

Level: Specialist academic studies of chemistry			
Course title: Forensic Chemistry (Advanced course) (SH-604)			
Status: Elective			
ECTS: 5			
Requirements: None			
Learning objectives			
<ul style="list-style-type: none"> • Gaining knowledge on applications of advanced analytical chemistry in contemporary forensic research within law regulations. • Enabling students to independently apply analytical methods and techniques during forensic analyses. • Gaining knowledge on advanced methods and procedures for collecting and analysis of evidence. • Developing critical and ethical attitude to reliability and quality of forensic analyses. 			
Learning outcomes			
<i>After successful completion of the course, a student is able to:</i>			
<ul style="list-style-type: none"> • Demonstrate extended knowledge on forensic evidence. • List and explain advanced analytical methods which are used in forensic analysis of drugs, alcohol, DNA, blood, fingerprints, glass, fibres, ink, explosives and flammable substances. • Independently choose, modify and apply analytical methods in forensic investigations. • Precisely analyse, interpret and present results in the form of the official report (expertise). • Competently communicate with experts from legal institutions (police, criminology centers, court of justice, medical institutions etc.). 			
Syllabus			
<i>Theoretical instructions</i>			
Topics include: evidence and the scene of the crime; the presentation of forensic evidence; document examination; fires, explosions and firearms; illicit drugs, alcohol and forensic toxicology; body fluids; DNA analysis; forensic pathology; inorganic forensic materials – glass, soil, gunshot residues. Fibers. Colours. Fingerprints and footprints. Forensic profiling. Chemometric techniques in forensic science. Project work, which is undertaken by all students, focuses on the solution of real world problems.			
<i>Practical instructions</i>			
Chemical and instrumental analysis of the drugs (HPLC, GC, IR-FTIR). Ink analysis (TLC). Fiber and textile analysis. Fingerprints and footprints. Explosives and arson analysis. DNA analysis.			
Weekly teaching load			Other: /
Lectures: 2	Exercises: /	Other forms of teaching: 2	