Dear Erasmus+ students,

The laboratory course MC230C21E is taught in both semesters. In the winter term, the course is organised at the end of November or in December. In 10 working days, eight experimental tasks have to be completed by working in pairs or trios. The basic working hours in the laboratory are from 8.00 to 16.00. Most of the tasks can be completed before 13.00.

You will be informed about the registration for the announced blocks and the beginning of the course by e-mail, which you have listed in the SIS.

On the first day of the course, please come to room no. 110 (Laboratory of Advanced Practice in Analytical Chemistry) in the Department of Analytical Chemistry (1st floor on the left), Faculty of Natural Sciences, Charles University, Hlavova 8.

To the laboratory you should bring a protective coat, suitable shoes for laboratory use and safety glasses. Safety glasses can be borrowed in the laboratory. Experimental work cannot be carried out without these protective items. Clothes and bags can be left in a locker in the corridor.

Pregnant students are not allowed to participate in the practical course!

- Students are divided into pairs/groups in which they work on experimental tasks. Each student must complete all practical tasks according to the schedule. In case of absence (illness, etc.) from the scheduled task, it is necessary to apologise by e-mail (jana.sobotnikova@natur.cuni.cz).

- The laboratory course takes place every day for 10 working days; working hours are from 8.00 to 16.00. Instructions for each task are sent to enrolled students by email and are also available in the SIS. Before starting the laboratory course, students should carefully read the safety regulations for working in chemical laboratories, which can also be downloaded from the SIS. Students confirm that they have read and understood the safety regulations by signing the safety regulations before starting the experimental work.

- Students need to prepare for the task in advance - read the instructions thoroughly, think about the correct procedure or refresh their knowledge of principles, methods and instrumentation.

- Before starting the experimental work, the students' readiness for the task is checked. The level of readiness is graded from 1 to 4 (see table below). Insufficient knowledge of the theory or experimental procedure of the task (grade 4) means that the task cannot be started. The task can be started after the knowledge has been completed and the readiness has been checked again. In the event of a repeated lack of knowledge, the task will be carried out on an alternative date.

- During the experimental work, students write down the measured data on the Result sheets (they are part of the file "Instructions for tasks", it is necessary to print them) or in their laboratory diary (bound workbook). The raw measured data are not rounded and can be written in the form provided by the instrument. Statistically processed data must be rounded to the relevant number of decimal places. Unreasonably rounded or unrounded data will be considered as partially incorrect.

- After completing the task, the students present their measured data to the teacher for checking and clean the task area according to the instructions of the laboratory technicians. The students can then leave the laboratory.

- Each student will submit his/her own protocol (report) of each measured task to the tutor's e-mail address no later than 14 days after the end of the laboratory course. The protocol for each task will consist of the completed results
sheets found at the end of the task instructions, original instrument records (if available) and dependency plots (if required).

- The teacher will mark the reports on a scale of 1 – 4 (see table below). If the report is incomplete or contains serious errors, it will be marked 4 and it is the student's responsibility to correct all errors and resubmit the corrected report within 2 weeks, including the original report. The revised report will be re-evaluated and both marks of the revised report will be included in the overall course mark.

<table>
<thead>
<tr>
<th>Mark numerically</th>
<th>Oral examination</th>
<th>Protocol</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>excellent knowledge, clear and correct answers</td>
<td>complete, well processed, without comments and errors</td>
</tr>
<tr>
<td>2</td>
<td>very good knowledge, slight hesitation in answers</td>
<td>complete, well processed, without serious errors</td>
</tr>
<tr>
<td>3</td>
<td>good knowledge, sufficient to complete the task</td>
<td>complete, acceptable with comments and minor corrections</td>
</tr>
<tr>
<td>4</td>
<td>insufficient knowledge of the theory or of the execution of the task; the task will be measured at an alternative date</td>
<td>contains gross errors or is incomplete, not acceptable, it must be corrected</td>
</tr>
</tbody>
</table>

- What do we ask in the oral examination?

  - Theory of the method - explanation of the principle, possibilities of instrumentation, etc.
  - Task measurement - which samples are determined, how, dilution of solutions, method of calculating the analyte content in the sample, statistical data evaluation, etc.

- Credit will be awarded to students whose sum of all marks from oral examinations (including 4 and marks from corrective examinations) does not exceed the value of 25 and whose sum of all marks from protocols (also including 4 and marks of corrected protocols) does not exceed the value of 25.

- If the sum of the marks from the oral examinations or from the protocols exceeds the value of 25, an additional oral examination will be required for credit.

RNDr. Jana Sobotníková, Ph.D. and the staff of the Advanced Laboratory of Analytical Chemistry