

<b>Study Programme: PhD in Geosciences (Geography)</b>			
Level: PhD			
<b>Course title: Quaternary paleoenvironments and paleoecology changes</b>			
<b>Lecturer(s): dr Slobodan Marković, dr Biljana Basarin</b>			
Status: elective			
ECTS: 11			
Requirements: None			
<b>Learning objectives</b> Introduction to causal principle of Quaternary climatic and environment changes. Understanding of Quaternary climatic- and environment's dynamics is important link for understanding real scale of recent global warming.			
<b>Learning outcomes</b> Students should be able to compare Quaternary climatic- and environment's dynamics with recent processes, and to define possible scenario of natural processes dynamics in the future.			
<b>Syllabus</b> <i>Theoretical part</i> Overview of climatic and environment changes in geological history. Quaternary climatic transition. Most significant paleoclimatic models (SPECMAP, CLIMAP). Most significant paleoclimate terrestrial and ocean archives. Milanković theory of the Ice ages, Quaternary climate variability, last glacial maximum and future climate change.  <i>Practical part</i> Fieldwork (the main loess/paleosol sections), introduction to main methods for reconstruction of climatic and environments changes.			
<b>Recommended literature</b> 1. Dawson, A.G. (1992): Ice Age Earth – Late Quaternary geology and climate. Routledge, London and New York. 2. Lowe, J.J. (2002): Reconstructing of Quaternary Environments. Longman, Harlow. 3. Burroughs, W.J. (2005): Climate Change in Prehistory. Cambridge University Press. 4. Rapp, D.(2009) Ice Ages and Interglacials: Measurements, Interpretation and Models, Springer, Germany			
<b>Weekly teaching load</b>	Lectures: 4(60)		Student research:
<b>Teaching methodology</b> Classes will be realized in the form of lectures and seminar papers. Lectures will be carried out using computer presentations, film projections and field work.			
<b>Grading method (maximal number of points 100)</b>			
Pre-exam obligations	points	Final exam	points
Seminar paper	50	Oral exam	50