

General Information			
Course name	ÚCHV/ASM/03 Separation Methods	ECTS Credits	5
		Semester	summer
Aims			
Survey of basic principles, theoretical background and applications of separation methods in research and analytical practice.			
Content			
<p>Basic principles, classification, theory and applications of separation methods. Extraction - LLE, SPE, SPME. Chromatographic methods - theory, classification. Gas chromatography, retention mechanisms, stationary phases and their selection. Instrumentation, detectors in GC.</p> <p>Data evaluation - qualitative and quantitative analysis. High-performance liquid chromatography, principles, classification. Stationary and mobile phases in LC, instrumentation. Applications.</p> <p>Comparison of GC and HPLC methods.</p> <p>Planar chromatographic methods - TLC, HPTLC, PC.</p> <p>Electrophoretic techniques - CE, ITP, HPCE. MEKC - micellar electrokinetic capillary chromatography. Lab-on-a-Chip (LOC), TAS, electrophoresis on a chip, principles and applications.</p>			
Assessment Methods and Criteria			
Examination			
Grading Scale (in %): 100-91%-A, 90-81%-B, 80-71%-C, 70-61%-D, 60-51%-E, 50-0%-FX			

Grading System:

The University recognises the following six degrees for the evaluation of the study results:

- a) A – excellent (excellent results) (numerical value 1)
- b) B – very good (above average results) (1.5)
- c) C – good (average results) (2)
- d) D – satisfactory (acceptable results) (2.5)
- e) E – sufficient (results meet the minimum criteria) (3)
- f) FX – failed (requires further work) (4)

Bibliography

Skoog D. A., Leary J. J.: Principles of instrumental analysis. Saunders College Publishing, New York 1997.

Pawliszyn J., Lord H. L.: Handbook of sample preparation, Wiley 2010.

