



## COURSE DATASHEET

<b>Semester:</b>	2012/13/1
<b>Course:</b>	Materials testing methods
<b>Code:</b>	VEMKAVB252A
<b>Responsible department:</b>	Department of Analytical Chemistry
<b>Department code:</b>	MKKA
<b>Responsible instructor:</b>	dr. Péter Hajós

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### Course objectives:

An understanding of the principles and techniques of analytical methods

### Course content:

Theory 1. Classification of the methods. (qualitative, quantitative methodology, gas, liquid, solid state) 2. Density, viscosity, thermal-and electrical conductance methods, refractometry 3. Electrometric methods( pH measurements, potentiometry, coulometry, electrodeposition) 4. Continuous flow analysis, detectors, sensors 5. Thermoanalytical methods 6. Spectroscopy. UV and visible absorption methods 7. Atom-spectroscopy and IR spectroscopy 8. Electron microscopy 9. X-ray microanalysis, X-ray diffraction methods 10. Errors in quantitative measurements. Precision and accuracy. Practice 11. Trace analysis of metals by atom-spectroscopy 12. Measurements of pH and conductance 13. Surface analysis by scanning electron microscopy

### Requirements, evaluation and grading:

### Required and recommended readings:

Dr. Inczédy János: Folyamatos és automatikus analízis, Műszaki Könyvkiadó, Bp., 1984 Anyagszerkezeti vizsgálatok lab. gyak., Egyetemi jegyzet, Analitikai Kémia tanszéki munkaközösség, VE, 1992