

Instrumental Analysis I

Lecture-Nr.: 53711

Type: lecture

Duration: 2 hours per week (summer)

Method of Assessment: written examination (on lecture and accompanying lab course)

ECTS Credit Points: 2

Topics:

The lecture is given within the first 8-10 weeks of the summer term with 2 to 6 hours per week. The lecture is split into two parts. Part one comprises fundamentals and methods of electrochemistry (~ 80 %): electrochemical series, Nernst equation, galvanic cells, potentiometry, conductometry, polarography, voltammetric methods, electrogravimetry, electrolysis and coulometry. In part two the principles and applications of atomic spectroscopy (~20 %) are presented. Furthermore, applications of the above mentioned methods in pharmaceutical analysis, including European Pharmacopoeia, are presented.

Literature:

1. Skoog; West; Holler; Crouch: Fundamentals of analytical chemistry. CENGAGE Learning.
2. Skoog; Crouch; Holler: Principles of instrumental analysis. Brooks/Cole.
3. Rücker; Neugebauer; Willems; Instrumentelle pharmazeutische Analytik. WVG, Stuttgart.
4. Dominik; Steinhilber: Instrumentelle Analytik. Deutscher Apotheker Verlag, Stuttgart.
5. Ehlers: Analytik II. Deutscher Apotheker Verlag, Stuttgart.
6. Schwedt: Analytische Chemie. Georg Thieme Verlag, Stuttgart-New York.

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