**CHEM-E5140 Materials Characterization, laboratory course (5 cr.)**

**Instruction for Pretask**

The idea of the pretask is to get familiar with the characterization method which is discussed in detail at the contact session and has a laboratory exercise after that. Make clear to yourself, how does the system work and what can be analyzed. The main reference is the course book (and additional chapter of nanoindentation). You are strongly encouraged to find also other references (for instance research papers/other source). Write down the questions that arise during you study process and during the lab work consult the method expert and write the answers to your lab report (required for higher grades).

Start the process by reading the method from the course book (and from other sources), this method is called “flip the classroom” where you are given your own time to study the topic in your own pace. Prepare the pretask should be in format of a power point including answer to the following questions:

* + What information the method provides and how does it work?
  + What kind of samples can be analysed?
  + Is the method destructive for the sample?
  + Questions to experts (questions that you came up during the work)

In addition, draw yourself (hand or computer) a schematic image of the mechanism how the method work. Bring the image with you to the class on Monday. Scan the image and add to your pretask file. Submit both as a single file to MyCourses – Assignments to the correct box (for instance: Raman pretask) before the contact session. The pretask is an obligatory assignment and if submitted late (during or after the lecture), 1 p. is reduced from the total points.

The pretask is graded with the report according to the rubric (0-3 p.), however, the pretask itself is checked and accepted or rejected. At the first pretask you receive feedback before the submission of the report, so that you can improve before grading. The pretask is you introduction of the report and therefore, it should not be changed (apart from the first round).