



1. GENERAL INFORMATION					
Study programme title	University graduate study programme in geology				
	Subprogramme Geology of mineral resources and geophysical explorations				
	University graduate study programme in geological engineering				
	Subprogrammes Hydrogeology and engineering geology, environmental geology				
Course title	Quaternary Geology		Semester	II.	
Teacher	Assist. Prof. Marko Cvetković		Course code	27002	
Course type	<input type="checkbox"/> obligatory <input checked="" type="checkbox"/> elective		ECTS	3	
Location	University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering, Pierottijeva 6, Zagreb				
Language	<input type="checkbox"/> Croatian <input checked="" type="checkbox"/> English				
Class type	Weekly hours	Teaching staff	Office hours	Room	E-mail
Class	2	Assist. Prof. Marko Cvetković	Tuesday 12-14 PM		Marko.cvetkovic@rgn.hr
Practice	0				
Field lecture	0				
E-learning level	Basic level		Percentage of on-line class (max. 20%)		
2. COURSE DESCRIPTION					
Course aims	The aim of the course is the introduction to the significance of the Quaternary as a geological period. Aim of the course is to present the reasons for the changes in climate, dynamics of climate shifts and various methods of determining these changes from floral/faunal to isotope analysis. A section of the course is dedicated to glaciations, glacial sediments and characteristic features of glacial environments. Presentation of the eolian sedimentation and loess as abundant Quaternary age sediment along with its characteristic features. A part of the course covers the Quaternary deposits in Croatia and a brief summary of Paleoanthropology.				
Requirements for applicants	General outline of the Stratigraphy, Paleontology				



Programme level learning outcomes with course contribution	
Expected course level learning outcomes (4-10 outcomes)	<ul style="list-style-type: none"> • Awareness of general knowledge about Quaternary • Knowing how to evaluate climate changes and their impact on geological medium • Recognition of glacial deposits and facies in the field • Recognition of loess deposits and facies in the field • General information about Paleotopology
Course contents by individual lessons	
Class	Practice
C1 – Introduction, Student obligations. Definition of Quaternary. History of nomenclature of Quaternary	
C2 – Quaternary stratigraphy, subdivision of Quaternary, subdivisions valid for certain parts of the Earth based on glaciations.	
C3 – Climate and Climatology	
C4 – Climate records, data and models. Milankovitch cycles, Paleoclimatology of Quaternary. Warm climate indicators.	
C5 - Cold climate indicators. Position and height of the snow line/boundary. Valley geometry.	
C6 – Nivation and forms of nivation. Glacial systems.	
C7 – Glacial environments and related sediments.	
C8 – Dean term	
C9 – Periglacial environments. Characteristics of last glacial age in various parts of the World.	
C10 – Eolian systems and sediments	
C11 – Loess - definitions, characteristics	
C12 – Types of Quaternary sediments in Croatia – Potential signs of glaciation	
C13 - Types of Quaternary sediments in Croatia – fluvial and eolian	



C14 – Economic importance of Quaternary sediments				
C15 – fundamentals of Paleoanthropology				
Students' obligations	Regular attendance of classes			
Students' work track <i>(indicate share in ECTS points for each activity so that overall ECTS number corresponds to class credits score):</i>	Class attendance	1	Research	
	Project		Report	
	Colloquium		Seminar paper	1
	Practical work		Oral exam	1
	Written exam		(Extra)	
Type of exam, grades and evaluation of students work during class and on final exam	Exams are performed through seminar papers and final oral exam.			
Mandatory literature (available in the Library and via other media)	Ruddiman, W. F. (2002): Earths Climate. Past and Future. W. H. Freeman and Company. 465 str. Bennett, M. R. & Glasser, N. F. (1996): Glacial Geology. Ice, Sheets and Landforms. Willy. 364 str. Presentations are available at the course web site			
Additional literature (at the moment of study program proposition application)				
Examination terms	On Tuesdays during Exam periods			
Other				

Course Teacher:

Assist. Prof. Marko Cvetković