University of Gdańsk

Subject card

Subject name and code	Diploma Seminar 1, PG_00205744						
Field of study	Medical 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	3		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 hab. Anna Synak				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	0.0	30.0	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		45.0	75
Subject objectives	The aim of Diploma Seminar I is to prepare students for the masters thesis by developing skills in searching for and critically analyzing scientific literature, formulating research problems, and planning research activities. The seminar also includes preparing literature reviews and their presentations, understanding the legal aspects of using the intellectual output of others, and improving the ability to present knowledge concisely and to popularize issues in the field of medical physics.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[FIZMEDMU2_W06] Knows and understands to an in-depth degree the current directions of development in physics and medical sciences, particularly in the field of medical physics, as well as the fundamental dilemmas of contemporary civilization	The student knows and understands current trends in the development of physics and medical sciences, with particular emphasis on medical physics. They are familiar with the latest research and technological achievements, such as novel imaging methods, therapeutic techniques, and applications of artificial intelligence in medicine. The student understands the impact of these developments on diagnostics, treatment, and the functioning of healthcare systems. They are also aware of the fundamental dilemmas of contemporary civilization arising from scientific and technological progress – including ethical, social, and environmental challenges – and recognize the need for the responsible application of scientific advances for the benefit of patients and society.	[SW1] oral statement/ conversation/discussion
[FIZMEDMU2_U03] Can find necessary information in professional literature, both in databases and other sources.	The student is able to independently search for essential information in professional literature, using both databases and other available sources. They can select and evaluate the quality of the materials found and apply them in solving research problems as well as in developing their own analyses and conclusions.	[SU2] presentation/project/paper/ report
[FIZMEDMU2_U05] Can present research results (experimental, theoretical, numerical, medical) in writing, orally, in a multimedia presentation or poster, using specialist terminology.	The student is able to present the results of experimental, theoretical, numerical, or medical research in written form, oral presentations, multimedia presentations, or posters, using appropriate specialist terminology, ensuring clarity, logical structure, and adapting the presentation to the audience. They are able to use the findings of other researchers in an ethical way, formulate research questions precisely, recognize the need for continuous learning for themselves and others, and select appropriate research methods to solve specific problems.	[SU2] presentation/project/paper/ report
[FIZMEDMU2_K01] Is ready to evaluate himself critically and the teams and organisations in which he participates in the context of his knowledge and skills, as well as the content he receives.	The student is ready to critically evaluate their own knowledge and skills and to reflect on their limitations. They are able to analyze the functioning of the teams and organizations they participate in, in the context of achieved goals and the quality of collaboration. The student demonstrates the ability to critically assess the content they receive, evaluating its reliability and relevance.	[SK1] oral statement/conversation/ discussion
[FIZMEDMU2_U06] Can effectively communicate on specialised topics in the field of physics and medical physics with diverse audiences (specialists and non-specialists), skillfully justifying his/her position.	The student is able to communicate effectively on specialist topics in physics and medical physics with both expert and non-expert audiences, adapting the language and form of communication to the knowledge level of the recipients. They present their arguments in a clear and logical manner, skillfully justify their position in discussions, and ensure that their communication is accurate, reliable, and understandable.	[SU1] oral statement/conversation/ discussion

	Course outcome	Subject outcome	Method of verification
	[FIZMEDMU2_K03] He is ready to take a scientific approach to the issues being solved, using scientific literature, as well as expert opinions, in case of difficulties in solving the problem on his own.	The student is ready to adopt a scientific approach when solving problems, basing their actions on professional literature and current sources of knowledge. When independent problem-solving proves difficult, they are able to use expert opinions, treating them as part of the learning process and professional development. The student is able to apply knowledge of medical physics while observing the ethical standards of the profession, work effectively in interdisciplinary teams, and communicate in a clear and accessible manner with people from diverse social and professional backgrounds.	[SK1] oral statement/conversation/ discussion
Subject contents	The seminar includes the preparation and presentation of reports and talks related to the masters thesis, allowing students to deepen their knowledge in their chosen area of research. An important component of the course is the analysis of professional literature, the preparation of literature reviews, and the discussion of the current state of knowledge on a given topic, which enables the proper justification of the undertaken research. Another element of the seminar is the extension and consolidation of general knowledge in physics and medical physics, with particular emphasis on its applications and significance in modern medicine, covering, among others, nuclear and particle physics, physical processes applied in medical contexts, and the application of physical methods in diagnostics and therapy. Altogether, the seminar prepares students for writing the masters thesis and for the final examination.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	presentation	51.0%	80.0%
	ctive participation in classes and discussions	51.0%	20.0%
Recommended reading	Basic literature	Provided by the instructors during the assignment of topics and selected independently by the student while preparing presentations.	
	Supplementary literature	not applicable	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Sample topics covered during the seminar, in addition to those directly related to masters theses: • Nuclear and particle physics • General issues physical processes applied in medical applications • Applications of physical methods in medicine		
Work placement	Not applicable		

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