

**LEHRSTUHL FÜR STEUERUNG INNOVATIVER  
UND KOMPLEXER TECHNISCHER SYSTEME**  
Prof. Dr. Dr. Lasse Gerrits



**Education Program WS 2019/20**

**(Main-) Seminar: Governance of Complex Systems II - Theories of Complex Systems**

**Room:** F21/03.80

**Time:** Wednesday, 10-12 h

**Start:** 16<sup>th</sup> of October 2019

**Overview**

This seminar asks the simple question: what is a system? Technological challenges such as mobility, climate change and energy generation, demand interventions in a complex set of relationships between public and private parties, and social and technological infrastructures. Many authors have worked on theories describing and analyzing systems. This theoretical seminar focuses on their philosophical and theoretical ideas about the constitution and operations of society as a system. Following the work e.g. Schelling (1978), the guiding thread in this module will be the relationship between the individual and the collective and how systems emerge through this relationship. We will discuss the work of prominent thinkers, starting with the work of Von Bertalanffy, through the work of (among others) Parsons and Luhmann, to contemporary iterations by e.g. Holland and Latour.

**Learning goals:**

- To explain the dynamics of complex systems using theoretical concepts
- To assess various and sometimes contradictory system theories
- To develop a coherent systemic argument about governance issues
- To reflect upon one's own position regarding complex systems in the face of theoretical concepts

**Method:**

Each week, we will discuss one of the original thinkers in the realm of complex systems. Naturally, they have a considerable written legacy. Each session will feature a central question regarding their work (see the syllabus page 3 onwards). Students will be required to look up their publications and to select certain elements they would like to talk about in relation to the central questions. These elements should be written down in **short position papers** (800 – 1000 words), to be submitted on the **Monday** before each session so that the instructor has time to read and structure them. The papers need to be **submitted through Virtual Campus**. All short position papers will contribute to the final and graded paper (see below). Please note that this method requires students to actively search for literature online and in the library. This is part of the exercise.

**Please note:**

The course relies heavily on the input of students, who are expected to work independently and to come up with original contributions. The materials for this course are sometimes difficult to comprehend and will not be served in a piecemeal fashion. As such, the course will have a steep learning curve and will only appeal to students who are in for a challenge. On the flipside: participating in this seminar is also one of the most awesome things you could do during your time at the university!

**Test and grading:**

Students will conclude the course with a paper in which they will revisit the original question of this course: **what is a system?** The text should be clear, concise and comprehensive. The short position papers submitted for each session will all contribute to the final paper. More details about this test will be given during the course.

**Literature:**

Students are required to find information and literature about these authors independently. Many materials are available through the university's library, online and in the library of the Chair of Governance of Complex Technological Systems. Guidance will be given during the course.

**Note:**

The seminar will be taught in English.

Test and grading: paper

Minimum – maximum number of participants: 3 - 13

**Registration:**

Registration beginning on 1<sup>st</sup> of September 2019 via FlexNow and during the first session.

**Speaking hours:**

Thursdays 11.00-12.00

**Contact:**

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