



COURSE SYLLABUS

ANALYTICAL CHEMISTRY

Credits: 02 (Lecture 1,5 – Practices 0,5 – Self-study 06)

Code: MT01004



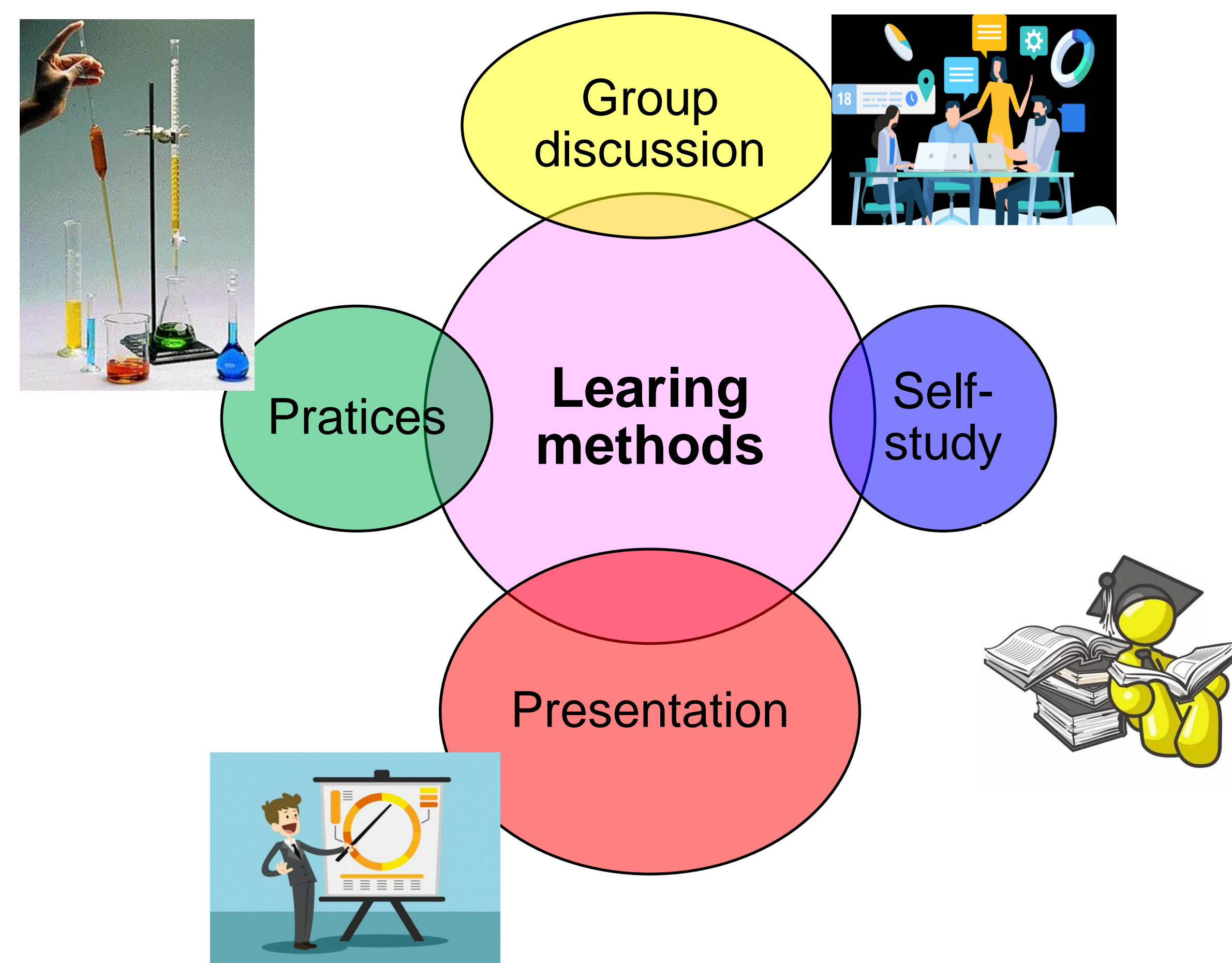
Expected Learning Outcomes



Indicator	Upon completion of the course, Student able to	Expected learning outcomes of program
Knowledge		
K1	Summarize certain concepts and principles in analytical chemistry; advantages and disadvantages of volumetric methods; instrumental analysis; concentration; sample analysis; errors and basic equipment.	ELO1: Apply knowledge of scientific basics, social sciences and humanities in career and life.
K2	Apply volumetric method and instrumental analysis 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	Work in group	ELO6: Work effectively in the group as a team member or a leader to achieve the goals.
K6	Presenting results, discussing, reporting through analysis of practice results	ELO11: Analyze quality and safety of raw food materials, in-processing food products and final food products.
Attitude		
K7	Be proactive and positive in learning and research.	-

Brief descriptions

Chapter 1: The basic concepts of analytical chemistry
 Chapter 2: Gravimetric method of analysis (learn more)
 Chapter 3: Titrations in analytical chemistry
 Chapter 4: Instrumental analysis
 Three practices:
 Practice 1: Acid-base titration
 Practice 2: Oxidation - reduction titration
 Practice 3: Precipitation titration and complexation titration



"TODAY EVERYONE HAS TO KNOW 'WHAT'S IN THE FOOD?', 'WHAT'S IN THE WATER?', 'WHAT'S IN THE AIR?' THIS IS TRULY THE GOLDEN AGE OF ANALYTICAL CHEMISTRY."



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

- Grading scale: 10
- 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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