Level: PhD

Course title: Paleoclimatology

Status: elective

ECTS: 15

Requirements: master degree

Learning objectives

Introducing students to the basic concepts of paleoclimatology, modern theories about the climate development and experimental methods for their verification.

Learning outcomes

After taking the course, the student should have developed:

General abilities: basic knowledge of this field, following the literature, analysis of various solutions and the choice of the most adequate solution, application in practice and other subjects.

Subject-specific abilities: knowing the experimental techniques determining the climate parameters in the past. Knowledge of the essential actual theories and their use in the interpretation of experimental results.

Syllabus

Theoretical instruction

Climate changes on various time scales. Analysis. Mechanisms of climate changes: variation of Earth orbit parameters, solar activity, volcanic activity, greenhouse effect, effects of atmospheric and ocean circulations. Milankovic's theory. Methods for reconstruction of the past climate. Dating methods. Indirect proofs of climate: sea sediments, glacier ice, lake sediments and borderline, cave deposits, eolic sediments.

Practical instruction

Computer simulation homework, seminars.

Weekly teaching load				Other:
Lectures: 6	Exercises:	Other forms of teaching:	Student research: 4	