

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	PHILOSOPHY		
<b>ACADEMIC UNIT</b>	PHILOSOPHY AND SOCIAL STUDIES		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	Φ110	<b>SEMESTER</b>	3-8
<b>COURSE TITLE</b>	Philosophy of Science		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
	3	5	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	General background		
<b>PREREQUISITE COURSES:</b>	None		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek (Erasmus students can be given tutorials as well as take their exam in English or German)		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes (see above)		
<b>COURSE WEBSITE (URL)</b>			

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b></p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul>
<p>After successfully completing the course, the students</p> <ul style="list-style-type: none"> <li>• will have become familiar with the major chapters in the philosophy of science of the 20th century (from logical positivism to the historical turn) and will be able to assess what was at stake in the respective controversies</li> <li>• will have become familiar with concepts that are crucial for their further studies, such as the notions of scientific explanation, of scientific law, of the object of a particular science</li> <li>• will have puzzled over scientific rationality and the idea of scientific progress and will have acquired the capacity to adopt a critical view towards naïve positions in the matter</li> <li>• will have thought about the relation between philosophy and the particular sciences, as well as among the sciences themselves, and about the questions regarding interdisciplinary work</li> <li>• will have reflected on the relation between natural and social sciences and will have acquired the capacity to critically assess possible transfers of models and methods</li> </ul>

### General Competences

*Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?*

*Search for, analysis and synthesis of data and information, with the use of the necessary technology*  
*Adapting to new situations*  
*Decision-making*  
*Working independently*  
*Team work*  
*Working in an international environment*  
*Working in an interdisciplinary environment*  
*Production of new research ideas*

*Project planning and management*  
*Respect for difference and multiculturalism*  
*Respect for the natural environment*  
*Showing social, professional and ethical responsibility and sensitivity to gender issues*  
*Criticism and self-criticism*  
*Production of free, creative and inductive thinking*  
*.....*  
*Others...*  
*.....*

Independent work

Team work

Engagement in interdisciplinarity

Practicing criticism and self-criticism

Promotion of independent, creative and constructive thought

### (3) SYLLABUS

In this introductory course we will study (a) the main philosophical questions concerning science, i.e. questions about: the notions of scientific explanation and scientific law, the notion of scientific rationality and the idea of scientific progress, the object of a science and the idea of the unity of science, the relation between natural and social sciences, the relation between philosophy and the particular sciences. In that context, we will survey (b) the major chapters in the philosophy of science of the 20th century: the logical positivism of the Vienna Circle, Popper's fallibilism, Duhem's and Quine's holistic theses, the historical turn of the 1960's (Kuhn, Lakatos, Feyerabend), recent developments like the renaissance of scientific realism and its variants.

#### (4) TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of the platform UoC-eLearn for distributing course material and for communicating with students	
<b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.  The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	<b>Activity</b>	<b>Semester workload</b>
	Lecture attendance	39
	Study of literature	41
	Preparation for exam	42
	Written Exam	3
	<b>Course total</b>	<b>125</b>
<b>STUDENT PERFORMANCE EVALUATION</b> <i>Description of the evaluation procedure  Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other  Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	Written exam	

#### (5) ATTACHED BIBLIOGRAPHY

<p>- Suggested bibliography:</p> <ol style="list-style-type: none"> <li>1. Kent W. Staley, <i>An Introduction to the Philosophy of Science</i>, Cambridge UP, Cambridge 2014.</li> <li>2. A.F. Chalmers, <i>What is this thing called science? An assessment of the nature and status of science and its methods</i>, University of Queensland Press, St. Lucia 1992 (Greek translation: Crete UP 1994).</li> <li>3. James Ladyman, <i>Understanding Philosophy of Science</i>, Routledge, London 2002 (Greek translation: Crete UP 2015).</li> <li>4. Thomas S. Kuhn, <i>The structure of scientific revolutions</i>, University of Chicago Press, Chicago 1962 (Greek translation: Synchrona Themata, Athens 1997).</li> </ol> <p>- Related academic journals:</p> <ol style="list-style-type: none"> <li>1. <i>Studies in History and Philosophy of Science</i></li> <li>2. <i>British Journal for the Philosophy of Science</i></li> <li>3. <i>Philosophy of Science</i></li> </ol>
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4. *Journal for General Philosophy of Science*