



COURSE SYLLABUS

ANALYTICAL CHEMISTRY

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

Code: MT01004



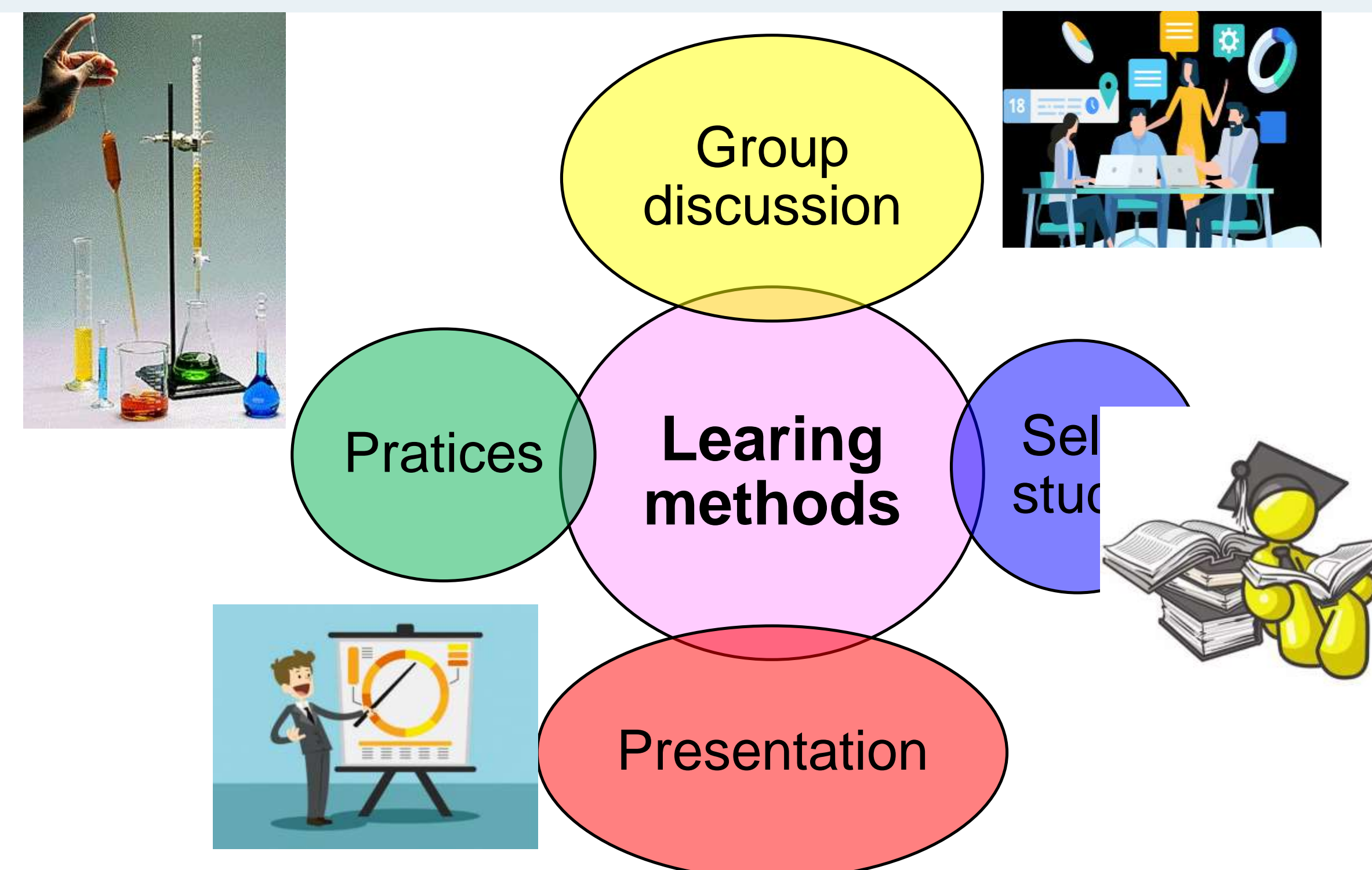
Expected Learning Outcomes



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 the general knowledge of natural and social sciences and the understanding of contemporary issues to the field of biotechnology.
K2	Apply volumetric method and instrumental analysis to analyze the presence of specific analytes in the field of biotechnology.	ELO1: Apply the general knowledge of natural and social sciences and the understanding of contemporary issues to the field of biotechnology.
K3	Evaluate the analytical results obtained with current standards in the field of biotechnology.	ELO1: Apply the general knowledge of natural and social sciences and the understanding of contemporary issues to the field of biotechnology.
Skills		
K4	Apply analytical methods adapted to the sample to be analyzed.	ELO7: Work as a team member or leader to achieve the set goals. ELO 10: Use appropriate methods and skills to collect, analyze, and interpret data in scientific research, and examine practical issues at the workplace. ELO11: Perform basic and intensive technical procedures fluently in the field of biotechnology
K5	Work in group.	ELO 7: Work as a team member or leader to achieve the set goals.
K6	Calculate results, discuss results and write reports.	ELO7: Work as a team member or leader to achieve the set goals. ELO 9: Utilize information technology and equipment effectively for management, production, and sales in the field of biotechnology.
Attitude		
K7	Be proactive and positive in learning and research.	ELO15: Actively update and accumulate knowledge and experience to improve professional qualifications.

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



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%

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.

Lecturers

Vũ Thị Huyền. Email: vtuyen@vnu.edu.vn
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