

## Higher Institute of Philosophy


**FILO1220 Epistemology 2: Introduction to philosophy of science**

[45h] 5 credits

This course is taught in the 2nd semester

**Teacher(s):** Tom Dedeurwaerdere, Tom Dedeurwaerdere (supplée N.), Bernard Feltz  
**Language:** French  
**Level:** First cycle

**Aims**

The aim of the course is to introduce the students to contemporary philosophy of science.

By the end of the course, the student should have mastered the central problems and main authors concerned with articulating a philosophy of nature in the 20th Century. The student should be able to present a question (orally or in writing), in a clear, synthetic, and precise manner. The student will be expected to argue in a rigorous manner in favor of one of the positions addressed while also taking a critical stance towards that same position. Finally, the student will be able to orient him or herself in the literature on philosophy of science.

**Main themes**

The aim of the course is to provide an introduction to contemporary philosophy of science, understood as a philosophical theory of scientific knowledge and practice. Such a philosophical reflection about science cannot but be articulated in close relationship with the sciences themselves, particularly in their historical dimension. Consequently, we shall throughout the course make references to the scientific disciplines themselves.

The main topics addressed will be: the epistemic status of scientific theories and models; the dynamics of science; the scope, and limits, of scientific knowledge; scientific explanation; realism; reductionism; the role of finality; naturalism; etc.

**Content and teaching methods**

The course has two parts :

1. Philosophy of the natural sciences
2. Philosophy of the human sciences
  1. Philosophy of the natural sciences : Bernard Feltz
  2. Philosophy of the Human Sciences : Tom Dedeurwaerdere

This second part of the lectures will give an introduction to the philosophical issues behind the theory of governance, as it is developed in the contemporary human and social sciences. The main objective is go beyond formal approach to social regulation, as it exists both in ethics and in law, by shifting towards a study of the trajectory of the practical application of the norm in a social context.

In particular, this second part will examine the epistemological tools available in the new critical theory. Both the debate on the criticism of functionalism in human sciences (Jürgen Habermas, Andrew Feenberg) and the alternative reflexive approaches (Gunter Teubner, Ulrich Beck) will be the object of the study.

## Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

### Pre-requisites:

The course presupposes an elementary knowledge of formal logic.

### Assessment:

The course will be taught by three lecturers, who will work together closely, and will be evaluated through one, final, exam. The assessment will take the form of an oral exam based on the issues discussed in the class or on an essay written by the student.

### Supporting material:

Complete class-notes as well as a bibliography are available.

### Course holder/Course Supervision:

Lecturers only.

## Miscellaneous

The course will be composed of three parts, devoted, respectively, to: the philosophy of physics; the philosophy of biology; and the philosophy of the social sciences.

In the first part, we shall study logical positivism-Karl Popper, Thomas Kuhn, Bas van Fraassen-and the current debate between scientific realists, and constructivists and relativists. The topics addressed will be illustrated primarily through examples drawn from physics.

The second part will address the central themes of the philosophy of the life sciences. Following a characterization of the contemporary biological paradigm, we shall address the questions of reductionism (Nagel, Mayr, Rosenberg, etc.), and of finality (Wright, Wimsatt). Following this, we shall address the philosophy of technology and environmental philosophy, considered in relation to the contemporary evolution of the life sciences and of biotechnology.

The third part will concentrate on the methods and claims of the social sciences, particularly the cognitive sciences (psychology, linguistics, neuroscience). Above all, we shall examine the debates revolving around reductionism, functionalism, individualism, and externalism, as well as the debates centering around the limits of scientific explanations of the human mind. As this is an introductory course, it will be based on lectures in which students are strongly encouraged to participate with questions that not only lead to a deepening of their grasp of the subject but also to discussions. Discussion sessions will also be organized. Finally, the students are encouraged to read, before the course begins, part of the class notes as well as some of the secondary literature.

## Programmes in which this activity is taught

<b>EBIM9CE</b>	Certificat universitaire en éthique biomédicale
<b>ISP20</b>	Licence à durée réduite en philosophie
<b>ISP20/A</b>	Licence à durée réduite en philosophie (A)
<b>ISPA9CE</b>	Certificat universitaire en philosophie (fondements)
<b>NUT2</b>	Licence en sciences biomédicales (nutrition humaine)

## Other credits in programs

<b>ARCH12BA</b>	Deuxième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil architecte	(5 credits)	
<b>EBIM9CE</b>	Certificat universitaire en éthique biomédicale	(5 credits)	
<b>ELEC22</b>	Deuxième année du programme conduisant au grade d'ingénieur civil électricien	(5 credits)	
<b>FILO12BA</b>	Deuxième année de bachelier en philosophie	(5 credits)	Mandatory
<b>FSA12BA</b>	Deuxième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(5 credits)	
<b>INFO23</b>	Troisième année du programme conduisant au grade d'ingénieur civil informaticien	(5 credits)	
<b>ISP20</b>	Licence à durée réduite en philosophie	(5 credits)	
<b>ISPA9CE</b>	Certificat universitaire en philosophie (fondements)	(5 credits)	Mandatory
<b>ISPB9CE</b>	Certificat universitaire en philosophie (approfondissement)	(5 credits)	
<b>PSY2</b>	Licence en sciences psychologiques	(4.5 credits)	