

# Philosophy of Science, 2 ECTS

October 2021

Instructor: Marcel Quarfood, universitetslektor  
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This course is offered online. Recorded lectures will be available on Canvas. There are two real time activities during the course: a question time (optional), October 7, Zoom, and a seminar (compulsory), October 11, Zoom. The examination will be in the form of a written assignment/essay.

## **Lecture 1: Introduction** (mp4 on Canvas)

Philosophy of science & social studies of science. Natural, social & human sciences. Formal sciences & empirical sciences. Deductive & inductive inference. Forms of inductive inference. Hume's problem of induction.

Readings:

Samir Okasha: *Philosophy of Science. A Very Short Introduction*, Oxford University Press 2016, chapters 1-2

*The lectures don't follow the order of presentation in Okasha's book (which nevertheless is best just to read from beginning to end). The 2<sup>nd</sup> edition from 2016 is improved, but the first edition (2002) can also be used. Okasha's book isn't available on Canvas (all other texts are).*

## **Lecture 2: Popper's falsificationism** (mp4 on Canvas)

Popper's criticism of logical empiricism. Falsification avoids the problem of induction. Confirmation & falsification: asymmetry. The problem of demarcation. Objections to Popper.

Readings:

Okasha: chapters 1-2

Peter Godfrey-Smith: *Theory and Reality*, University of Chicago Press 2003, chapter 4

## **Lecture 3: The Hypothetico-deductive method** (mp4 on Canvas)

Hypothetico-deductive method as scientific method for empirical science. H-D method & other methods.

Readings:

Okasha: chapters 1-2

## **Lecture 4: Kuhn's theory of paradigms** (mp4 on Canvas)

Kuhn on scientific change. Normal science. Anomaly. Crisis. Revolution. Paradigms. Incommensurability. Developments after Kuhn.

Readings:

Okasha, chapter 5

Thomas Kuhn: *The Structure of Scientific Revolutions*, University of Chicago Press 1970 (2<sup>nd</sup> ed), chapter 8

James Robert Brown: *Who Rules in Science?* Harvard University Press 2001, pp. 63-72

**Lecture 5: Explanation. Realism/antirealism. Hermeneutics** (mp4 on Canvas)

The covering law model. Other views on explanation. Realism & antirealism. Hermeneutics.

Readings:

Okasha, chapters 3, 4 and 7

Dagfinn Føllesdal: "Hermeneutics". *The International Journal of Psychoanalysis*, 82:2, 375-379 (2001)

**Question time: Zoom**

**Thursday, October 7, 13.15-14.15**

Open for questions, clarification, discussion. (Attendance not compulsory)

**Seminar - Science and Gender: Zoom**

**Monday, October 11**

**Group 1: 10.15-11.00**

**Group 2: 11.15-12.00**

**Group 3: 13.15-14.00**

**Group 4: 14.15-15.00**

The role of gender in science will be discussed. Each one of you is expected to reflect on the role of gender in your field or research project and to give a (very short) presentation to the seminar. (For detailed instructions, see "Seminar instructions").

**The seminar is part of the examination of the course;** students who do not attend actively must submit a written make-up assignment ('restuppgift').

Readings:

Janet Kourany: *Feminist critiques: Harding and Longino*. In James Robert Brown (ed): *Philosophy of Science: Key Thinkers*. London: Continuum 2002, pp. 236-254.

Noretta Koertge: "Critical Perspectives on Feminist Epistemology". In S. Nagy Hesse-Biber (ed): *Handbook of Feminist Research*, Sage 2012, pp. 119-134.

You will be assigned to a group. If you need to change group, please contact me as soon as possible ([marcel.quarfood@umu.se](mailto:marcel.quarfood@umu.se)).

**Examination: A written assignment/essay**  
**more information shortly**