Philosophy of Science

2025 - 2026

Is part of the next programmes:

- M0012004 Master of Computer Science: Software Engineering
- M0012005 Master of Computer Science: Data Science and Artificial Intelligence
- M0012006 Master of Computer Science: Computer Networks
- M0008000 Master of Physics
- M0008000 Master of Physics
- M0048004 Master of Computer Science: Software Engineering
- M0048005 Master of Computer Science: Data Science and Artificial Intelligence
- M0048006 Master of Computer Science: Computer Networks
- M0090003 Master of Teaching in Science and Technology: Physics
- U0001008 Courses open to exchange students in Sciences

Course Code:	2001WETWEF
Study Domain:	Philosophy and Ethics

Semester:	2E SEM
Contact Hours:	30
Credits:	3
Study Load (hours):	84
Contract Restrictions:	No contract restriction
Language of Instructions:	ENG
Lecturer(s):	T Bert Leuridan C Jan Potters M Paride Del Grosso
Examperiod:	exam in the 2nd semester
EVEN	
Bi-annual course:	Thought in academic years starting in an even year

1. Prerequisites *

speaking and writing of:

- English

reading and comprehending of:

- English

specific prerequisites for this course

The teachers are aware that the students in the faculty of sciences are not used to dealing with the kind of philosophical material presented in the course. The handbook chosen does not require any background knowledge, and contains a

glossary of philosophical terms. The teacher will regularly check for problems in understanding the material and will immediately fill in any possible gaps in background knowledge necessary to follow the course.

2. Learning outcomes *

- The students have knowledge of and insight in several themes and tendencies of contemporary philosophy of science.
- They are able to distinguish, compare and contrast different perspectives or points of view on science taken by philosophers and to develop - tentatively - a preference for one such point of view.
- The students are able to frame a problem or an issue in these different perspectives.

3. Course contents *

The course is concerned with contemporary philosophical reflection on science. Outstanding issues in contemporary philosophy of science, such as explanation, causality, prediction, truth and realism are covered and looked at from a variety of angles. Attention is also paid to critiques of scientific rationality and the status of science within the Western culture.

4. International dimension *

- This course stimulates international and intercultural competences.
- Students use course materials in a foreign language.

5. Teaching method and planned learning activities

5.1 Used teaching methods *

Class contact teaching

- Lectures

Personal work

5.2 Planned learning activities and teaching methods

Students are encouraged to actively participate in the classes, to ask questions and to take part in discussions. Students may be asked to read certain chapters in advance (i.e. before they are discussed in class).
In the classes different themes from the philosophy of science are discussed:
- some aspects from the history of science (in particular the 'scientific revolution')
- logical positivism (in general)
- logical positivism in action: induction and confirmation
- falsificationism (Popper)
- Bayesianism
- postpositivism (Kuhn, Feyerabend, sociology of science, science and technology studies)
- naturalistic philosophy of science
- explanation and prediction
- scientific realism
- synthesis: normative naturalism

Students are expected to follow the classes on campus. If technically possible, the classes will be streamed and recorded. Streaming is intended for students who cannot join the class due to *force majeur* (e.g. because they do not live in Belgium or the Netherlands or because they are ill). Recordings are intended as a tool when preparing fot the exam (enabling students to watch selected parts of the classes again).

5.3 Facilities for working students *

Others

For facilities for working students, please contact Bert.Leuridan@UAntwerpen.be.

6. Assessment method and criteria *

6.1 Used assessment methods *

Examination

- Oral with written preparation

6.2 Assessment criteria *

Information about the exam (types of questions etc.) will be given throughout the semester.
Understanding is primary, but it must be based on knowledge. Own examples, interpretations and additions are welcome if relevant (and sometimes required).
The ability to - tentatively - choose a position with respect to the different philosophical views on science is also important.
After the exam, feedback can be asked (upon request). Please contact me via e-mail.

7. Study material

7.1 Required reading *

- Godfrey-Smith, Peter (2021), Theory and reality. An introduction to the philosophy of science. Second edition. Chicago, ILL.: University of Chicago Press.
- slides

7.2 Optional reading

The following study material can be studied voluntarily :

(in Dutch only; really optional)
Weber, Leuridan & Lefevre (2016). Wetenschap: Wat, Hoe en Waarom? Garant.

8. Contact information *

Bert Leuridan
Stadscampus, S.D.415
Bert.Leuridan@UAntwerpen.be

9. Tutoring

The instructor can be approached in person (before/after classes) or by e-mail (Bert.Leuridan@UAntwerpen.be).