Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

PhD programme in General Pedagogy, Social Pedagogy, General Didactics and Disciplinary Didactics - 2017

Course title:	Introduction to the philosophy of science
Course year:	1
Semester:	1st, 2nd
Course Code:	15110A
Scientific sector:	interdisciplinary
Lecturer:	Prof. Dr. Edwin Georg Keiner, Prof. Dr. Susanne Ursula Elsen, Dr. Federica Viganò
Module:	Methodological courses and seminars 1st study year
Credit Points of the module:	30
Total lecturing hours:	4+4+4
Total Hours of availability for students and tutoring:	
Office hours:	from Monday to Friday on request
Attendance:	according to the regulations
Teaching Language:	English-German-Italian
Propaedeutic course:	
Course description:	The course is divided into 3 blocks: 1. Instructor prof. Dr. Keiner: The first parts of the course (4 h) introduces into basic terms and concepts of research and into best practice examples of sound research. It lays the seed for and the ground of traditional philosophy of science beyond more recent variations, positions and approaches. 2. Instructor prof. Dr. Elsen: The course (4 h) aims to introduce and discuss new theoretical approaches and their implications for research and development in social sciences and humanities in a critical way. It follows the general introduction in philosophy of science. 3. Instructor Dr. Viganó The four hours course focuses on the topic Sociology of Science analyzing the roles and responsibilities of scientists in contemporary society. With readings and actually debated examples, the topics of science and society, autonomy of science in the face of increasingly pressing social demands, political constraints, and economic pressures will be analyzed. It completes the general introduction in Philosophy of Science.
Specific educational objectives:	
List of topics covered:	Keiner: 1. Introduction into basic literature and basic concepts of philosophy of science; linguistic and cultural variations and translations.

	2. Epistemology, methodology, theory of knowledge, research practice. The concept of "truth", of causality, correlation and probability. Research ethics. 3. Basic concepts and rules of the research process; differences between qualitative and quantitative procedures, forms of justification and documentation. Expectations regarding sound scholarly research; criteria of evaluation and peer reviewing as examples; recommendations regarding publishing in high quality scholarly journals. Elsen: Positions in philosophy of science, their protagonists and implications for research • Positivism • Critical Theory • Hermeneutics • Phenomenology • Constructivism • Grounded theory New theoretical approaches in Humanities and Social Sciences and their implications for research and development • Theory of communicative processes (Habermas) • Theory of Modernization (Beck) • Capability approach (Sen/Nussbaum) • Actors Network Theory (Latour) New approaches to research in social sciences and humanities and implications for research • Research beyond mainstream (Kirby/Read/Greaves) • Beyond Methods (Feyerabend) • Re-Thinking Science, mode-2 society, mode 2 science (Nowotny, Scott, Gibbons) Viganó: Introduction to Sociology of Science. The challenges of the relationship between science and society in an age of political, environmental and social transformation. Three big issues will be conceptualized and analyzed: • Political responsibility and societal impact by the example of Climate change (politics and public reactions) • Public and private responsibility of business by the example of how public and private entities communicate transparently • The public understanding of science. How science communicate toward a large audience.
Teaching format:	Frontal, Group discussion, Readings, written
Learning outcomes:	The three blocks are integrated and provide the following learning outcomes: • **Knowledge and understanding**: Knowing and understanding new approaches and their implications; introduction to epistemology and orientations in theory of science. • **Applying knowledge and understanding**: Being able to construct research questions- and research settings, that fit with the approaches (f.i.

	participatory research); analyzing case studies and finding the scientific source of information. • **Making judgments**: Critical position to research context and its methodological implications; being able to pick up controversial issues, develop an appropriate understanding of complex topics, which require an interdisciplinary approach. • **Communication skills**: Being able to describe different philosophical positions and the reason of new approaches; being able to communicate scientific issues to an enlarged society; being able to communicate to different public. • **Learning skills**: Learning to develop an own position on the base of theoretical and methodological knowledge; Learn to learn, developing appropriate learning skills based on the capacity to grow learning competences.
Assessment:	The assessment of the course is divided in the three parts: • For the block 1 (Keiner): oral discussion and reflection • For the block 2 (Elsen): oral exam on the topics presented plus a written exam to be done in group on the fundamental philosophical positions • For the block 3 (Viganò): oral exam on the basis of a written reflection on the topics presented.
Evaluation criteria and criteria for awarding marks:	The final mark will be the sum of the three assessments. • Criteria for the oral exam: ability to evaluate, ability to argue, critical analysis skills, ability to summarize in own words, reflection • Criteria for the written exam: ability to search appropriate scientific literature, ability to develop an appropriate argumentation with logical structure, personal reflection.
Required readings:	Kirby, Read, Greaves: Research beyond Mainstream Nowotny, Gibbons, Scott: Re-Thinking Science Diverse articles Keiner: compilation of different texts in PowerPoint presentations Viganó: Bucchi M., Scienza e società. Introduzione alla sociologia della scienza, Cortina Ed. Milano 2010
Supplementary readings:	Eventually provided by instructors during the courses