

QUANTITATIVE ANALYTICAL CHEMISTRY THEORY I

lecture and seminar (2018/19 fall semester)

Instructors:

Lecture:

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Seminar:

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In general about the subject:

During the semester the students will learn about the basic principles of quantitative analytical chemistry. In the first part of the lecture the methods of classical analytical chemistry will be discussed, while in the second part of the lecture the focus will be on instrumental methods. Furthermore, seminars will be held each week, which are essential parts of the course.

Goals of seminar: The seminar aims to deepen the understanding of the material of the course *Quantitative analytical chemistry I* and to prepare the students for the laboratory course *Quantitative analytical chemistry II* by discussing the theoretical background of the methods used there. Further aims include the introduction to practical aspects of solution equilibria calculations, solving problems connected to titrimetric measurements, giving an overview of the theoretical issues about endpoint detection and the use of indicators in classical analytical chemistry.

Attendance: Attending the lecture is highly advised, and attendance to the seminar is compulsory, which is checked at every seminar.

Requirements: During the semester 2 general tests will be written from the material of the seminar. (The exact time and location of the tests will be announced during the semester). Sufficient scores from Test I and II are necessary for beginning the exam in *Quantitative analytical chemistry theory I*. The sum of scores from the two tests must be **at least 40% of the total points to pass**; otherwise an extra Test III must be taken during the exam session. Test III contains minimum questions about the whole material of the seminar. Students have 1 chance to write Test III. If the result meets the minimum requirements, the student receives 40% final score for the seminar. However, if the student cannot pass Test III, his or her exam result is a fail mark (1) for *Quantitative analytical chemistry I*.

Please note: students have to score **at least 20% individually in both Test I and II**; otherwise an extra Test III must be taken during the exam session.

The final mark for *Quantitative analytical chemistry I* is based on the weighted average of the seminar test result and the lecture test result with a weighting factor of 2 for the lecture and 1 for the seminar.

Supporting Material:

For each seminar, supporting material (including solved calculation problems) can be downloaded from the following website: <http://www.inorg.unideb.hu>. First, click on the heading to the left: "OKTATÁS". Second, log in under the brown heading: "Bejelentkezés". You should give the "Felhasználónév" (username): *analitika09*. There is no password, just click on the button: "Belépés". In the list of the subjects under "OKTATÁS" look for: "Quantitative analytical chemistry Theory I. (Seminar)". Each uploaded document will be either in ".doc/docx" or in ".pdf" format.

Don't forget to bring a scientific calculator to the seminars.