

**S148 Climate and Landscape Changes – Past and Future****Coordinator:** Prof. Dr. I. Unkel**Teaching Staff:** Prof. Dr. I. Unkel**Section for SSE:** E - Open Studies**Status for SSE:** Elective**Section for EM:** B7 - Human Development in Landscapes**Status for EM:** Elective**Contact time overall:** 52 hours**Credit points:** 6 ECTS**Term (Semester):** 1, 3 Winter**Independent study:** 128 hours**Prerequisites:** None**Language of tuition:** English**Overall workload:** 180 hours**Class size:** 25**Teaching Units:****Lecture - Palaeoclimate and future climate models****Teaching Staff:** Prof. Dr. I. Unkel**Contact time:** 26**Seminar - Journal Club****Teaching Staff:** Prof. Dr. I. Unkel**Contact time:** 26**Teaching Staff:****Contact time:****Teaching Staff:****Contact time:****Competences the module has been designed to develop:****Mastery of subject matter:** strong**Problem solving competences:** not at all**Mastery of methods:** not at all**Communication competences:** strong**Application of knowledge and understanding:** strong**Learning competences:** minor

S148

Climate and Landscape Changes – Past and Future

**Content:**

## Lecture:

- CO2 and long term climate
- Orbital scale climate change
- Deglacial and Millennial Climate Changes
- Historical and future climate changes
- Human-climate interaction
- Landscape-climate-interaction

Seminar: "Journal Club" should bring the students into contact with the most actual publications as well as with some "classical papers" from high ranking international peer-reviewed journals. The topics of the "Journal Club" are supposed to range from geoarchaeology to archaeometry, archaeological sciences, aDNA, palaeoenvironments and palaeoclimate, covering publications in journals like Nature, Science, PNAS, Quaternary Science Reviews, Journal of Archaeological Science, Journal of Palaeolimnology etc. Every session, one (or occasionally two) paper(s) is presented by one of the participants for ca. 20 min., while all the other participants are supposed to also have read the paper before the session. The presentation is followed by a scientific debate on the respective paper(s).

**Learning outcomes:**

Lecture: understanding of climate-landscape-human interaction  
Seminar: scientific literacy

**References:**

Lecture: W. Ruddiman: Earth's Climate – past and future.

Seminar: actual peer-reviewed journal articles.

**Recommended previous knowledge:**

None

**Teaching media:**

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**Assessment:**

Written exam (100%)

**Contact details of module coordinator:**

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