

Level: bachelor			
Course title: Chromatographic Methods			
Status: elective			
ECTS: 6			
Requirements: none			
Learning objectives The goal of the course is expanding the theoretical and practical knowledge and understanding in the field of chromatography, as one of the most modern analytical separation techniques. In the lectures, as well as through practical training, students will deepen the knowledge related to the most important theoretical principles of chromatographic methods, which will enable them to select, implement and optimize a chromatographic separation technique in their future work.			
Learning outcomes Upon successful completion of this course, the student is able to: <ul style="list-style-type: none"> ➤ understand the importance and notice the difference between different modes of chromatographic separation, ➤ apply knowledge of qualitative and quantitative analysis in various fields of chemical industry, pharmaceutical industry, the environment and other analytics, ➤ demonstrate the independence of the appropriate optimization of chromatographic systems, ➤ apply knowledge in solving specific problems by using the appropriate analytical chromatographic techniques (gas, liquid, ion-pair chromatography, molecular sieves, affinity, supercritical fluid and planar chromatography) and ➤ clearly and accurately analyze and interpret the results of chromatographic analysis. 			
Syllabus <i>Theoretical instruction</i> Introduction to Chromatography. Definitions and classification method of separation. Optimization of chromatographic systems. Comparison of chromatographic techniques. Qualitative and quantitative analysis. Liquid chromatography. Planar chromatography. Stationary phase. Mobile phase. Apparatus and procedures. Ion-exchange chromatography. High performance ion chromatography. Chromatography seeding. Affinity chromatography. Coupled chromatographic techniques. Special techniques. <i>Practical instruction</i> Application of chromatographic techniques for the qualitative and quantitative analysis in various fields of chemical industry, pharmaceutical industry, the environment and other analytics. Solve certain problems by using appropriate analytical chromatographic techniques.			
Weekly teaching load			Other:
Lectures: 2	Exercises: 1	Other forms of teaching: 2	