

Subject card

Subject name and code	Spectroscopy in Forensics, PG_00188309						
Field of study	Spektroskopia w analizie kryminalistycznej (Ćw.laboratoryjne)						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study 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		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Laboratory of Biological Inorganic Chemistry -> Department of General and Inorganic Chemistry -> Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Krzysztof Żamojć				
	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		5.0		15.0	50
Subject objectives	Consolidate basic knowledge of spectroscopy, with particular emphasis on forensic analysis. Develop the ability to independently conduct experiments, interpret obtained results, and solve problems during experiments. Develop the ability to prepare laboratory reports, utilize available literature, and communicate and work in a team.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[AKRL3_K06] The graduate is ready to follow occupational health and safety regulations in the laboratory and care for the safety of themselves and others.	The student knows the principles of occupational health and safety in the laboratory.	[SK2] prezentacja/projekt/referat/ raport [SK5] realizacja zadania problemowego [SK8] obserwacja samodzielnej lub zespołowej pracy studenta
	[AKRL3_W03] The graduate knows and understands the structure and chemical properties of compounds relevant in forensic examinations.	The student knows and understands the structure and chemical properties of compounds important in forensic research.	[SW2] prezentacja/projekt/referat/ raport [SW5] realizacja zadania problemowego
	[AKRL3_U03] The graduate is able to perform analyses using instrumental methods (spectroscopy, chromatography, microbiological tests) and interpret research results.	The student is able to operate the research equipment used and correctly interpret the results of spectroscopic studies.	[SU2] prezentacja/projekt/referat/ raport [SU5] realizacja zadania problemowego [SU8] obserwacja samodzielnej lub zespołowej pracy studenta
	[AKRL3_U02] The graduate can plan and organize individual and team work and collaborate with others in team projects (including interdisciplinary teams).	Applies health and safety principles while working at a research and measurement station. Is convinced of the importance of understanding the relationships between knowledge acquired during classes and phenomena and problems known from direct experience and general knowledge of the contemporary world. Works individually, demonstrating initiative and independence in their actions, and collaborates effectively in a team.	[SU2] prezentacja/projekt/referat/ raport [SU5] realizacja zadania problemowego [SU8] obserwacja samodzielnej lub zespołowej pracy studenta
	[AKRL3_K02] The graduate is ready to make reliable, objective decisions and take responsibility for the interpretation of research results.	The student is able to correctly and reliably interpret the results of spectroscopic studies.	[SK2] prezentacja/projekt/referat/ raport [SK5] realizacja zadania problemowego [SK8] obserwacja samodzielnej lub zespołowej pracy studenta
Subject contents	1. Spectroscopic analysis using UV-Vis spectrophotometry. 2. Spectroscopic analysis using fluorescence spectroscopy. 3. Spectroscopic analysis using infrared spectroscopy.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Own work	0.0%	20.0%
	Laboratory report	51.0%	80.0%
Recommended reading	Basic literature	R.M. Silverstein, F.X. Webster, D.J. Kiemle, "Spektroskopowe metody identyfikacji związków organicznych" W. Zieliński, "Metody spektroskopowe i ich zastosowanie do identyfikacji związków organicznych"	
	Supplementary literature	Z. Kęcki, "Podstawy spektroskopii molekularnej"	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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