

**Discipline:** [Philosophy of Science]

### **1 Language**

German

### **2 Title**

Philosophy of Science - Foundations and Implications for Research Designs and Research Methods

### **3 Lecturer**

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### **4 Date and Location**

23.11. – 26.11.2021

Harnack-Haus Tagungsstätte der Max-Planck-Gesellschaft, Ihnestr. 16-20, 14195 Berlin

### **5 Course Description**

#### **5.1 Abstract and Learning Objectives**

Philosophy of science analysis is a basis for evaluating one's own and others' research contributions. However, while reading a scientific paper or monograph requires documenting the methods used, such as a questionnaire to collect data or a regression analysis to evaluate data, the underlying philosophy of science position is often not even mentioned. However, anyone who wants to deal with justification claims of scientific research and its methods cannot avoid dealing with these very positions. Especially in the case of mixed-method studies, such explanations are increasingly demanded by reviewers and journal editors.

The aim of the seminar is therefore to familiarize the participants with the main streams in the philosophy of science and their ontological and epistemological positions that are essential for research. The introduction to the topic will be based on three guiding questions in the context of a "World Café", which will structure the course. The basics of the philosophy of science will be presented by a lecturer and serve as a common basis for discussion of the different positions. Subsequently, the different streams of philosophy of science and their main implications for research methods and research design are presented by the participants, each forming thematic foci. The individual presentations then serve as a basis for the subsequent joint discussion and, if necessary, thematic expansion by the lecturers.

A major objective of the course is to sensitize students to the various streams in the philosophy of science and to provide basic knowledge about different strategies of justification in the philosophy of science in order to enable critical reflection on one's own scientific research. Although the focus of the course is on the discussion of philosophical (philosophy of science) positions, another concern of the course is to address their relevance for scientific practice and to analyze them by means of practical examples.

## 5.2 Content

Philosophy of science appears to many researchers as "far removed" from the problems in their practical research activities. The course aims to raise awareness of the fact that a number of assumptions in the philosophy of science are associated with the research design chosen by researchers and the use of research methods. However, the social sciences have at their disposal a wide variety of scientific theoretical positions that are used to justify their research. Therefore, the focus of the course is to become familiar with the main basic streams of the philosophy of science as well as their implications for research practice (design, methods).

At the beginning, one of the lecturers will introduce the basics of the philosophy of science (descriptive and normative statements). In the main part, the participants present the different positions in the philosophy of science (basic streams), forming thematic foci for each basic stream. In the concluding part, the implications of these basic streams for research practice will be analyzed and discussed.

## 5.3 Schedule (including start and end time)

### **Date (Day I)**

09:00 – 09:30	Registration and presentation
09:30 – 11:00	Introduction to the subject - World Café
11:15 – 12:45	<b>Guiding question A: Which philosophical foundations of science are necessary for my scientific work?</b> Introduction to the philosophy of science (I) Break
14.00 – 15.30	Introduction to the philosophy of science (II)
16:00 – 17:30	<b>Guiding Question B: What are the main positions represented by the basic streams of the philosophy of science?</b> Topic G1: Critical Rationalism I (Popper, Albert)

### **Date (Day II)**

09:30 – 11:00	Topic G2: Critical Rationalism II (Kuhn, Lakatos, Feyerabend)
11:15 – 12:45	Topic G3: Hermeneutics Break
14.00 – 15.30	<i>Exercise on the basic streams of the philosophy of science (I)</i>
16:00 – 17:30	Topic G4: Social constructivism and communicative constructivism

**Date (Day III)**

09:30 – 11:00	Topic G5: Critical Realism and Pragmatism
11:15 – 12:45	Topic G6: Critical (Management-)Theory Break
14.00 – 15.30	<i>Exercise on the basic streams of the philosophy of science (II)</i>
16:00 – 17:30	Topic G7: Value Judgments in the Social Sciences

**Date (Day IV)**

**Guiding Question C: How do the basic streams of philosophy of science affect my empirical research?**

09:30 – 11:00	Topic G8: Characteristics, differences and commonalities of quantitative, qualitative and mixed-method research.
11:15 – 12:45	Topic G9: Quality criteria of empirical research and their substantiation by philosophy of science
14.00 – 15.30	Topic G10: Ontological basic assumptions and choice of methods
16:00 – 17:30	Final discussion

5.4 Course format

The seminar consists of different elements: besides an introductory presentation by a lecturer and two exercise sessions, the main part of the seminar consists of presentations by the participants combined with a discussion of problems of their dissertation/research projects. The long experience of both lecturers with this format has shown that due to the written paper the participants discuss in a substantiated manner and learn as respective "experts" of their basic stream to describe their own position adequately as well as to distinguish it against alternative basic streams.

The presentation part by the participants will consist of ten thematic areas covering major basic streams of philosophy of science (G1 to G7) and their implications for research methods and research designs (G8-G10). For each of these areas, two participants will prepare a written paper, presentation, and moderation. The paper and presentation and moderation of each session will form the basis for the course grade. The topics are already listed in the schedule. The topics, literature references and more detailed instructions will be distributed after registration approximately 3 months before the course.

The assignment of topics to participants who have registered by 30. 06. 2021 will be based on a priority list. Subsequent registrations will be assigned by us. Last possible registration date is 31. 07. 21. The deadline for submission of the paper is 01. 11 2021. Attendance on all four seminar days is required.

## 6 Preparation and Literature

### 6.1 Prerequisites

The course requires only basic knowledge of empirical social research.

### 6.2 Essential Reading Material

Brühl, Rolf: *Wie Wissenschaft Wissen schafft. Einführung in die Wissenschaftstheorie für Sozial- und Wirtschaftswissenschaften*. 2. Aufl., UVK/Lucius & Lucius: Konstanz, 2017.

Poser, Hans (2012): *Wissenschaftstheorie*, 2. Aufl., Stuttgart: Reclam.

### 6.3 Additional Reading Material

Johnson, Phil; Duberley, Joanne (2000): *Understanding management research*, London: Sage.

Rosenberg, Alexander (2015): *Philosophy of social science*, 5. Aufl., Boulder: Westview Press.

Schurz, Gerhard (2014): *Einführung in die Wissenschaftstheorie*, 4. Aufl., Darmstadt: Wissenschaftliche Buchgesellschaft.

Pernecky, T. (2016). *Epistemology and metaphysics for qualitative research*, London: Sage.

Participants will be assigned (a) their topic group, (b) the specific topic for the paper/presentation, and introductory literature well in advance of the course.

### 6.4 To prepare

see 7.2

## 7 Administration

### 7.1 Max. number of participants.

The number of participants is limited to 20.

### 7.2 Assignments

An 18- to 20-page written paper must be prepared, along with a 30-minute presentation and guiding questions for the subsequent discussion, which will be moderated by the presenters.

The assignment of topics to participants who have registered by June 30, 2021 will be based on a priority list. Subsequent registrations will be assigned by us. Last possible registration date is July 31, 2021. The deadline for submission of the paper is November 1, 2021. Attendance on all four seminar days is required.

### 7.3 Exam

The final grade is based on the paper (60%), presentation/moderation, and oral participation (40%).

7.4 Credits

There are 6 ECTS for the participation in the course as well as the submitted presentations.

## 8 Working Hours

<b>Kurstitel: Philosophy of Science - Foundations and Implications for Research Designs and Research Methods</b>	
<b>Working Ours</b>	<b>hours</b>
Prerequisites	150
Active participation	30
<b>TOTAL</b>	<b>180 h</b>
<b>ECTS: 6</b>	