

Rules and requirements of chemistry MSc student's 'Advanced physical and Polymer Chemistry Practices'

Valid from the academic year 2016/2017, 1st semester, course code: KMEN006S

URL address: <http://www.staff.u-szeged.hu/~peintler/files/fklab/fklab.htm>

Students carry out experiments either on their own or in pairs. Each student performs different experiment every week, which is assigned by the instructor a week ahead. Students must write a handwritten reports about their own work, starting with a preparation in advance, at home. The measured results and their evaluation should also be included.

The description of the experiments is available online (*see* the URL above). The first step of the preparation is that the student downloads the appropriate instructions of the experiment from the Internet. The necessary information, e.g. URL addresses, passwords, etc., will be given by the instructor at the first laboratory class. After the student got familiar with the tasks and their theoretical background by reading the downloaded material, s/he should prepare a handwritten brief summary of the experiment on 4-paged A4 size sheets. The summary must include the required header, the main statements concerning the theoretical background, and formulas used in the evaluation of data. Detailed description of the requirements can be found in the introductory chapter of the descriptions, and it can also be downloaded from the Internet like the chapters of the experiments. Students working in pairs should prepare separate reports. Both copies should contain the same experimental data, but their evaluation should be done separately.

The evaluation takes place by performing calculations using the experimental data, preparation of graphs etc. Students are allowed to do the calculations by a scientific calculator. The graphs is to be produced on graph/grid/millimeter-paper. Computer programs can also be used for calculations, creating tables and graphs. In this case, the tables and graphs should be given to the instructor in both printed and electronic form (i.e., in files). The instructor might ask the student to repeat the production of them on site. If it is proven, that the student is unable to do the evaluation on his/her own, or the used files were produced by others, the mark of that experiment will be failed (1). Moreover, the instructor may force the same procedure for the student's earlier reports produced by computers, and in case of failure in the reevaluation, the marks of those reports can be lowered.

The laboratory class starts with a short, 10–15 minutes long test, in order to check the students knowledge concerning the particular experiment. Some possible test questions are given in the description of the experiments. Separate copies of the questions will be provided during the tests. The questions and exercises are only approximate, the instructor may change them. The instructor will check and mark the tests promptly. If its mark is failed (1), the student is not allowed to make the experiment, because s/he is unprepared, and her/his mark will be failed (1).

After successful tests, the students start their experiment. All experimental data should be recorded directly into the report, in ink. They will be checked and signed by the instructor, when the experiment will be finished. The technician will also sign the report to prove that all the equipment, instruments and tools, is returned in proper, usable state and order. The evaluation of the data has to follow the experiment, and should be finished until the beginning of the next class. The students, who have finished their experiments, can leave the laboratory half hour before the end of the class, or after handing in the report (including the electronic form, too) with the evaluated data. It is required to hand in the report at the beginning of the next class the latest. Delay in doing so, will result in a reduction of the mark by one, each week afterwards.

The instructor will check and mark the reports within the soonest possible period of time. The given marks depend on the quality of the students work, the precision of the performed experiment, and the rightness of the evaluation. The instructor has a right to give back the report for reevaluation during the first two active weeks if it contains essential errors. It is requested to give the details of the calculations by substituting the values and the units into the formulas. If a calculation must be repeated several times, in order to fill in a table of data, the detailed calculations should be given as an example only for one row, independently from that the table is printed or handwritten. These examples should be given even if you do the calculations by computer. The marks might be different for students working in pairs due to the different performance of the students. The instructor shows the marked reports to the students and s/he explains the weak and the strong points of the reports to the students.

There will be no experiment assigned for the first and the last week of the semester and obviously for the week of the University Holidays and for the days of National Holidays. The course is accepted if a student finishes at least 80% of the assigned experiments with better marks then failed (1). It means 10 successful reports in a semester with 12 active weeks. If there are less than 10 active weeks in a semester, the minimum number of accepted reports must be 7.

A student who were absent from the laboratory class, must produce an official certificate (e.g. medical certificate, etc.) at the beginning of the following class, that her/his absence was justified. The grade of the missed experiment will be failed (1) without it! The instructor can propose another period of time, twice in a semester, to perform the missed experiment. The last week also reserved for repetition of one missed or failed experiment. The repetition of a failed experiment will not cancel the previous mark, its mark will be added to the other marks and will be taken into account at the calculation of the final mark independently. The mark of the missed experiment will be failed (1) if the student refuses to make the experiment in the offered period of time or on the last week, independently from the justification of the absence.

The final mark of the class will be calculated from the average marks of the test and the reports. The weight of the marks of the reports will be two-third while that of the test will be only one-third. The mark will be excellent (5), good (4), acceptable (3), passed (2) or failed (1) if this weighted average is in the range of 4.51–5.00, 3.76–4.50, 3.00–3.75 2.00–2.99 and below 2.00, accordingly. If a student, who has no missed or failed experiment, is about to improve his/her mark, can apply for a possibility to perform an additional experiment on the last week. The only condition is that, the calculated averages of his/her previous marks makes possible to improve the weighed average to the next range, by adding an excellent (5) to the marks of the reports and another to the marks of the tests.

The students must take part in a short training on safety precautions at the laboratory on the first week. Every student signs the appropriate form, stating that they are aware of the risks, and accept and follow the rules which are in force in the laboratory. Nobody can attend the classes without it!

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Gábor Peintler
associate professor