

1. GENERAL INFORMATION						
Study programme title	Undergraduate study of geological engineering					
Course title	Earth system history			Semester	IV (Summer)	
Teacher	Prof. Davor Pavelić, PhD			Course code	77896	
Course type	<input checked="" type="checkbox"/> obligatory <input type="checkbox"/> elective			ECTS	8	
Location	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	4	Prof. Davor Pavelić, PhD	Wednesday 9-11 a.m.	V 402	dpavelic@rgn.hr	
Practice	2	Asst. Ivica Pavičić, PhD	Wednesday 9-11 a.m.	V 419	ipavicic@rgn.hr	
Field lecture	30 totally	Prof. Davor Pavelić, PhD, Asst. Ivica Pavičić, PhD, Asst. Šime Bilić, mag. geol.	Wednesday 9-11 a.m.		dpavelic@rgn.hr ipavicic@rgn.hr sbilic@rgn.hr	
E-learning level			Percentage of on-line class (max. 20%)			
2. COURSE DESCRIPTION						
Course aims	<p>Aim of the course is introducing on the Earth development from its forming, inclusion the life evolution.</p> <p>Main goals are:</p> <ul style="list-style-type: none"> - getting knowledge on the classification in stratigraphy and dating methods - understanding of the plate tectonics theory and its function in the Earth crust change - understanding of magmatism, deposition and metamorphism in the Earth crust forming - getting knowledge on causes of the life evolution and mass extinctions - introducing of the Earth developments and changes from its forming till the present time - applying the knowledge in professional and scientific work 					

Requirements for applicants	General geology: pass Mathematics 2: pass Physics: pass General mineralogy: pass		
Programme level learning outcomes with course contribution			
Expected course level learning outcomes (4-10 outcomes)	Students will be able to: - differentiate and describe using of relative and absolute dating - define the relative age of rocks - describe the theory on the Earth forming, the Earth differentiation and its evolution through time - evaluate the roll of plate tectonics, magmatism, metamorphism, sedimentation, climate changes and erosion in the dynamic lithosphere development - explain the life evolution in the sense of the biological evolution as well as causes of mass extinctions during the Earth's history - choose the method of rock dating, and define lithostratigraphic formations of some of rocks in Croatia on his own - recognize main lithostratigraphic formations on the field in Croatia		
Course contents by individual lessons			
	Class	Practice	
	P1 - Methods in stratigraphy - I P2 - Methods in stratigraphy - II P3 - Classification in stratigraphy P4 - Sedimentary rocks and environments P5 - Evolution and fossil records P6 - Hadean, Archean P7 - Proterozoic P8 - Cambrian, Ordovician P9 - Silurian, Devonian P10 - Carboniferous, Permian P11 - Triassic P12 - Jurassic P13 - Cretaceous P14 - Paleogene P15 - Neogene, Quaternary	V1 - Introduction V2 - Relative age V3 - Stratigraphic correlation V4 - Magnetostratigraphy V5 - Magnetostratigraphy - sedimentation rate V6 - Chemostratigraphy V7 - Seismic stratigraphy V8 - Biostratigraphy V9 - Lithostratigraphy V10 - Carboniferous - Triassic: lithostratigraphy V11 - Jurassic - Cretaceous: lithostratigraphy V12 - Paleogene: lithostratigraphy V13 - Neogene (Dinarides): lithostratigraphy V14 - Neogene (Pannonian basin): lithostratigraphy V15 - Colloquium: recognizing of lithostratigraphic units	
Students' obligations	Regular presence at the class (maximum absence 3), written (accepted by the teacher) and defended seminar thesis within personal deadline. Regular presence at the practice (maximum absence 3). Complete field class.		
Students' work track (indicate share in ECTS points for each activity so	Class attendance	1	Research
	Project		Report



<i>that overall ECTS number corresponds to class credits score):</i>	Colloquium	1	Seminar paper	1
	Practical work	1	Oral exam	3
	Written exam	1	(Extra)	
Type of exam, grades and evaluation of students work during class and on final exam	Written exam through two colloquiums (30 percent). During the oral examination student will answer the whole course content (70 percent).			
Mandatory literature (available in the Library and via other media)	D. Bucković (2006): Historijska geologija I. Udžbenici Sveučilišta u Zagrebu, Zagreb. D. Bucković (2006): Historijska geologija II. Udžbenici Sveučilišta u Zagrebu, Zagreb.			
Additional literature (at the moment of study program proposition application)	M. Herak (1984): Geologija. Školska knjiga, Zagreb. S.S. Stanley (2014): Earth System History. W.H. Freeman and Company. R. Wicander & J.S. Monroe (2006): Historical Geology. Thomson.			
Examination terms	26.06., 09.07., 27.08., 10.09.2019.			
Other				