

NAME OF THE COURSE		Evolution								
Code	PMB241	Year of study	2							
Course teacher	Professor Jasna Puizina, PhD	Credits (ECTS)	2,5							
Associate teachers	-	Type of instruction (number of hours)	L	S	E	F				
Status of the course	Mandatory	Percentage of application of e-learning	10%							
COURSE DESCRIPTION										
Course objectives	Developing an awareness in students that evolution is not just a theory but a scientific fact based on vast amounts of material evidence from various scientific discipline (biology, physics, chemistry, paleontology, geology, anthropology and others). Knowing the basic facts and laws of the development of the living world. Introducing the students with the latest discoveries in the field of molecular evolution. The acquired knowledge is necessary for integrative understanding of biology as a scientific discipline, and understanding a science-based understanding of the development of life on Earth.									
Course enrolment requirements and entry competences required for the course	None.									
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	1. Understand the facts and laws of development of life on Earth. 2. Argue and substantiate evolutionary processes. 3. Distinguish evolution from other unscientific theories of life development on Earth. 4. Explain the importance of evolutionary processes on examples from everyday life									
Course content broken down in detail by weekly class schedule (syllabus)	Lectures 1. Historical overview of evolutionary thoughts, Darwin's life and his selection theory 2. Modern evolutionary synthesis. Punctuated equilibrium theory. 3. Paleontological evidences of evolution. 4. Comparative-anatomical, biogeographical and physiological evidences of evolution 5. Molecular-biological and genetic evidences of evolution 6. A living world in the past 7. The great extinctions (the big five) 8. The origin of the planet Earth and the beginnings of life on Earth 9. Origin of organic matter on Earth: abiogenic theory. 10. RNA world 11. Revision of molecular systematics and a new tree of life 12. Evolution of metabolism and endosymbiont theory of eukaryotic cell origin 13. The driving force of evolution 1. - the variability of living beings 14. The driving force of evolution 2 – natural selection. Speciation 15. Evolution of humans									
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> on line in entirety <input checked="" type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)						
Student responsibilities	Students should attend to at least 70% of lectures (21 hours). Student can pass two partial exams or a regular written exam.									

Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Class attendance	1	Research		Practical training			
	Experimental work		Report		(Other)			
	Essay		Seminar essay		(Other)			
	Tests		Oral exam		(Other)			
	Written exam	1,5	Project		(Other)			
Grading and evaluating student work in class and at the final exam	<p>The exam is written, and can be passed through two colloquia.</p> <p>90% - 100% grade 5 (excellent)      78% - 89% grade 4 (very good)      66% - 77% grade 3 (good)      55% - 65% grade 2 (sufficient)      &lt; 55% grade 1 (insufficient)</p>							
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media			
	Puizina Jasna, web teaching materijal, essay questions.				E-learning, MS teams			
Optional literature (at the time of submission of study programme proposal)	<p><a href="http://evolbiol.ru/docs/docs/large_files/why_evolution_is_true.pdf">http://evolbiol.ru/docs/docs/large_files/why_evolution_is_true.pdf</a>  <a href="http://www.blackwellpublishing.com/ridley">http://www.blackwellpublishing.com/ridley</a> (Mark Ridley, Evolution, 3rd ed)  <a href="http://evolution.berkeley.edu/evolibrary/article/evo_01">http://evolution.berkeley.edu/evolibrary/article/evo_01</a>      Mirjana Kalafatić, 1998: Osnove biološke evolucije, Zagreb      Yuval Noah Harari: Sapiens – kratka povijest čovječanstva, Fokus, zagreb, 2015.      Richard Dawkins: Najveća predstava na Zemlji, Izvori, 2008      Richard Dawkins: Sebični gen. Izvori, 1997.      Matt Ridley: Genom. Izvori, 1997.      Brian Sykes: Sedam Evinih kćeri. Naklada Zadro. Zagreb 2002.      Brian Sykes: Adamovo prokletstvo - budućnost bez muškaraca, Algoritam, Zagreb, 2006.      Geoffrey Miller: Razum i razmnožavanje. Kako je izbor partnera oblikovao evoluciju ljudske naravi. Algoritam, Zagreb, 2007</p>							
Quality assurance methods that ensure the acquisition of exit competences	Student's survey							
Other (as the proposer wishes to add)								