

Subject card

Subject name and code	Chemical methods of investigating traces of crimes - laboratory classes, PG_00134725						
Field of study	Criminology						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2027/2028		
Education level	Master's studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish Polish		
Semester of study	3	ECTS credits			2.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Faculty of Law and Administration -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Paweł Niedziałkowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		0.0		20.0	50
Subject objectives	To be introduced to the knowledge of occupational safety and health (OSH) .Acquiring the ability to conduct simple chemical experiments related to forensic technology.Preparation for experimental work by learning and practicing the skills of using laboratory equipment and chemical reagents used in the course of the exercises.Acquiring the ability to work in a team and to prepare documentation of the results of conducted research, their interpretation and form accurate conclusions.Practical introduction to methods and simple apparatus for physicochemical studies.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[KRYMMU2_U05] Is able to independently propose solutions to problems, carry out decision-making processes in this area, organise and coordinate team work, and act in an entrepreneurial manner.	Possesses the ability to independently propose solutions to research problems, conduct the decision making process, organize and coordinate team work, and take appropriate actions.	[SU4] test/exam - oral or written
	[KRYMMU2_U02] Is able to independently acquire knowledge and develop professional competences using various sources (in native and foreign languages) and modern technologies.	Can independently acquire knowledge from various sources, including Polish and foreign language literature. Effectively uses modern technologies in the process of education and professional development. Develops professional competencies by utilizing available materials and tools in both Polish and foreign languages.	[SU4] test/exam - oral or written
	[KRYMMU2_W02] Has an in-depth knowledge of the nature of natural sciences related to the studied major, their place in the system of sciences and their mutual relations	Has a deep understanding of the natural sciences related to the field of study, knows their role in the science system, and understands how they are connected.	[SW4] test/exam - oral or written
	[KRYMMU2_U01] Is able to apply theoretical knowledge of criminology and related disciplines to analyse, synthesise and interpret complex and non-routine problems, as well as to formulate solutions in changing and unpredictable conditions.	Uses theoretical knowledge from criminology and related fields to solve complex and unusual problems by analyzing, combining, and interpreting them, and then creating suitable solutions.	[SU4] test/exam - oral or written
[KRYMMU2_K02] Responsibly prepares for work, is able to set priorities and plan activities, and takes responsibility for the performance of assigned tasks and team activities.	Plans and organizes work in the laboratory. Responsibly carries out assigned research tasks. Collaborates in a team and shares responsibility for the obtained research results.	[SK4] test/exam - oral or written	
Subject contents	The laboratory exercises are divided into two thematic blocks. The first part consists of qualitative analysis of selected ions and anions by chemical methods. Quantitative analysis of selected acids, bases and analyte found in everyday life (e.g.: wine, or apple juice), and a laboratory on the disclosure of fingerprint traces by chemical and physicochemical methods. The second part of the laboratory exercises consists of qualitative and quantitative analysis used in forensic science using chromatographic techniques including gas chromatography, thin-layer chromatography.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	report from KAS laboratories	51.0%	40.0%
	report from KCHA laboratories	51.0%	60.0%
Recommended reading	Basic literature	1. Z. Ruskowski, Fizykochemia kryminalistyczna, CLK KGP, Warszawa 1992. 2. J. Moszczyński, Ślady w kryminalistyce, Difin, Warszawa 2007. 3. Stepnowski P., Synak E., Szafranek B., Kaczyński Z. Techniki separacyjne. Wydawnictwo UG 2010.	
	Supplementary literature	1. L. Rodowicz, Kryminalistyczne badanie śladów obuwia, CLK KGP, Warszawa 2000. 2. J. Mazepa, Vademecum techniki kryminalistyki, Oficyna, Warszawa 2009.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. State the principle of operation of a liquid/gas chromatograph. 2. State the principle of chromatography. 3. Specify the method for detecting basic metal ions (Ag, Cu, Hg).		
Work placement	Not applicable		

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