

<b>Level:</b> Specialist academic studies in Chemistry				
<b>Course title:</b> Separation Techniques (advanced course) (SH-609)				
<b>Status:</b> elective				
<b>ECTS:</b> 5				
<b>Requirements:</b> none				
<b>Learning objectives</b> Training students to independently select an adequate separation technique for a given analysis. The students will get knowledge about the developmental trends in this area.				
<b>Learning outcomes</b> Students will acquire the specialized knowledge that will allow them to suggest/formulate modern and appropriate analytical approach to solving specific analytical problems by using modern techniques of separation.				
<b>Syllabus</b> <i>Theoretical instruction</i> Macro- and meso-separation techniques (filtration, distillation, extraction, etc.). Chromatographic separation (classification of chromatographic mechanisms, sorption isotherm, the retention behaviour, the distribution coefficient, capacity, column selectivity, column efficiency, zone broadening, diffusion coefficient, mass transfer, resolution, quantitative methods). Gas chromatography (stationary phase and instruments, sample preparation and application). Liquid chromatography (stationary and mobile phases, instruments, sample preparation and application). Supercritical fluid chromatography. Capillary electrophoresis. Multidimensional separation techniques. Combined methods.  <i>Practical instruction</i> Practical instruction follows the theoretical one.				
<b>Weekly teaching load</b>				Other:
Lectures: 2	Exercises:	Other forms of teaching: 2	Student research:	