Philosophy of science is concerned with the characteristics of scientific reasoning. Typical questions are: how does scientific inference work? In what sense are scientific theories about the world? What distinguishes science from non-science? The course will provide a survey of main topics in the field. The first unit presents a brief account of the field’s historical evolution. Afterwards, the focus lies on contemporary issues.

The course consists of lecture elements and discussion. Each unit is accompanied by specific literature. The literature should be read by everyone in advance and will be addressed in our discussions. Please check out the page about a week before the first unit about the literature.

**Credits** based on 2 assignment papers (about 3000 words each, submission deadline January 9 2017.)

The course will be given in English.

A brief program:

1: (Oct. 26) A GENERAL PERSPECTIVE

What is philosophy of Science?

History 1: Mach, Poincare and Duhem

History 2: Logical Empiricism

2: (Nov. 2)FINDING A THEORY

Induction and its problems

Abduction

Conceived and unconceived alternatives

3: Nov. 9) CONFIRMING AND REJECTING A THEORY

Falsification and protective belts

Bayesian Confirmation

Relying on science

4: (Nov. 16) THE INNER LIFE OF A THEORY

Causation

Explanation

Laws

5: (Nov. 23) THE DYNAMICS OF SCIENCE

Paradigm change

Reduction and Unification

Eternal theory succession?

6: (Dec. 7) IS IT REAL?

Scientific Realism

Empiricism

In between

7: (Dec. 14) GENERAL PHILOSOPHY OF SCIENCE VS. PHILOSOPHIES OF SCIENCES

The trend towards compartmentalization

Philosophy of physics

Other sciences