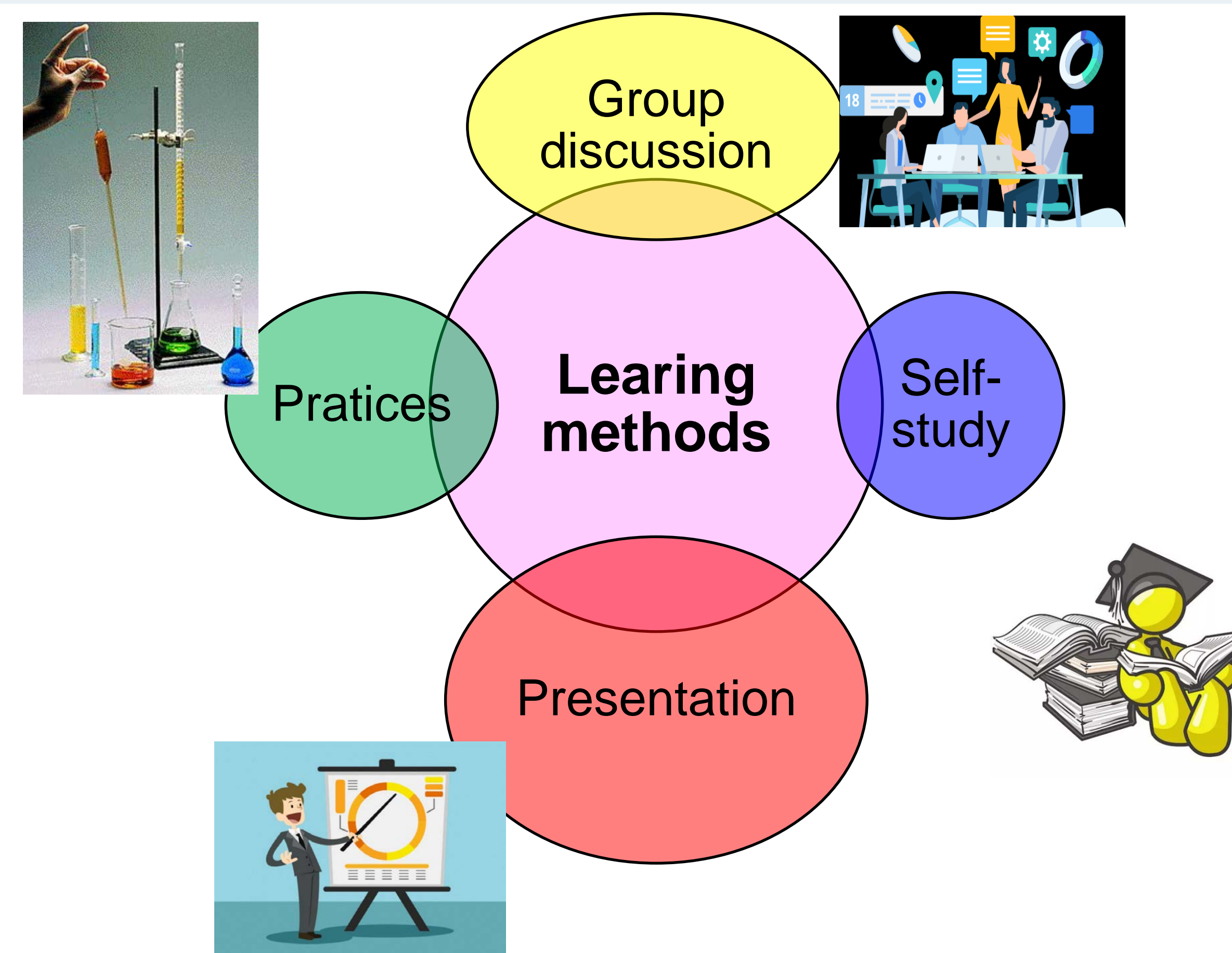
Chapter 4: Chromatographic methods

Three practices:

Practice 1: Determination of Fe³⁺ ion content in water by colorimetric method.

Practice 2: Determination of Na content in drinking water samples by flame emission spectroscopy.

Practice 3: Determination of acid content in drinking water by conductometric titrations.



Student tasks

- Attendance: Students must attend at least 75% of the class and participate in class activities and 100% practical, discussion sessions.
- Preparing for the lecture: Students must read and carefully the lectures; do homework; presentation; groups discussion.
- Midterm test and final test: Students are required to take midterm test and final exam.

Assessment methods

1. Grading scale: 10
2. Evaluation:
 - Attend class and group discussions: 10 %
 - Practice assessments: Students reach practice. These are the conditions for the final exam.
 - Midterm test: 30%
 - Final exam: 60%

Lecturers

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