

Subject card

Subject name and code	Analysis of Experimental Data , PG_00167087						
Field of study	Opracowanie danych pomiarowych						
Date of commencement of studies	October 2025		Academic year of realisation of subject			2025/2026	
Education level	Bachelor's studies		Subject group			Obligatory subject group in the field of study	
Mode of study	full-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	Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Justyna Barzowska				
	Teachers		dr Justyna Barzowska				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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		0.0		25.0	55
Subject objectives	not applicable						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BJORL3_W03] knows how to plan and perform a simple physical or chemical experiment and analyze the results obtained; knows the elements of the theory of measurement uncertainty as applied to experiments; knows the basic units of the SI system and its most important derived units; knows other systems of measurement units	not applicable	[SW1] wypowiedź ustna/rozmowa/ dyskusja [SW3] opracowanie tekstowe/ praca pisemna
	[BJORL3_U06] is able to use basic application software packages for presentation of results and data analysis	not applicable	[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU3] opracowanie tekstowe/ praca pisemna
	[BJORL3_U04] Can use mathematical and computer apparatus to analyze and solve problems in radiological protection and nuclear safety	not applicable	[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU3] opracowanie tekstowe/ praca pisemna
	[BJORL3_W02] Understands the role of physical and chemical experimentation, mathematical theoretical models approximating reality, and computer simulations in scientific research methodology; is aware of technological, apparatus, and methodological limitations in scientific research	not applicable	[SW1] wypowiedź ustna/rozmowa/ dyskusja [SW3] opracowanie tekstowe/ praca pisemna
	[BJORL3_U02] Has the ability to perform measurements of basic quantities used in physics and chemistry; can develop, describe and present the results of simple experiments and computer simulations; can perform quantitative analyses and formulate qualitative conclusions on this basis; can estimate measurement uncertainties	not applicable	[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU3] opracowanie tekstowe/ praca pisemna
Subject contents	1. Basic concepts concept of measurement, direct and indirect measurements, representation of measurement uncertainties, and rounding of results. 2. Mean value and standard (statistical) uncertainty (deviation) of a series of direct measurements. 3. Mean value of a series of independent and dependent indirect measurements. 4. Evaluation of the maximum uncertainty in indirect measurements using the total differential method. 5. Combined standard uncertainty of a series of independent and dependent indirect measurements. 6. Evaluation of uncertainty in cases where random and systematic uncertainties are comparable. 7. Graphical representation of experimental data, selection of scale and units, presentation of measurement errors on graphs, and interpretation of relationships between physical quantities. 8. Linear regression method fitting a linear function to experimental results.		
Prerequisites and co-requisites	not applicable		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	not applicable	51.0%	60.0%
	not applicable	51.0%	30.0%
	not applicable	0.0%	10.0%
Recommended reading	Basic literature	not applicable	
	Supplementary literature	not applicable	
	eResources addresses		
Example issues/ example questions/ tasks being completed	not applicable		
Work placement	Not applicable		

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