University of Gdańsk

Subject card

Subject name and code	Physics Lab I Electomagnetism, wave phenomena, PG_00146132						
Field of study	Physics						
Date of commencement of studies	October 2024		Academic year of realisation of subject	2026/2027			
Education level	Bachelor's studies		Subject group	Obligatory subject group in the field of study Optional subject group			
Mode of study	full-time studies		Mode of delivery	at the university			
Year of study	3		Language of instruction	Polish not applicable			
Semester of study	5		ECTS credits	3.0			
Learning profile	academic		Assessment form	credit			
Conducting unit	Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor	dr Joanna Gondek					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	45.0	0.0	0.0	45
	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	45		0.0	45.0	90	
Subject objectives	not applicable						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[FIZL3_W14] knows the basic principles of ergonomics and occupational health and safety	not applicable	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[FIZL3_W15] has a basic knowledge of the legal and ethical considerations involved in scientific and teaching activities	not applicable	[SW2] presentation/project/paper/ report
[FIZL3_W16] knows and understands the basic concepts and principles of industrial property protection and copyright law, and the principles of using patent information resources	not applicable	[SW2] presentation/project/paper/ report
[FIZL3_U01] can formulate basic physical laws using mathematical formalism	not applicable	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
[FIZL3_U02] has the ability to perform measurements of basic physical quantities; can develop, describe and present the results of simple physical experiments and computer simulations; can perform quantitative analyses and formulate qualitative conclusions on this basis; can estimate measurement uncertainties	not applicable	[SU2] presentation/project/paper/ report
[FIZL3_U03] can apply the formalism of classical physics to describe phenomena at the macroscopic level	not applicable	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
[FIZL3_U05] can describe electric and magnetic fields in vacuum and in material media, as well as physical phenomena occurring in electric circuits; can classify material media by the way they interact with an external electromagnetic field	not applicable	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
[FIZL3_U07] has the ability to quantitatively analyze vibrational and wave motion and describe optical and acoustic phenomena and the interaction of light with matter	not applicable	[SU2] presentation/project/paper/ report
[FIZL3_U15] is able to work in a team, plan and organize his own work and that of the team	not applicable	[SU1] oral statement/conversation/ discussion
[FIZL3_K03] is aware of and understands the social aspects of the practical application of acquired knowledge and skills and the associated responsibility	not applicable	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
[FIZL3_K06] is aware of professionalism and adherence to professional ethics	not applicable	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
[FIZL3_W01] has advanced knowledge of physical concepts, principles and theories, understands their historical development and significance not only for physics, but also for other exact and natural sciences and cognition of the world	not applicable	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[FIZL3_W02] understands the role of physical experiments, mathematical theoretical models approximating reality and computer simulations in the methodology of scientific research; is aware of technological, equipment and methodological limitations in scientific research	not applicable	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report

Course outcome	Subject outcome	Method of verification
[FIZL3_W08] has knowledge of the basic phenomena and laws of geometric optics, wave optics and photometry	not applicable	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[FIZL3_K02] can precisely formulate problems to deepen understanding of a given topic	not applicable	[SK1] oral statement/conversation/ discussion
[FIZL3_K01] knows the limitations of his own knowledge and understands the need for further education	not applicable	[SK1] oral statement/conversation/ discussion
[FIZL3_U10] can independently search for information in Polish and English-language professional and popular science literature, as well as on the Internet	not applicable	[SU2] presentation/project/paper/ report
[FIZL3_U11] is able to use basic application software packages for presentation of results and data analysis	not applicable	[SU2] presentation/project/paper/ report
[FIZL3_U08] can use mathematical apparatus and numerical methods to describe and model physical phenomena and processes	not applicable	[SU2] presentation/project/paper/ report
[FIZL3_W12] knows the basics of numerical analysis, knows at a basic level at least one package for symbolic calculations, knows basic application software packages for presentation of results and data analysis; knows the basics of programming and software engineering	not applicable	[SW2] presentation/project/paper/ report
[FIZL3_W13] knows basic measuring instruments, their construction and principle of operation, and applications of simple electronic circuits	not applicable	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[FIZL3_U16] can independently plan and implement his own learning	not applicable	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
[FIZL3_K08] is able to speak competently on basic problems of physics and its applications	not applicable	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
[FIZL3_K07] has a sense of responsibility for jointly implemented tasks; is able to interact and work in a group, assuming different roles in it	not applicable	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
[FIZL3_W03] knows how to plan and perform a simple physical experiment and analyze the results obtained; knows the elements of the theory of measurement uncertainty as applied to physical experiments, knows the basic units of the SI system and its most important derived units; knows other systems of measurement units	not applicable	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report

Subject contents

not applicable

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
not applicable	51.0%	40.0%
not applicable	51.0%	60.0%

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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