

Subject card

Subject name and code	Philosophy of Science, PG_00158058						
Field of study	Quantum Information Technology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Master's studies		Subject group		Obligatory subject group in the field of study Humanistic-social subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		English		
Semester of study	3		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Patryk Dziurosz-Serafinowicz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15		0.0		15.0	30
Subject objectives	This course introduces students to the central problems discussed within philosophy of science. On the whole, the course gives students a robust understanding of how science works. Additionally, we will discuss some problems pertaining to philosophy of probability.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[QITL3_W01] has extended knowledge in the field of general physics and advanced knowledge in the area of quantum information theory; knows the history of the development of quantum information theory and its importance for the progress of science, knowledge of the world and social development	Students gain knowledge about some advanced problems within philosophy of science, physics, and probability.	[SW4] test/exam - oral or written
	[QITL3_U10] can popularize science within quantum information theory or related areas of physics	Students know how to popularise some problems within philosophy of science.	[SU4] test/exam - oral or written
	[QITL3_K08] is able to formulate competent opinions on professional issues and opinions on certain issues that concern general audience	Students know how to address scientific problems to public opinion.	[SK4] test/exam - oral or written
	[QITL3_K04] understands and appreciates the importance of intellectual honesty in one's own and other people's actions; is aware of ethical problems in the context of research integrity	Students gain knowledge about selected ethical problems of contemporary science.	[SK4] test/exam - oral or written
	[QITL3_K01] knows the limitations of his/hers knowledge and skills; can formulate questions precisely; understands the need for further education of oneself and other people	Students identify precisely the main concepts and problems of contemporary philosophy of science.	[SK4] test/exam - oral or written
Subject contents	1. Induction and inductivism 2. Falsificationism 3. Kuhns Scientific Revolutions 4. Realism and Anti-Realism in Science 5. Philosophy of Probability 6. Bayesian Confirmation Theory 7. Observation Selection Effects		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	50.0%	100.0%
Recommended reading	Basic literature	J. Ladyman. Understanding Philosophy of Science. Routledge, 2002. (selected chapters) M. Strevens. The Knowledge Machine. How Irrationality Created Modern Science. Liveright, 2020. (selected chapters) I. Hacking. An Introduction to Probability and Inductive Logic. CUP, 2001. (selected chapters) P. Godfrey-Smith. Theory and Reality. The University of Chicago Press, 2003. (selected chapters) E. Sober. Evidence and Evolution. The Logic Behind the Science. CUP, 2008. (selected chapters) A. F. Chalmers. What Is This Thing Called Science. Hackett, 1976. (selected chapters) Hájek, A., Hitchcock C. (editors), The Oxford Handbook of Probability and Philosophy, Oxford: Oxford University Press, 2016. (selected chapters)	
	Supplementary literature	-	
	eResources addresses		
Example issues/ example questions/ tasks being completed	-		
Work placement	Not applicable		

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