



Subject card

Subject name and code	, PG_00069971						
Field of study	Zaawansowana aparatura badawcza w nauce o materiałach						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2025/2026		
Education level	second-cycle studies		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		4.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Magdalena Jażdżewska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	60.0	0.0	0.0	60
	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	60		5.0		35.0	100
Subject objectives	The aim of the course is to familiarize students with the structure, operating principles, and application possibilities of advanced measuring equipment used in the study of engineering material properties. Students will acquire the ability to select appropriate measurement methods and instruments depending on the type of material being tested and the nature of the analyzed properties.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U13] evaluates the feasibility and potential for utilizing new technical and technological achievements in accomplishing tasks characteristic for the field of study		The student is able to assess the usefulness and applicability of new research methods.		[SU4] Ocena umiejętności korzystania z metod i narzędzi		
	[K7_W04] demonstrates knowledge covering selected topics of advanced specific knowledge, in particular methods, techniques, tools specific to Mechanics and Mechanical Engineering processes, systems and equipment		The student knows the structure and operation of equipment used for testing and evaluating surface-modified materials.		[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym		
Subject contents	Course content – laboratory Structure and operating principles of selected measuring instruments used in materials testing. Application of equipment for evaluating the mechanical, physicochemical, and structural properties of materials. Criteria for selecting measuring instruments for a specific type of study. Analysis and interpretation of results obtained using advanced measurement methods. Development of a research plan for a selected material using the available equipment.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Report of the completed tasks.		60.0%		100.0%		

Recommended reading	Basic literature	Current scientific publications from renowned journals such as <i>Materials Science and Engineering A</i>
	Supplementary literature	Current scientific publications from renowned journals such as <i>Materials Science and Engineering A</i>
	eResources addresses	
Example issues/ example questions/ tasks being completed	Structure and operation of measuring instruments used in engineering materials testing Methods for evaluating the mechanical and structural properties of materials Planning and conducting research using advanced measuring equipment	
Practical activities within the subject	Not applicable	

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