

Philosophy of Science, 7.5 credits

Vetenskapsteori, 7,5 högskolepoäng

Course Code/Codes	15SPL68
Subject Area	Studies in the Humanities
School/equivalent	School of Humanities, Education and Social Sciences
Valid from	2019-09-01
Approved	2019-09-10
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Approved by	Head of School
Translation to English, date and signature	2019-10-10 AL, NR

1 Course content

This course deals with general aspects of science and its function. The so-called demarcation problem is a central issue, including questions like the following: What distinguishes scientific thinking from pre-scientific or non-scientific thinking? What is included in the concept of scientific understanding? Do the humanities and social sciences differ from the natural sciences in significant ways? If yes, do such differences have a bearing on the concepts of scientific thinking and scientific understanding?

Starting out from such general issues, the course includes the study of conceptions of knowledge, truth, rationality and method and provides examples of ways in which these are applied in different branches of science. Moreover, the doctoral student learns how to identify scientific questions and how to conduct a critical discussion about appropriate methods.

Elements:

- Classical philosophy of science with an emphasis on the quest for knowledge in the natural sciences. What is empirical knowledge?
- Standard criteria of what constitutes science.
- The development of scientific theories. The idea of theories as structures.
- Scientific method. This course element concerns among other things hypothetico-deductive testing, causal explanation, induction, the traditional distinction between scientific “explanation” and hermeneutic “understanding”.
- The quest for knowledge in the social sciences.
- The quest for knowledge in the humanities.

2 Outcomes

2.1 The course in relation to the doctoral programme

The course shall primarily refer to the following intended learning outcomes for third-cycle courses and study programmes as described in the Higher Education Ordinance, i.e. the doctoral student shall demonstrate:

Knowledge and understanding

- familiarity with research methodology in general (part of outcome 2)
- familiarity with the methods of the specific field of research in particular (part of outcome 2)

Competence and skills

- the capacity for scholarly analysis and synthesis (part of outcome 3)
- the capacity to review and assess new and complex phenomena, issues and situations autonomously and critically (part of outcome 3)
- the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively (part of outcome 4)
- the ability to review and evaluate research and other qualified tasks (part of outcome 4)

Judgement and approach

- specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used (outcome 10)

The intended learning outcomes are listed in the same order as in the general syllabus for the programme.

2.2 Intended course learning outcomes

To obtain a passing grade, the doctoral student shall demonstrate:

Knowledge and understanding (part of outcome 2)

- The demarcation problem: the ability to distinguish scientific thinking from pre-scientific or non-scientific reasoning with reference to criteria,
- Proficiency in the classical philosophy of science and the development of scientific theories.
- The ability to give an account of the debate concerning differences between the natural sciences, the social sciences, and the humanities

Competence and skills (part of outcomes 3 and 4)

- The ability to identify scientific questions and conduct a critical discussion about appropriate methods
- The ability to test and evaluate scientific argumentation

Judgement and approach (part of outcome 10)

- The ability to critically reflect on different types of scientific arguments, their scope, and significance.

3 Reading list and other teaching material

The following course readings and teaching material will be used on the course:

Core texts:

Leezenberg, Michiel. *History and Philosophy of the Humanities: An Introduction*. Amsterdam: Amsterdam UP, 2018.

Boden, Margaret. *A.I.: Its Nature and its Future*. Oxford, UK: Oxford University Press, 2016.

Other assigned readings

Barad, Karen. "Agential Realism: Feminist Interventions in Understanding Scientific Practices." Ed. Mario Biagoli. *The Science Studies Reader*. New York: Routledge, 1999, pp. 1–11.

Bennett, Jane. "The Force of Things: Steps Towards an Ecology of Matter." *Political Theory*. Vol. 32, no. 3, 1994, pp. 347–372.

- Deleuze, Gilles. *Pure Immanence: Essays on a Life*. Trans. Anne Boyman. Brooklyn, NY: Zone Books, 2001.
- Escobar, Arturo. "Thinking-feeling with the Earth: Territorial Struggles and the Ontological Dimension of the Epistemologies of the South." *AIBR: Revista de Antropología Iberoamericana*. Vol. 11, no. 1, 2016, pp. 11–32.
- Foucault, Michel. "Truth and Power." Ed. Paul Rabinow. *The Foucault Reader*. New York, NY: Pantheon Books, 1984, pp. 51–75.
- Hume, David. *An Enquiry Concerning Human Understanding*. Oxford, UK: Oxford University Press, 2007.
- Kant, Immanuel. *Prolegomena to Any Future Metaphysics: That Will Be Able to Come Forward as Science: With Selections from the Critique of Pure Reason, Revised Edition*. Cambridge, UK: Cambridge University Press, 2004.
- Kuhn, Thomas. "The Essential Tension: Tradition and Innovation in Scientific Research." Ed. Richard Boyd, Philip Gasper, & J.D. Trout. *The Philosophy of Science*. Cambridge, MA: MIT Press, 1991.
- Kristeva, Julia. *The Kristeva Reader*. Ed. Toril Moi. New York, NY: Columbia University Press, 1986.
- Lacan, Jacques. *Interview with Jacques Lacan. L'Express*, 1957.
<https://www.lacanonline.com/wp-content/uploads/2019/10/Interview-with-Jacques-Lacan-LExpress-1957.pdf>
- Latour, Bruno. *We Have Never Been Modern*. Trans. Catherine Porter. Cambridge, MA: Harvard University Press, 1993.
- Liotard, Jean-François. *The Postmodern Condition: A Report on Knowledge*. Trans. Geoff Bennington and Brian Massumi. Minneapolis, MN: University of Minnesota Press, 1983.
- Moran, Dermot. *Introduction to Phenomenology*. London: Routledge, 2000.
- Mitchell, Melanie. *Complexity: A Guided Tour*. Oxford, UK: Oxford University Press, 2009.
- Popper, Karl. "A Survey of Some Fundamental Problems." *The Logic of Scientific Discovery*. London: Routledge, 1959, pp. 1–26.
- Saussure, Ferdinand. *Course in General Linguistics*. Trans. Roy Harris. Chicago, IL: Open Court Classics, 1972.
- Sellars, Wilfrid. "Philosophy and the Scientific Image of Man." *Science, Perception and Reality*. Austin, TX: Ridgeview Publishing Digital, 1991.

4 Teaching formats

Teaching on the course takes the following format:

The course is taught through lectures and a number of seminars. Seminars will include group discussions.

5 Examination

The course is assessed through the following examination assignments which are graded separately.

Philosophy of Science, Presentation of research projects 2.5 credits (exam code: 0100)

The oral presentation of a research project and at least one qualified critical and/or contribution related to the presentation of another student's project.

Philosophy of Science, Written exam 5 credits (exam code: 0200)

A written project describing how at least one of theories discussed in the course informs one or more aspects of the student's doctoral thesis project.

For examinations consisting of several examination components, the following applies: If during the course it is concluded that a doctoral student is unable to complete a certain examination component, the examiner may set a substitute assignment provided that circumstances do not

reasonably allow for the course component to be completed at a later date during the run of the course.

6 Grades

Examinations on third-cycle courses and study programmes are to be assessed according to a two-grade scale with either of the grades 'fail' or 'pass' (local regulations).

The grade shall be determined by a teacher specifically nominated by the higher education institution (the examiner) (Higher Education Ordinance).

To obtain a passing grade on examinations included in the course, the doctoral student is required to demonstrate that he/she attains the intended course learning outcomes as described in section 2.2. Alternatively, if the course consists of multiple examinations generating credit, the doctoral student is required to demonstrate that he/she attains the outcomes that the examination in question refers to in accordance with section 5.

A student who has failed an examination is entitled to a retake.

If an examination consists of several examination components, and a student fails an examination component, the examiner may, as an alternative to a retake, set a make-up assignment with regard to the examination component in question.

A doctoral student who has failed an examination twice for a specific course or course element is entitled, upon his/her request, to have another examiner appointed to determine the grade.

7 Admission to the course

7.1 Admission requirements

To gain access to the course and complete the examinations included in the course, the applicant must be admitted to a doctoral programme at Örebro University.

7.2 Selection

Selection between applicants who have been admitted to doctoral programmes at Örebro University and who otherwise meet the admission requirements as listed above is made according to the following order of precedence:

Preference is given to doctoral students accepted within the Faculty Board of Humanities and Social Sciences at Örebro University. Alternatively, doctoral students admitted to other subjects at Örebro University may also participate. To the extent possible, doctoral students from other universities can participate.

If no other selection criteria are specified in this section, priority shall be given to applicants with a lower number of course credits left before the award of their degree over applicants with a higher number of remaining course credits. Should two or more students have equal number of credits, selection will be done through the drawing of lots. This also applies within any selection groups listed unless otherwise stated.

7.3 Other applicants than doctoral students admitted at Örebro University

Other applicants than doctoral students admitted at Örebro University may be given access to the course on the grounds of provisions for and/or agreements regarding contracted courses, joint degrees, national graduate schools or cooperation in other respects with other universities.

Any decisions on what such other applicants may be given access to the course are made separately and on the basis of the provisions and/or agreements that occasion the student to apply for the course.

8 Transfer of credits for courses, study programmes and other experience

Provisions on the transfer of credits can be found in the Higher Education Ordinance and on the university's webpage.

9 Other information

The course is offered as a part-time course. The language of tuition is English.

Transitional provisions

Doctoral students who have taken the course in accordance with a previous course syllabus but who have not received a passing grade on examinations included in the course shall be offered re-examination in accordance with the previous course syllabus, unless there are special reasons to the contrary.