University of Gdańsk

Subject card

Subject name and code	Fundamentals of Chemistry - lecture, PG_00132592		
Field of study	Criminology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	Master's studies	Subject group	Optional subject group
Mode of study	part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit	Department of Bioinorganic Chemistry -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Agnieszka Chylewska	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

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	15	0.0	35.0	50

Subject objectives

getting acquainted with the basic chemical laws and concepts used in forensic research methods

Learning outcomes

Course outcome	Subject outcome	Method of verification
[KRYMMU2_UW01] The graduate utilizes theoretical knowledge in the field of criminology and the related scientific disciplines to analyze and interpret problems connected with widely understood crime	Applies acquired chemical knowledge and uses it to solve forensic problems. Adapts information from the basics of chemistry to unusual situations. Selects a convenient research method to solve the problem using chemical knowledge. 4. Adapts chemical information to unusual, new situations. 5. Creatively selects an appropriate research method to solve problems using chemical knowledge.	[SU4] test/exam - oral or written
[KRYMMU2_WG01] The graduate demonstrates widened knowledge about legal science and related penal sciences, their the place in the system of sciences and mutual relation	Can combine legal sciences with chemical sciences and use them synergistically in forensic research.	[SW4] test/exam - oral or written
[KRYMMU2_KK01] The graduate is aware of the level of his/her knowledge and skills, and also understands the need of lifelong learning	Understands the need for further education to obtain qualifications. Be careful when contacting unknown substances that pose a potential threat to life.	[SK4] test/exam - oral or written

Subject contents	Basic chemical laws and concepts; general classification and characterization of chemical substances along with their applications in research methods; the use of quantitative composition calculations of compounds as crime traces; general outline and classification of research methods with particular emphasis on physical phenomena and laws applied in equipment used for forensic analysis; examples of chemical applications and reactions in forensic analysis; microtrace analysis based on basic inorganic compounds; and the development of chemical research methods in forensic science over the past decade.	
Prerequisites and co-requisites		
Assessment methods and criteria		

Subject passing criteria	Passing threshold	Percentage of the final grade
Exam	51.0%	100.0%

Recommended reading	Basic literature	Wykaz literatury A. Literatura wymagana do ostatecznego zaliczenia zajęć (zdania egzaminu): A.1. wykorzystywana podczas zajęć: Hanausek T. (2000) Kryminalistyka. Zarys wykładu. Zakamycze. Kraków. Bader H. J., Rothweil M., Maciejowska I., Wietecha-Posłuszny R. (2008) Chemia sądowa. Chemia w szkole, 5/2008: 14-21. De Wael K., Lepot L., Gason F., Gilbert B. (2008) In search of blood Detection of minute particles using spectroscopic methods. Forensic Science International, 180: 37-42. Wood M., Laloup M., Samyn N., Morris M. R., De Brujn E. A., Maes R. A., Young M. S., Maes V., De Boeck G. (2004) Simultaneous analysis of gammahydroxybutyric acid and its precursors in urine using liquid chromatographytandem mass spectrometry. Journal of Chromatography A, 1056: 83-90. Ruffell A., McKinley J. (2005) Forensic geoscience: applications of geology, geomorphology and geophysics to criminal investigations. Earth- Science Reviews, 69: 235-247. Kaplan I.R., Galperin Y., Lu S.T. & Lee R.P. (1997) Forensic Environmental Geochemistry: differentiation of fuel types, their sources and release time. Organic Geochemistry, 27: 289-317. A.2. studiowana samodzielnie przez studenta Kulicki M. (1994) Kryminalistyka. Wydawnictwo UMW. Toruń. Migaszewski Z. M., Gałuszka A. (2006) Geologiczny dowód zbrodni - geologia sądowa w postepowaniu karnym, Przegląd Geologiczny, 54: 484- 487. Sołtyszewski I., Polak P. (2007) Badania kryminalistyczne. Wyd. UMW. Olsztyn. Wójcikiewicz J. (2002) Ekspertyza sądowa, Zakamycze. Kraków.

	Supplementary literature	B. Literatura uzupełniająca Gałuszka A., Zelek M. (2008) Geolog detektywem? Mente et malleo w kryminalistyce. Materiały z konferencji II Dni Kryminalistyki Wydziału Prawa Uniwersytetu Rzeszowskiego. Migaszewski Z. M., Gałuszka A. (2007) Podstawy geochemii środowiska. WNT. Warszawa. Pikulski S. (1997). Podstawowe zagadnienia taktyki kryminalistycznej. Wyd. TEMIDA 2. Białystok
	eResources addresses	Supplementary https://bg.ug.edu.pl/ - Books and e-books.
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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