University of Gdańsk

Subject card

Subject name and code	Physics for oceanographers - laboratory exercises, PG_00103327		
Field of study	Oceanography		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research 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	2	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Laboratory of Physical Oceanography -> Department of Physical Oceanography and Climate Research -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Aleksandra Cupiał	
	Teachers	dr Aleksandra Cupiał dr Jordan Badur dr inż. Grzegorz Cerkowniak	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	18.0	0.0	0.0	18
	E-learning hours included: 0.0						
	Additional information:						

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	18	12.0	20.0	50

Subject objectives	Developing necessary skills for science observations and their analysis as well as interpretation.

Learning outcomes

Course outcome	Subject outcome	Method of verification
OCEANL3-W01	Knowledge and understanding of terminology used in physics at an advanced level.	[SW2] presentation/project/paper/ report
OCEANL3-W02	Understanding and correct describing elementary physical phenomena occurirng in nature, including sea environment, as well as laws that govern such phenomena.	[SW2] presentation/project/paper/ report
OCEANL3-U03	Ability to processing of laboratory measurements results in a synthetic way and development of correct conclusions.	[SU2] presentation/project/paper/ report
[OCEANL3-K05] is willing to take responsibility for the safety of his/ her own and others' work, is aware of the risks and threats resulting from the work performed	Readiness to take responsibility for its own and other students safety during work at the physical laboratory, awareness of the risks.	[SK8] observation of student's independent or team work
OCEANL3-U04	Ability to search for information in polish and english specialistic literature as well as websites in the field of physics.	[SU2] presentation/project/paper/ report
OCEANL3-W07	Knowledge and understanding of occupational health and safety rules in the laboratory.	[SW2] presentation/project/paper/ report

Subject contents

Measurements errors (uncertainties) and their propagation. Experiments relates to three branches of physics: mechanics, heat and macroscopic properties of matter. Rules of conduct in the laboratory.

Prerequisites and co-requisites

Differential and integral calculus as well as vector algebra at elementary level

Assessment methods and criteria

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

Recommended reading

Basic literature	Samuel J. Ling, William Moebs , Jeff Sanny, 2018, University physics, OpenStax Polska
Supplementary literature	1. Jearl Walker, 2011. Problems in elementary physics. Wydawnictwo: Naukowe PWN. 2. Paul G. Hewitt, 2010. Conceptual physics Wydawnictwo Naukowe PWN. 3. David Halliday, Robert Resnick, Jearl Walker, 2007. Fundamentals of physics - part 1 Mechanics. Wydawnictwo Naukowe PWN. 4. David Halliday, Robert Resnick, Jearl Walker, 2007 - Fundamentals of physics - part 2. Mechanics, oscillations and waves, thermodynamics. Wydawnictwo Naukowe PWN. 5. David Halliday, Robert Resnick, Jearl Walker, 2007. Fundamentals of physics - part 3 Electricity and magnetism. Wydawnictwo Naukowe PWN. 6. David Halliday, Robert Resnick, Jearl Walker, 2007. Fundamentals of physics - part 4 Electromagnetic waves, optics and relativity theory. Wydawnictwo Naukowe PWN. 7. David Halliday, Robert Resnick, Jearl Walker, 2007. Fundamentals of physics - part 5 Modern physics. Wydawnictwo Naukowe PWN. 8. M.Born, E.Wolf, 1988. Principles of Optics. Pergamon Press, London. 9. H. Szydlowski, 1973, Physical laboratory, PWN
eResources addresses	Adresy na platformie eNauczanie: ATC-WOiG-OCEAN-L3DZ-(2024/2025) Fizyka laboratorium niepewności pomiarów

Example issues/ example questions/ tasks being completed

How can the acceleration of gravity be determined with the use of pendulum?

Work placement

Not applicable

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