

<b>Level:</b> Specialist academic studies of chemistry				
<b>Course title:</b> Forensic Chemistry (Advanced course) (SH-604)				
<b>Status:</b> Elective				
<b>ECTS:</b> 5				
<b>Requirements:</b> None				
<b>Learning objectives</b>				
<ul style="list-style-type: none"> <li>• Gaining knowledge on applications of advanced analytical chemistry in contemporary forensic research within law regulations.</li> <li>• Enabling students to independently apply analytical methods and techniques during forensic analyses.</li> <li>• Gaining knowledge on advanced methods and procedures for collecting and analysing the evidence.</li> <li>• Developing critical and ethical attitude to reliability and quality of forensic analyses.</li> </ul>				
<b>Learning outcomes</b>				
<i>Students should be able to:</i>				
<ul style="list-style-type: none"> <li>• Demonstrate extended knowledge on forensic evidence.</li> <li>• 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.</li> <li>• Independently choose, modify and apply analytical methods in forensic investigations.</li> <li>• Precisely analyse, interpret and present results in the form of the official report (expertise).</li> <li>• Competently communicate with experts from legal institutions (police, criminology centres, court of justice, medical institutions etc.).</li> </ul>				
<b>Syllabus</b>				
<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.				
<b>Weekly teaching load</b>				<b>Other:</b>
Lectures: 2	Exercises: /	Other forms of teaching: 2	Student research: /	