University of Gdańsk

Subject card

Subject name and code	Principles of Forensic Laboratory Operations, PG_00188354						
Field of study	Forensic Analytics						
Date of commencement of studies	October 2026		Academic year of realisation of subject	2028/2029			
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	3		Language of instruction	Polish			
Semester of study	6		ECTS credits	2.0			
Learning profile	academic		Assessment form	credit			
Conducting unit	Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Joanna Makowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	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	• Ability to design a workspace for research involving evidence material. • Improving the ability to select analytical methods for a specific forensic problem. • Developing the ability to formulate and justify conclusions based on performed analyses. • Developing skills in teamwork and discussion regarding analytical procedures in a forensic laboratory.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[AKRL3_U02] The graduate can plan and organize individual and team work and collaborate with others in team projects (including interdisciplinary teams).	The student is able to plan and organize individual work and cooperate within a team during forensic analyses, participating in the development of examination results and solving interdisciplinary problems.	[SU5] implementation of a problem task [SU6] demonstration of practical skills [SU8] observation of student's independent or team work
[AKRL3_W03] The graduate knows and understands the structure and chemical properties of compounds relevant in forensic examinations.	Student knows the chemical properties and significance of compounds used and identified in contemporary forensic investigations and understands their role in the interpretation of evidence material using modern analytical methods.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report [SW5] implementation of a problem task
[AKRL3_K07] The graduate is ready to fulfil social obligations and initiate actions in the public interest.	The student is prepared to responsibly use the results of forensic analyses and act in accordance with the principles of professional ethics and the public interest.	[SK1] oral statement/conversation/ discussion [SK3] text preparation/written work
[AKRL3_K04] The graduate is ready to cooperate with representatives of other fields—law, medicine, biology—within forensic expertise.	Student is prepared to cooperate with representatives of law, medicine, biology, and other fields in the application of modern methods and current trends in forensic science during the preparation of forensic expert opinions.	[SK1] oral statement/conversation/ discussion [SK5] implementation of a problem task [SK8] observation of student's independent or team work
[AKRL3_U01] The graduate is able to identify, analyse and solve complex research problems in chemistry and forensic science by selecting appropriate methods and information sources.	Student is able to analyze problems related to modern forensic science, select appropriate analytical methods, and use various sources of information to interpret evidence material and formulate conclusions	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written [SU5] implementation of a problem task
[AKRL3_K08] The graduate is prepared to think and act in an entrepreneurial manner, seeking innovative solutions, improving analytical processes, and initiating activities that support the modernization of forensic practice	The student is prepared to seek innovative and cost-effective solutions in analytical methods used in forensic science and to improve the organization and course of the analytical process.	[SK2] presentation/project/paper/ report [SK5] implementation of a problem task [SK6] demonstration of practical skills
[AKRL3_W10] The graduate knows and understands the principles of safe work in chemical and biological laboratories, including procedures for handling hazardous and infectious materials.	Student knows and understands the principles of safe work with modern analytical techniques used in forensic science as well as procedures for handling hazardous, biological, and potentially infectious materials during laboratory analyses.	[SW5] implementation of a problem task

Subject contents

The practical classes cover issues related to the organization of work in a forensic laboratory, the design of analytical procedures, and the selection of appropriate research methods depending on the type of evidence material being analyzed. Students learn how to interpret the results of forensic examinations, formulate and justify conclusions, and prepare elements of forensic expert opinions based on case study analyses. The classes also develop teamwork skills and the ability to discuss the course of the analytical process.

Prerequisites and co-requisites

Completed courses in:

- Analytical Chemistry
- Fundamentals of Jurisprudence
- Fundamentals of Forensic Biology

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Written examination (open-ended and multiple-choice questions) covering the topics discussed during the classes.	51.0%	100.0%

Recommended reading

Basic literature	1. Act of 6 June 1997 Code of Criminal Procedure 2. Good Practices for Forensic Technicians / edited by Adam Frankowski and Piotr Trojanowski 3. Act of 29 July 2005 on Counteracting Drug Addiction
Supplementary literature	n/a

	eResources addresses	
Example issues/ example questions/ tasks being completed	• Analysis of case studies concerning real forensic problems. • Development of a research procedure algorithm for selected evidence material. • Selection of appropriate analytical techniques for the identification of evidence material. • Interpretation of analytical results and preparation of final conclusions. • Preparation of a simplified forensic expert opinion based on the provided data.	
Work placement	Not applicable	

Document generated electronically. Does not require a seal or signature.