

Subject card

Subject name and code	Graduate Seminar II, PG_00182345						
Field of study	Physics						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2027/2028		
Education level	Master'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	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			4.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Ryszard Drozdowski				
	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		0.0		40.0	100
Subject objectives	improving the skills of presenting ones own work and scientific papers on the subject related to the masters thesis, learning the legal conditions for using the intellectual achievements of others, learning how to synthetically present ones own knowledge from the entire scope of the physics studied, improving the skills of popularising physics.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FIZMU2_W06] has knowledge of the current directions of development of physics and fundamental dilemmas of modern civilization	The student is familiar with: – principles governing the use of other people's achievements, – literature related to their specialization, including that published in English, – regularities of physical phenomena in various fields of physics, – achievements in experimental and theoretical physics, with particular emphasis on the specialization covered by their master's thesis, – various methods of presenting topics in physics.	[SW1] oral statement/ conversation/discussion [SW3] text preparation/written work
	[FIZMU2_K08] is ready to form competent opinions on advanced professional issues and opinions on certain issues of public interest	The student is aware of/ understands: – the need to cite sources used in preparing a speech/presentation and is able to cite sources appropriately, – the need to obtain permission from the author of drawings, tables, graphs, etc. to use them, and knows how to request such permission from the author, – the ethics of using the scientific and artistic achievements of others, – the need to popularize reliable knowledge in society.	[SK1] oral statement/conversation/ discussion [SK3] text preparation/written work [SK8] observation of student's independent or team work
	[FIZMU2_U08] can effectively communicate with both specialists and non-specialists in the area of study related to physics and to organize and lead discussions and debates on the subject	The student is able to: – use literature and original scientific works related to their specialization published in English, – concisely present the regularities of physical phenomena in various fields of physics, – present the assumptions, postulates, and limitations of physical theories, – present the achievements of experimental and theoretical physics, with particular emphasis on the specialization covered by their master's thesis, – use computer programs for an attractive audiovisual presentation of the discussed topic, – ask questions and engage in critical and substantive discussions.	[SU1] oral statement/conversation/ discussion [SU3] text preparation/written work [SU8] observation of student's independent or team work
	[FIZMU2_U06] is able to adapt the knowledge and methodology of physics, as well as the applied experimental and theoretical methods to related scientific disciplines	The student is able to: – use literature and original scientific works related to their specialization published in English, – concisely present the regularities of physical phenomena in various fields of physics, – present the assumptions, postulates, and limitations of physical theories, – present the achievements of experimental and theoretical physics, with particular emphasis on the specialization covered by their master's thesis, – use computer programs for an attractive audiovisual presentation of the discussed topic, – ask questions and engage in critical and substantive discussions.	[SU1] oral statement/conversation/ discussion [SU3] text preparation/written work [SU8] observation of student's independent or team work

Course outcome	Subject outcome	Method of verification
[FIZMU2_U10] is able to popularize science within their specialty or related areas of physics	The student is able to: – use literature and original scientific works related to their specialization published in English, – concisely present the regularities of physical phenomena in various fields of physics, – present the assumptions, postulates, and limitations of physical theories, – present the achievements of experimental and theoretical physics, with particular emphasis on the specialization covered by their master's thesis, – use computer programs for an attractive audiovisual presentation of the discussed topic, – ask questions and engage in critical and substantive discussions.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU8] observation of student's independent or team work
[FIZMU2_U04] can find the necessary information in professional literature, both in databases and in other sources; can reconstruct the reasoning or the course of an experiment described in the literature, taking into account the assumptions and approximations made	The student is able to: – use literature and original scientific works related to their specialization published in English, – concisely present the regularities of physical phenomena in various fields of physics, – present the assumptions, postulates, and limitations of physical theories, – present the achievements of experimental and theoretical physics, with particular emphasis on the specialization covered by their master's thesis, – use computer programs for an attractive audiovisual presentation of the discussed topic, – ask questions and engage in critical and substantive discussions.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU8] observation of student's independent or team work
[FIZMU2_U07] is able to present the results of research (experimental, theoretical or numerical) in written, oral, multimedia presentation or poster form	The student is able to: – use literature and original scientific works related to their specialization published in English, – concisely present the regularities of physical phenomena in various fields of physics, – present the assumptions, postulates, and limitations of physical theories, – present the achievements of experimental and theoretical physics, with particular emphasis on the specialization covered by their master's thesis, – use computer programs for an attractive audiovisual presentation of the discussed topic, – ask questions and engage in critical and substantive discussions.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU8] observation of student's independent or team work
[FIZMU2_K06] is aware of the risks associated with obtaining information from unverified sources, including the Internet	The student is aware of/ understands: – the need to cite sources used in preparing a speech/presentation and is able to cite sources appropriately, – the need to obtain permission from the author of drawings, tables, graphs, etc. to use them, and knows how to request such permission from the author, – the ethics of using the scientific and artistic achievements of others, – the need to popularize reliable knowledge in society.	[SK1] oral statement/conversation/discussion [SK3] text preparation/written work [SK8] observation of student's independent or team work

	Course outcome	Subject outcome	Method of verification
	[FIZMU2_K05] understands the need to popularize knowledge in the field of physics, including the latest scientific and technological achievements	The student is aware of/ understands: – the need to cite sources used in preparing a speech/presentation and is able to cite sources appropriately, – the need to obtain permission from the author of drawings, tables, graphs, etc. to use them, and knows how to request such permission from the author, – the ethics of using the scientific and artistic achievements of others, – the need to popularize reliable knowledge in society.	[SK1] oral statement/conversation/discussion [SK3] text preparation/written work [SK8] observation of student's independent or team work
	[FIZMU2_K01] knows the limitations of his own knowledge and skills; can formulate questions precisely; understands the need for further education and other	The student is aware of/ understands: – the need to cite sources used in preparing a speech/presentation and is able to cite sources appropriately, – the need to obtain permission from the author of drawings, tables, graphs, etc. to use them, and knows how to request such permission from the author, – the ethics of using the scientific and artistic achievements of others, – the need to popularize reliable knowledge in society	[SK1] oral statement/conversation/discussion [SK3] text preparation/written work [SK8] observation of student's independent or team work
	[FIZMU2_U11] is able to determine the directions of further improvement of knowledge and skills (including self-education) in the field of the selected specialization and beyond it	The student is able to: – use literature and original scientific works related to their specialization published in English, – concisely present the regularities of physical phenomena in various fields of physics, – present the assumptions, postulates, and limitations of physical theories, – present the achievements of experimental and theoretical physics, with particular emphasis on the specialization covered by their master's thesis, – use computer programs for an attractive audiovisual presentation of the discussed topic, – ask questions and engage in critical and substantive discussions.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU8] observation of student's independent or team work
	[FIZMU2_U09] can work independently or in a team	The student is able to: – use literature and original scientific works related to their specialization published in English, – concisely present the regularities of physical phenomena in various fields of physics, – present the assumptions, postulates, and limitations of physical theories, – present the achievements of experimental and theoretical physics, with particular emphasis on the specialization covered by their master's thesis, – use computer programs for an attractive audiovisual presentation of the discussed topic, – ask questions and engage in critical and substantive discussions.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU8] observation of student's independent or team work
Subject contents	Papers related to the broad topic of the master's thesis. Short papers covering the entire physics course preparing for the diploma examination.		

Prerequisites and co-requisites	<p>Formal requirements: successful completion of the first year of second-cycle studies.</p> <p>Prerequisites: knowledge of computer software enabling audiovisual presentation of the content being presented.</p>		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	not applicable	51.0%	80.0%
	not applicable	0.0%	20.0%
Recommended reading	Basic literature	lack	
	Supplementary literature	lack	
	eResources addresses		
Example issues/ example questions/ tasks being completed	lack		
Work placement	Not applicable		

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