

Subject card

Subject name and code	Ballistics - lecture, PG_00132537						
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			Obligatory subject group in the field of study		
Mode of study	part-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			exam		
Conducting unit	Department of Material Criminal Law and Criminology -> Faculty of Law and Administration -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Adrian Wrocławski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	0.0	0.0	10
	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	10		0.0		40.0	50
Subject objectives	Introduction to the legal and forensic issues of firearms and ammunition and the effects and traces of their use in the commission of crimes. To familiarise students with the possibility of using ballistics in evidence. To assimilate and make students understand general concepts related to firearms, ballistics and forensics. To know the basic legal regulations related to firearms and ammunition to be able to interpret and apply these regulations.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[KRYMMU2_WG02] 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		The student understands and can explain the relationship between natural sciences such as chemistry, physics and biology and ballistics, which is based primarily on empirical research		[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion		
	[KRYMMU2_WG05] Has an in-depth knowledge of methods and tools, including data and information extraction techniques, specific to criminology and forensic science		The student is familiar with methods and tools, including techniques for obtaining data and information, appropriate to the the studied field of study, with taking into account the specifics of criminology and forensic science		[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion		
	[KRYMMU2_KK01] Is aware of the level of his knowledge and skills, and understands the need for lifelong learning		The student is aware of the level of his knowledge and skills, understands the need for lifelong learning and is ready to continuously improve his knowledge. In particular, this is reflected in ballistics, which is based on the results of natural sciences.		[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written		

Subject contents	<p>1. The concept of weapons and an outline of the history of their development</p> <p>2. Forensic systematics of small arms</p> <p>3. Construction of firearms</p> <p>4. Ammunition and its classification</p> <p>5. Ballistics (classical and chemical)</p> <p>6. Forensic-weapons expertise</p> <p>(a) technical evaluation of firearms and ammunition</p> <p>(b) individual and group identification of firearms on the basis of traces left behind</p> <p>(c) determination of distance and direction of shots</p> <p>(d) identification of the shooter</p> <p>7. Gunshot injuries</p> <p>8. Securing firearms and ammunition and traces of their use for examination.</p> <p>9. Firearms, bullets and shells casings files</p>								
Prerequisites and co-requisites	No								
Assessment methods and criteria	<table border="1" data-bbox="448 1084 1490 1151"> <thead> <tr> <th data-bbox="448 1084 794 1122">Subject passing criteria</th> <th data-bbox="794 1084 1141 1122">Passing threshold</th> <th data-bbox="1141 1084 1490 1122">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 1122 794 1151">Exam</td> <td data-bbox="794 1122 1141 1151">51.0%</td> <td data-bbox="1141 1122 1490 1151">100.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Exam	51.0%	100.0%
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Exam	51.0%	100.0%							
Recommended reading	Basic literature	<p>1. J. Widacki (red.), Kryminalistyka, Warszawa 2018</p> <p>2. M. Kulicki, V. Kwiatkowska-Wójcikiewicz, L. Stępka, Kryminalistyka, Toruń 2009</p> <p>3. D.E. Carlucci, S.S. Jacobson, Ballistics, Theory and Design of Guns and Ammunition, Taylor & Francis Group, 2014</p> <p>4. T. Marcinkowski, Medycyna sądowa dla prawników, Tom. I, Poznań 2000</p> <p>5. J. Wójcikiewicz (red.), Ekspertyza sądowa. Zagadnienia wybrane, Warszawa 2007</p> <p>6. M. Kulicki, J. Wnorowski, Ocena śladów strzałów z pobliza oddanych z 9 mm pistoletu maszynowego wzoru 1963 [w:] Zeszyty Naukowe Akademii Spraw Wewnętrznych, 1974, nr 4</p> <p>7. M. Kulicki, J. Wnorowski, Wyrzut łusek przy strzałach z 9 mm pistoletu maszynowego wz. 1963, [w:] Zeszyty Naukowe Akademii Spraw Wewnętrznych, 1975, nr 8</p> <p>8. M. Kulicki, Kryminalistyczne problemy użycia broni palnej: na przykładzie badań kbk AK, kal. 7,62 mm, Poznań 1972</p> <p>9. L. Radziszewski, Balistyka końcowa pocisków małokalibrowych przy strzelaniu do wybranych celów. Kielce 2000</p>							

	Supplementary literature	1. G.Leśniak, M. Pac: Badania teoretyczne i doświadczalne działania mechanizmów broni automatycznej z odprowadzeniem gazów, Warszawa 2017 2. Z.Brożek-Mucha, Balistyka chemiczna, Kraków 2008
	eResources addresses	
Example issues/ example questions/ tasks being completed	Familiarisation with the principles of the different types of firearms, Familiarisation with the forensic traces left by firearms, Solving basic ballistics tasks, Identifying medico-forensic traces of firearm use, Shooting range activities.	
Work placement	Not applicable	

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