

Hauptseminar PG

## Planetary Boundaries

Dr. Tobias Sauter

**Study programme:** BSc / Lehramt Gymnasium  
**ECTS:** 5 / 4 (2 SWS)  
**Number of participants:** 22  
**Language:** English

Anthropogenic pressures on the Earth system have reached a level where abrupt global environmental changes can no longer be ruled out. Research has developed a new global sustainability concept, the so-called planetary boundaries, within which we expect humanity to operate safely. Crossing one or more planetary boundaries can be harmful or even catastrophic, causing abrupt environmental changes in systems from continental to planetary scales. In this seminar, we will critically examine the planetary boundaries of different Earth systems based on current scientific knowledge. We will talk about and discuss non-linearities in the Earth system, climate change, ocean acidification, biodiversity loss, global freshwater consumption, land use change, the nitrogen cycle and other topics. According to these topics, each participant will be assigned a topic to work on, which will be presented in a 20 min. keynote speech. Following the presentation(s), the participants will receive work assignments/group work from the speakers (approx. 10 min per ref.). In preparation, a short summary of the contribution of approx. 5-10 pages will be made available to all participants 2 weeks before the seminar date. On StudOn, we collect questions on the topic from all participants in advance in a forum. These will be incorporated into the discussion after the presentation. The speakers of the day summarise the discussion again in a short protocol. It is explicitly required that the participants work out the contents from scientific literature. The literature research should be done as independently as possible via common portals such as SCOPUS, Easy-Web-of-Knowledge.

### Learning objectives:

- in-depth knowledge of the subject incl. basic processes
- critical assessment of current discussions on the basis of topic specific knowledge
- scientific work, practice of presentation techniques and scientific writing, literature search
- teamwork

**Deliverables:** Presentation, short summary, participation in the discussions and reflection

**Time and Location:** see UniVIS

**Mandatory preliminary meeting with topic assignment:** Tue 13.07.2021 (18.00 h). The mandatory meeting will take place online. The zoom link will be sent to you by E-Mail a few days beforehand. If the registered persons or representatives are not present, the places at the preliminary meeting will be allocated directly to interested persons on the waiting list.