

Course description

1. GENERAL INFORMATION				
1.1. Course teacher	Marina Novina, PhD Assistant Professor		1.6. Year of the study	3
1.2. Name of the course	Philosophy of Science		1.7. ECTS credits	3
1.3. Associate teachers			1.8. Type of instruction (number of hours L + E + S + e-learning)	30+0+0+0
1.4. Study programme (undergraduate, graduate, integrated)	Undergraduate		1.9. Expected enrolment in the course	20-30
1.5. Status of the course	<input checked="" type="checkbox"/> mandatory	<input type="checkbox"/> elective	1.10. Level of application of e-learning (level 1, 2, 3), percentage of online instruction (max. 20%)	
2. COUSE DESCRIPTION				
2.1. Course objectives	The objectives of this course are (a) to acquaint students with the basic concepts and issues of philosophy of science, (b) to acquaint students with the origin and development of philosophy of science (c) to acquaint students with different concepts of science, (c) to train students for critical thinking and argue in context of philosophy of science.			
2.2. Enrolment requirements and/or entry competences required for the course	Enrolled in at least the third year of study.			
2.3. Learning outcomes at the level of the programme to which the course contributes	<p>Describe the fundamental problems dealt with by different philosophical disciplines, define them and reproduce them using philosophical concepts.</p> <p>Compare different philosophical directions and identify cause-and-effect relationships that have led to philosophical thought formation throughout history.</p> <p>Distinguish the subject of philosophy from other scientific disciplines and distinguish philosophical disciplines.</p> <p>Connect philosophical ideas and teachings with the philosophers to whom they belong.</p> <p>Form arguments in everyday and scientific use based on the literature read.</p> <p>Develop critical thinking.</p>			
2.4. Expected learning outcomes at the level of the course (3 to 10 learning outcomes)	<p>Describe the fundamental problems of philosophy of science, define them and reproduce them using philosophical concepts.</p> <p>Compare different philosophical understanding of science and identify cause-and-effect relationships that have led to such philosophical understandings.</p> <p>Distinguish the subject of philosophy from other scientific disciplines and understand science as the subject of philosophical inquiry.</p> <p>Connect philosophical teachings about the science with the philosophers to whom they belong.</p> <p>Form arguments on philosophical conceptions of science based on the literature read.</p> <p>Critically inquire philosophical conceptions of science.</p>			
2.5. Course content (syllabus)	Philosophy of science is a philosophical discipline that is considered a kind of successor to epistemology, but it is also inseparable from logic and metaphysics. Historically, its origin is related to the maturation of its subject, i.e. modern science. Philosophy of science in addition to general topics on the definition of science, its structure, methods, goals and shift theory includes analysis of basic concepts			

	<p>and methods of individual scientific disciplines, and the consequences of new results and methods of science on traditional philosophical problems.</p> <p>The content of the course will be presented through the following thematic units: 1) What is science? 2) History of science and philosophy of science 3) Structure of science 4) Language of science 5) Subject of science 6) Question of scientific method (induction, deduction; experiment; observation) 7) Question of scientific theories (Popper, Kuhn) 8) Quantum revolution (Copenhagen interpretation)) 9) Theory of relativity 10) Realism and antirealism (instrumentalism) 11) Philosophy of natural sciences (physics, biology) 12) Philosophy of social sciences (sociology, psychology) 13) Philosophy of mathematics 14) Cognitive science 15) Concluding remarks on aspects of science</p>									
2.6. Format of instruction:	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> online in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work					<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia and the internet <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)			2.7. Comments:	
2.8. Student responsibilities	Regular class attendance (for signature min. 80% of arrivals), regular preparation for classes, class activity.									
2.9. Monitoring student work	Class attendance	YES	NO	Research	YES	NO	Oral exam	YES	NO	
	Experimental work	YES	NO	Report	YES	NO	(other)	YES	NO	
	Essay	YES	NO	Seminar paper	YES	NO	(other)	YES	NO	
	Preliminary exam	YES	NO	Practical work	YES	NO	(other)	YES	NO	
	Project	YES	NO	Written exam	YES	NO	ECTS credits (total)			
2.10. Required literature (available in the library and/or via other media)	Title							Number of copies in the library	Availability via other media	
	Godfrey-Smith, Peter, <i>Theory and Reality: An Introduction to the Philosophy of Science</i> , Chicago and London: University Chicago Press, 2003.								+	
	O'Hear, Anthony, <i>An Introduction to the Philosophy of Science</i> , Clarendon Press, 1989.								+	
	Okasha, Samir, <i>Philosophy of Science: A Very Short Introduction</i> , Oxford University Press, 2016.								+	
	Rosenberg, Alexander. <i>Philosophy of Science</i> , London and New York, 2000.								+	
2.11. Optional literature	<p>Chalmers, Alan, <i>What is This Thing Called Science</i>, St. Lucia Queensland 1976.</p> <p>Carnap, Rudolf, <i>An Introduction to the Philosophy of Science</i>, New York: Basic Books, 1966.</p> <p>Duhem, Pierre, <i>The Aim and Structure of Physical Theory</i>, New Jersey: Princeton University Press, 1991.</p> <p>Feyerabend, Paul, <i>Against Method</i>, Verso, 2010.</p> <p>Hanson, Norwood Russell, <i>Patterns of Discovery</i>, Cambridge 1958.</p> <p>Harre, Rome, <i>The Philosophies of Science</i>, Oxford/New York, 1952.</p> <p>Heisenberg, Werner, <i>Physics and Philosophy: The Revolution in Modern Science</i>, Harper Perennial Modern Classics, 2007.</p>									

	<p>Hempel, Carl G. <i>Aspects of Scientific Explanation</i>, New York 1965. Kuhn, Thomas, <i>The Structure of Scientific Revolutions</i>, University of Chicago Press, 1996. Popper, Karl, <i>The Logic of Scientific Discovery</i>, Routledge, 2002. Suppe, Frederick (ed.): <i>The Structure of Scientific Theories</i>, Urbanna, Ill./Chicago/London 1974. Suppes, Patrick: <i>Models and Methods in the Philosophy of Science</i>, Dordrecht/Boston/London 1993. Toulmin, Stephen: <i>The Philosophy of Science</i>, London 1953.</p>
2.12. Other (as the proposer wishes to add)	