ChE 203 Physicochemical Systems Laboratory
Fall 2017

Required course 1 (0+0+2) credits.

Catalog Description: Experimental techniques and analysis of data in physicochemical systems. Experiments related to the properties of pure gases, liquids and mixtures, phase diagrams, electrochemistry, rate of chemical reactions and catalysis.

Textbook and other required material: ChE 203 Laboratory documents prepared by ChE Faculty and Teaching Assistants.

Instructor: Asst.Prof Damla Eroğlu Pala, Phone: 6866, e-mail: eroglud@boun.edu.tr

Laboratory Hours (Room):

Section 1: W 15:00-17:00 (KB 408)

Course Learning Outcomes:

1. To conduct basic experiments related to physicochemical concepts, such as viscosity, surface tension, and rates of chemical reactions.
2. To develop skills on interpretation of experimental data and basic report writing
3. To develop teamwork skills

Grading:

Experiments	70%
Quiz	10% of each experiment grade
Performance	20% of each experiment grade
Report	70% of each experiment grade
Final	30%
TOTAL	100%

Topics covered:

1. Heat of Solution
2. Surface tension
3. Partial Molar Volumes
4. Adsorption
5. Conductometric and potentiometric titrations
6. Rate of chemical reaction
7. Solubility curve for a ternary system of liquids
8. Velocity of molecules and Maxwell-Boltzmann distribution function

Rules and regulations:

In the ChE 203 laboratory, students will work in groups of three. Each group member is fully responsible for all group activities. Students will perform 8 experiments during the semester. Unexcused failure (except for official MD reports) to attend more than one experiment will result in a direct letter grade of F (the student will not be eligible to take the final exam) and will require a repetition of the course. Students with official MD reports should bring their report to the instructor within one week following the experiment, immediately contact their TAs and get an appointment to perform related experiment.

Every student **must** wear a laboratory coat in the laboratory. Those who do not have a laboratory coat will not perform the experiment and get zero for that experiment.

The groups will record their data on a separate sheet of paper, which will be signed by the TA at the end of the experiment and will be attached to the report during submission. If the signed data sheet is missing, the students will be considered not to have performed the experiment and thus acquire zero for that experiment.

Students will take a quiz before conducting the experiment regarding the corresponding documentation that is provided. Every member of the group must get **at least** 40/100 requiring the necessary knowledge on the object, general concepts and the procedure of the experiment in order to be able to perform it. If not, the student will get zero for performance and his/her report will be graded over 30, instead of 70. The quizzes will constitute 10% of the total grade that you acquire for the corresponding experiment.

Students **must come to the lab session on time**. If you are more than 10 minutes late for the lab session, you will not be allowed to perform and will get zero for that experiment. Your attitude in the laboratory and during the experiment will be considered in your performance grade, which will constitute 20% of your grade for that experiment.

Lab reports must be submitted until the next week's lab session, no later than 5:00 PM, to the **TURNITIN** webpage as a **soft copy**. 10 points/day will be subtracted from the report grade, if the reports aren't submitted on their appropriate deadlines. In addition, soft copy of the report should be named as **GroupX_expY.doc** with X being the group number and Y being the experiment number. The hard copy of the **first report** will be collected only for the evaluation week.

Laboratory reports should have the format described in "ChE 203 Laboratory Report Format" document on the webpage. Reports constitute 70% of your grade for that experiment.

A final exam, in which you will be responsible for all the experiments that you have conducted during the term, will be carried at the end of the semester. You should bring your calculators since the exam is mainly based on calculations, general concepts and discussion related with each experiment. The final exam grade will constitute 30% of your overall grade.

Academic dishonesty:

- Cheating, plagiarism and copying are not acceptable and will not be tolerated.
- If you violate the honesty once, you will get a zero on your report. If you violate twice you will fail the course. (NO EXCEPTION)
- If you copy parts or all of the report from another group, not only your grade but the other group's report grade will also be zero.
- You will fail the course if you cheat on the midterm or the final.