

Title of the cours: KV5AN5 Instrumental analytical laboratory

Kredits: 4

Coordinator/Department: Zihné Perényi Katalin, Dept. of Analytical Chemistry

Terms for joining: Instrumental Analysis I. or equivalent knowledge and practice,

Topics covered by the course:

Thermo analysis. Application of differential scanning calorimetry (DSC) in polymer study. Determination of Ca-oxalate and Ca carbonate by thermogravimetry. Electro analysis. Determination of Pb^{2+} / Cd^{2+} - ions by differential pulse anodic stripping voltammetry (DPSV) in anal. grade $NaNO_3$. Atomic spectrometry. Determination of As\Se contamination in soils coupling hydride generation to inductively coupled plasma atomic emission spectrometry (HG-ICP-AES). Selective leaching of cave sediment and determination of its Pb\Cu content by graphite furnace atomic absorption spectrometry (GFAAS). Chromatography. Determination of trace organic contaminants in Danube water by gas chromatography and mass spectrometric detection (GC-MS).

Interpretation of some high efficiency analytical techniques by interactive teaching software. On-line operation of instruments and off-line evaluation of data.

Literature*:

Compulsory:

<http://anal.chem.elte.hu>

Suggested:

R. Kellner, J.M. Mermet, M.Otto, H.M. Widmer Analytical chemistry, Wiley, 1998

* 3-5 books, lecture notes all.