le No.:	**CM2**	**Credits: 4**
Title:	**Wissenschaftstheorie / Philosophy of Science**	1 SWS
Location:	**Leibniz Universität Hannover**	

Goals of this course:

- This course addresses first and second year IS doctoral students and introduces them to the epistemological basics of research in three central dimensions: ontology (reality), epistemology (knowledge), and methodology. IS doctoral students learn how to identify appropriate research gaps, how to formulate promising research questions, and how to select and apply adequate theories, models, methods, and tools.

Content:

- This course offers an introduction to the epistemological basics of research: Assumptions in research are introduced and discussed concerning three central dimensions. First, assumptions are taught regarding ontology (reality). In design science oriented Information Systems Research (ISR) we deal with different realities: On the one side the real world with real artifacts, e.g., software or hardware, on the other side the abstracted world with theoretical artifacts, e.g., concepts, models, or theories. These two worlds are interlocked by Design Science Research (DSR). DSR uses already existing solutions, concepts, methods, models, theories, etc., to solve real life problems in different application domains. Often real artifacts are developed (deduction). Simultaneusly existing real artifacts and problem solutions are used to develop new theoretical and generalized artifacts (induction). The interlocked subjective reality of DSR is strongly driven by a problem solving way of thinking. Secondly, assumptions are taught regarding epistemology (knowledge). In the design science oriented ISR often instrumentalism and pragmatism dominate. Problem solving plays a key role and evaluation criteria like functionality, benefit, economic efficiency, acceptance, etc., are often more important compared to validity. Thirdly, also important methodical basics are taught including fundamental empirical and iterative approaches in DSR. Different kinds and basic procedures of DSR are introduced and discussed, e.g., a posteriori analyses of real artifacts already in use and a priori analyses of artifacts under development. Often this development is project-funded by the German BMBF/BMWi/BMU, the EU, the DFG or cooperating companies for many years. In these projects often groups of researchers both from science and companies also get new theoretical and generalizable findings and implications and thus can add theoretical knowledge for future problem solving.

Examination:

- Students have to write a short essay in teams of 2 or 3 students. Supervision and feedback will be given by the lecturers.

Workload:

Attendance time: 14 h
Self-study time: 106 h

Recommended Semester: 1-3	**Cycle:** Each winter term (blocked)
Literature: Will be provided in the course	**Lecturer:** Prof. Dr. Michael H. Breitner and Dr. Nadine Guhr
Type of Module: Mandatory	**Language:** English/German
Repeatable: twice	**Maximal number of students:** 15