



Subject card

Subject name and code	Methodology of scientific research, PG_00031934						
Field of study	Metodologia pracy naukowej						
Date of commencement of studies	February 2026		Academic year of realisation of subject			2026/2027	
Education level	second-cycle studies		Subject group			Humanistic-social subject group	
Mode of study	Full-time studies		Mode of delivery			at the university	
Year of study	1		Language of instruction			Polish	
Semester of study	2		ECTS credits			1.0	
Learning profile	general academic profile		Assessment form			assessment	
Conducting unit	Department of Atomic Physics and Luminescence -> Faculty of Applied Physics and Mathematics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Mateusz Zawadzki				
	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		2.0		8.0	25
Subject objectives	Acquainting students with principles of scientific research.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_K02] can systematically work on long-term projects	The student is able to work systematically on long-term projects, demonstrating consistent effort, effective planning, and time management to achieve project goals.	[SK3] Ocena umiejętności organizacji pracy
	[K7_W07] has extended knowledge of the methodology of physics laboratory work, based on experience in laboratory work, knows the health and safety rules, sufficient for independent work at the research or measuring position	The student knows the basic principles and methods of conducting scientific research, including experiment planning, data analysis methods, and the principles of formulating research hypotheses. They understand the importance of reliability and reproducibility of scientific results and are familiar with the basics of research ethics. The student is able to independently plan and carry out scientific research using appropriate methods and analytical tools. They can critically evaluate the results of their own research as well as literature studies, and prepare scientific reports and presentations. The student understands the need for continuous development of scientific competencies and can work collaboratively in a research team. They demonstrate awareness of scientific responsibility and adhere to ethical principles in scientific work.	[SW1] Ocena wiedzy faktograficznej [SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym
	[K7_W05] knows the theoretical basis of the functioning of physical scientific equipment	The student understands the theoretical principles behind the functioning of scientific physical instruments used in experimental research. They are able to explain how selected measurement devices work and assess their suitability for specific research objectives. The student recognizes the importance of choosing appropriate measurement methods and equipment in the context of the reliability and accuracy of the obtained results.	[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym
Subject contents	Course content – lecture 1. What is science and what is not science? 2. Scientific career in Poland vs. in other countries. 3. Ethics in science and engineering. 4. Principles of using scientific literature and scientific information databases. 5. Principles of scientific writing and publishing. 6. Principles of preparations of oral presentations.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Grade of an essay on a prescribed subject	100.0%	100.0%
Recommended reading	Basic literature	A. F. Chalmers, What is this thing called Science?, 2nd ed., University of Queensland Press, St. Lucia, 1982	

	Supplementary literature	1. Ustawa o stopniach naukowych i tytule naukowym oraz o stopniach i tytule w zakresie sztuki 2. Rozporządzenie w sprawie kryteriów oceny osiągnięć osoby ubiegającej się o nadanie stopnia doktora habilitowanego 3. Rozporządzenie w sprawie szczegółowego trybu i warunków przeprowadzania czynności w przewodach doktorskich, w postępowaniu habilitacyjnym oraz w postępowaniu o nadanie tytułu profesora 4. M. Mazur, Historia naturalna polskiego naukowca, PIW, Warszawa, 1970 5. CRA-W Career Mentoring Workshops Booklet 6. Opracowanie "Rzetelność w badaniach naukowych oraz poszanowanie własności intelektualnej" 7. Kodeks Etyki Pracownika Naukowego 8. "Dobre obyczaje w nauce" - zbiór zasad i wytycznych 9. Opracowanie "Dobra praktyka naukowa" 10. Z. Cywiński, O nową filozofię budownictwa, Wydawnictwo Politechniki Gdańskiej, Gdańsk, 2009 (wyd. 1), 2010 (wyd. 2)
	eResources addresses	
Example issues/ example questions/ tasks being completed	Essay "Plagiarism".	
Practical activities within the subject	Not applicable	

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