COURSE GUIDE

CLASSICAL TOPICS IN PHILOSOPHY OF SCIENCE

3rd Year

Academic Year 2024-2025

Course of the Subject: Classical Topics in Philosophy of Science

		ECTS
SUBJECT: Classical Topics in Philosophy of Science		6
Module: Philosophy of Science		12
Type: Basic	**YEAR**: 3rd **Semester**: 2nd	
Lecturer(s): Dr. Romero Moreno, Álvaro	**Department:**	
	E-mail: alvaro.romero@ucv.es	

MODULE ORGANIZATION

CLASSICAL TOPICS IN PHILOSOPHY OF SCIENCE	ECTS 6
Duration and location within the study plan: t is part of the "Philosophy of Science" module, which contains one subject and two scheduled subjects (one in the third year, Classical Problems in the Philosophy of Science in the 2nd semester and another in the fourth year, Methodological and Social Aspects of Science). current research in the 1st semester), consisting of 12 ECTS.	

Subject Matter and Subjects

Subject Matter	ECTS	Subject	ECTS	Year/ semester
Philosophy of Science	6	Classical Topics in Philosophy of Science	6	3/2
	6	Methodological and social aspects of current research	6	4/1

BASIC AND GENERAL COMPETENCIES	Weighting			
	1	2	3	4
1. Organization and planning			X	
3. Problem-solving		X		
5. Interpersonal skills			X	
6. Intra- and interdisciplinary team work	X			
7. Ability to communicate with non-experts			X	
9. Ethical commitment		X		
10. Ability to apply knowledge to practical situations				X
11. Ability to learn and teach			X	
12. Ability to adapt to new situations and generate new ideas			X	

SPECIFIC COMPETENCIES	Weighting			
	1	2	3	4
17. To be able to pose philosophical questions				X
18. To be able to relate different philosophical topics			X	
21. To become acquainted with the central paradigms of scientific thinking				X
22. Conduct thought experiments.		X		
23. To write philosophical essays and show evidence of analytical and synthetic skills			X	
24. To analyze and question in a critical and reasoned way the metaphysical concepts related to the nature of reality and its implications			X	
25. To be able to understand and evaluate philosophical arguments				X
26. To be able to construct philosophical arguments			X	
27. To be able to attain a high level of reading comprehension of original foreign language philosophical texts	X			
30. To be able to examine and apply philosophical methods			X	
32. To be able to search, select and quote bibliography related to philosophy		X		
33. To be able to arrange and organize a complex set of relevant information from a philosophical point of view			X	
34. To comprehend and assess scientific methodologies in their different scopes				X
37. To use specialized philosophical terminology and recognize categorical errors			X	

40. Ability to participate in philosophy conferences, cultural activities, meetings and academic debates		X		
41. To recognize and describe the major stages, figures and works of philosophy				X

LEARNING OUTCOMES	COMPETENCIES
RA1. Distinguish between science and pseudo-science.	**CG:** 1, 5, 6, 7 **CE:** 22, 24,
RA2. Reproduce arguments used by science.	**CG:** 1, 3, 7, 10, 12 **CE:** 23, 32, 33
RA3. Understand the relationship of the philosophy of science to other parts of philosophy.	**CG:** 5, 9, 11, 12 **CE:** 24, 25, 26, 27, 30
RA4. Value the importance of linking science and consciousness.	**CG:** 6, 7, 9 **CE:** 23, 33
RA5. That the student understands the central paradigms of scientific thought.	**CE:** 17, 18, 21
RA6. Que el estudiante entienda y valore la metodología científica en todos sus diferentes aspectos, empleando la terminología apropiada.	**CE:** 34, 37, 40
RA7. That the student is able to describe stages, figures and central works of epistemology.	**CE:** 32, 33, 41

LEARNING ACTIVITIES THROUGH SYNCHRONOUS COMMUNICATION			
ACTIVITY	**Teaching-Learning Methodology**	**Relation to Learning Outcomes**	**ECTS [1]**
VIRTUAL SESSION	Presentation of the content by the teacher, analysis of competencies, explanation and demonstration of skills, abilities and knowledge in the virtual classroom.	**RA**: 3, 4, 6, 7	0,7
PRACTICAL SESSION	Group work sessions through chat moderated by the teacher. Case studies, both true and fictitious, for the construction of knowledge through the interaction and activity of the student, critical analysis of values and social commitment.	**RA**: 1, 2, 3	0,3
SEMINAR AND VIDEO-CONFERENCE	Monographic sessions throughout the course, oriented to current aspects and applications of the subject.	**RA**: 2, 3, 4	0,2
VIRTUAL EVALUATION	Set of written or oral tests, used in the initial, formative or summative evaluation of the student.	**RA**: 5, 6, 7	0,1
		TOTAL	**1,30**

[1] La asignatura y/o materia se organiza en **DOCENCIA VIRTUAL** y en TRABAJO AUTÓNOMO DEL ALUMNO, con un porcentaje estimado en ECTS. Una adecuada distribución es la siguiente: **40%** para las Actividades Formativas **DOCENCIA (60 horas)** y 60% para las de Trabajo Autónomo tutorizado (90 horas) para **una asignatura de 6 créditos.**

LEARNING ACTIVITIES THROUGH ASYNCHRONOUS COMMUNICATION			
ACTIVITY	**Teaching-Learning Methodology**	**Relation to Learning Outcomes**	**ECTS**
INDIVIDUAL ACTIVITIES	Preparation of the final evaluation: student study, individual preparation of readings, essays, problem solving, assignments, reports, etc. for discussion or delivery in electronic format.	**RA**: 2, 3, 5, 6, 7	2,3
INDIVIDUAL TUTORSHIP	Individual attention for monitoring and guidance of the learning process, carried out by a tutor with the aim of reviewing and discussing the materials and topics, seminars, readings, carrying out assignments, etc.	**RA**: 1, 2, 3	0,1
CONTINUOUS EVALUATION ACTIVITIES	**Group work**: group preparation of readings, essays, problem solving, seminars, papers, reports, etc. for discussion or delivery. **Discussion forums**: participation and contributions to discussion forums related to the subject, moderated by the professor of the subject. Resolution of problems, comments, reports to deliver in installments throughout the course, making videos individually or cooperatively, answering questionnaires.	**RA**: 2, 3, 5, 6, 7	2,3
		TOTAL	**4,70**

EVALUATION SYSTEM FOR THE ACQUISITION OF COMPETENCIES AND GRADING SYSTEM		
Evaluation Instrument	**EVALUATED LEARNING OUTCOMES**	**Granted percentage**
1	Attendance and participation in synchronous communication activities	10%
2	Carrying out deliverable activities	40%
4	Final Evaluation	50%

CONTENTS DESCRIPTION	COMPETENCIES
• Introduction to the philosophy of science. Methodology of the Philosophy of Science. • The conception inherited from the sciences. • Neopositivism and Falsificationism. Research programs. • Normal science, revolutionary science. • Epistemological anarchism. The structuralist conception of scientific theories.	**CG:** 1, 5, 7, 10, 11, 12 **CE**: 17, 18, 21, 23, 24, 25, 26, 30, 33, 34, 37, 41

BIBLIOGRAPHY

- Dynamic presentations of the subject generated by the professor of the subject.
- Sanmartín Esplugues, J. (2014). *El exceso de excluir a la razón. Reflexiones para una historia de la filosofía de la ciencia*. México: Centro de Estudios Filosóficos, Políticos y Sociales Vicente Lombardo Toledano, Col. Eslabones en el Desarrollo de la Ciencia.
- Alan F. Chalmers (1976): *What is this Thing Called Science?*, Queensland, University of Queensland Press.
- Antonio Diéguez Lucena (2010*): Filosofía de la Ciencia*, Madrid, Editorial Nueva.
- Carl G. Hempel (1966): *Philosophy of Natural Science*, Englewood Cliffs, N.J., Prentice-Hall.

Further reading

- Mario Bunge (1969). *La investigación científica. Su estrategia y su filosofía*, Barcelona: Editorial Ariel.
- José A. Díez y C. Ulises Moulines (1997). *Fundamentos de Filosofía de la Ciencia*, Barcelona: Editorial Ariel.
- Thomas S. Kuhn (1962). *The Structure of Scientific Revolutions*, Chicago, University of Chicago Press, 1962 [2a. ed., 1980; versiones españolas (1981) y (2006) *La estructura de las revoluciones científicas*, México: Fondo de Cultura Económica]
- Imre Lakatos (1970). "Falsification and the Methodology of Scientific Research Programmes", en Lakatos, I. y Musgrave, A. (eds.), *Criticism and the Growth of Knowledge*, Cambridge University Press [Hay versión española: "La falsación y la metodología de los programas de investigación científica", en Lakatos, I. y Musgrave, A. (eds.), *La crítica y el desarrollo del conocimiento científico*, Barcelona: Grijalbo, 1975].
- Karl R. Popper (1982). *Objective Knowledge. An Evolutionary Approach*, Oxford, Clarendon Press [Versión española: (1984) *Conocimiento objetivo*, Madrid: Tecnos]

TEMPORAL ORGANIZATION OF LEARNING		
	CONTENT BLOCK/DIDACTIC UNIT	**NR. OF SESSIONS**
Part 1. STRUCTURE OF SCIENCE	1. Scientific research 2. The scientific explanation. Regularities and laws 3. Scientific theories	5
Part 2. DYNAMICS OF SCIENCE	4. The problem of induction 5. Science as a Product of Logic and Reason (I): Carnap and the Logical Positivism 6. Science as a Product of Logic and Reason (II): Popper and Critical Rationalism 7. Reaction (I): Kuhn and scientific revolutions 8. Reaction (II): Lakatos and the end of instant rationality 9. The blurring: Substitutive naturalization of philosophy of science	10