

# Philosophy of Science, 2 ECTS

February-March 2021

**Instructor:** Marcel Quarfood, universitetslektor  
Institutionen för idé-och samhällsstudier, Umeå Universitet  
marcel.quarfood@umu.se

## **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, February 25, 13.15-14.15**

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

**Seminar - Science and Gender: Zoom**

**Monday, March 1**

**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 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***