Elective course in the area **Philosophy**

## Philosophy of Science

| | |
|---|---|
| Teaching Load | 2,5 hours per week |
| Kind of course | Elective in Master Programme |
| ECTS Credit Points | 5 = 150 hours |
| Lecture: | • 37,5 hours = 15 x 2,5 SWS |
| Self-study: | • 112,5 hours<br>➢ 60 hours: Preparation for final exam<br>➢ 52,5 hours: reading of texts |
| Lecturer | Prof. Dr. Manfred Herbert |
| Course objective and Learning Outcomes | Knowledge of basic concepts and important ideas of philosophy of science; critical reflection of the methods of science, especially of social sciences and economics - Capacity to apply scientific methods in a correct way and to criticize scientific positions gained in a methodologically unjustified way |
| Topics | **A Introduction**<br>1. What is philosophy of science and what is it useful for?<br>2. The Basic Concepts<br>**B Basics of Scientific Methodology**<br>1. Linguistic Foundations<br>2. Definitions<br>3. Arguments<br>4. Fallacies<br>**C Deduction**<br>1. Concept<br>2. Valid Arguments<br>3. Sound Arguments<br>4. Syllogisms<br>5. Other Forms of Deductive Arguments |

| | |
|---|---|
| | 6. Formal Fallacies<br><br>**D Induction**<br><br>1. Concept<br>2. Methods of Inductive Reasoning<br>3. Inductive Fallacies<br>4. The Problem of the Justification of Induction<br><br>**E Abduction**<br><br>1. Concept and Method<br>2. Dangers<br>3. Deduction, Induction and Abduction - A Demarcation<br><br>**F Interpretation**<br><br>1. Concept<br>2. Methods<br><br>**G Important Positions in Philosophy of Science**<br><br>1. Rationalism<br>2. Empiricism<br>3. Positivism<br>4. Critical Rationalism<br>5. Current Positions: Kuhn, Lakatos and Feyerabend<br>6. Hermeneutic Positions |
| Literature | ➢ Reading of philosophical texts by Aristotle, Francis Bacon, David Hume, John Stuart Mill, Max Weber, Karl R. Popper, Thomas S. Kuhn, Imre Lakatos, Paul Feyerabend, Harry G. Frankfurt<br><br>• Bortolotti, L., An Introduction to the Philosophy of Science, 2008<br>• Copi, I.M./Cohen C., Introduction to Logic, 12th edition 2005<br>• Curd, M./Cover, J.A., Philosophy of Science. The Central Issues, 1998<br>• Davis, J.B./Marcian, A./Runde, J., The Elgar Companion to Economics and Philosophy, 2004<br>• Govier, T., A Practical Study of Argument, 4th edition, 1997<br>• Hill, R., The Economics Anti-Textbook, 2010<br>• Kincaid, H./Ross D., The Oxford Handbook of Philosophy of |

| | |
|---|---|
| | Economics, 2009<br>• Losse, J., A Historical Introduction to the Philosophy of Science, 4th edition, 2001<br>• Okasha, S., Philosophy of Science, 2002<br>• Rosenberg, A., Philosophy of Science. A Contemporary Introduction, 2001 |
| Teaching Methods | • Lecture<br>• Discussion<br>• Reading of texts |
| Grading | ➢ Midterm exam (20%)<br>➢ Final exam (80%) |
| Language of Instruction | English |