UCLouvain

lfilo1220

2026

Philosophy of science

The version you're consulting is not final. This course description may change. The final version will be published on 1st June.

5.00 credits	45.0 h	Q2

Teacher(s)	Pence Charles ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	/
Main themes	The aim of this course is to provide students with a first introduction to contemporary philosophy of science. There will be special focus on discovering the convergences, but also the differences, between the philosophy of material sciences, the philosophy of life sciences and the philosophy of the humanities and social science. The problem of the link between techno-science and society, including the important issue of ecology, will also be examined. The multi-disciplinary topics covered in Philosophy of Science will include the epistemic status of scientific theories and models, the dynamics of science, the range and limits of scientific knowledge, the theory of scientific explanation, reductionism, the role of objectives, naturalism and the issue of objectivity or axiological neutrality. The multi-disciplinary topics covered in science-society will include modernity-religion and science-expertise-ecology.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 By the end of the course, students should be familiar with the main issues and authors in the philosophy of science. They should be able to present a summary of an issue with clarity and precision in speaking or in writing. They will both be able to construct a rigorous argument in favour of the points of view covered and to adopt critical distance from them. They will be able to find their way around the literature of philosophy of science.
Evaluation methods	A preparatory quiz (5%), a midterm exam (35%), a non-cumulative final exam (45%), and a grade covering attendance and participation in courses and labs (15%). In the August session, a written exam (100%).
Teaching methods	We will meet twice per week, for one "short" session (1h) and one "long" session (2h). We will have three different kinds of class: traditional lectures, discussion days between the students and the professor, and "labs" where we will reproduce classic experiments from the history of science, visit exhibits at the campus museums, etc.
Content	Why does science have a privileged place in contemporary discourse? Usually, the answer to this question is thought to involve the nature and the construction of scientific knowledge. But how does this knowledge work? In the history of science, how has it really been constructed? Is there a "scientific method?" Does science proceed via "revolutions" or "paradigm shifts?" What is the relationship between science and ethical values? Has today's science changed its character when compared with that of Newton, Darwin, or Einstein? In this course, we will consider these questions (and others), analyzing the epistemic character of scientific knowledge in dialogue between the history and the philosophy of science. Put differently, we will simultaneously discuss what scientists do (in reality, beyond the caricatures) and how to understand it.
Inline resources	All readings and the course syllabus are available on the website of Pr. Pence (in French): https://charlespence.net/fr/courses/lfilo1220/
Bibliography	(voir ressources en ligne ci-dessus) (see online resources above)
Faculty or entity in charge	EFIL

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Certificat universitaire en philosophie (fondements)	FILO9CE	5		
Bachelor in Philosophy, Politics and Economics	PPE1BA	5		
Minor in Philosophy	MINFILO	5		
Bachelor in Philosophy	FILO1BA	5		