

NAME OF THE COURSE		Biodiversity				
Code	PMB540	Year of study	3			
Course teacher	Assistant Professor Sanja Puljas, PhD Associate Professor Mirko Ruščić, PhD	Credits (ECTS)	2			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			15	15		
Status of the course	Elective	Percentage of application of e-learning	10			
COURSE DESCRIPTION						
Course objectives	The aim of the course is to provide students with basic knowledge about the importance of biodiversity conservation. Students will be introduced to methods of estimating species richness, the consequences of biodiversity loss and protection mechanisms. The aim is to acquaint students with current strategies and action plans related to biodiversity protection at the global and local level.					
Course enrolment requirements and entry competences required for the course	There are no entry competences.					
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<p>Student will be able to:</p> <ul style="list-style-type: none"> <li>-define the concept of biological diversity and the importance of its protection,</li> <li>-independently judge and analyze biological diversity,</li> <li>-define genetic diversity and understand the mechanisms of maintaining genetic diversity of populations,</li> <li>-determine the factors influencing the reduction of biological diversity,</li> <li>-explain the concept of species richness and concepts of biological diversity,</li> <li>-explain the connection between biodiversity and ecosystem functions,</li> <li>-understand the occurrence of mass species extinctions over the past,</li> <li>-discuss strategies and action plans for biodiversity protection,</li> <li>-understand the legal regulations and basic guidelines for biodiversity protection.</li> </ul>					
Course content broken down in detail by weekly class schedule (syllabus)	<p><u>Lecture 1. Definition of biodiversity</u> Significance of biodiversity, inventory and monitoring of the state of biodiversity components.</p> <p><u>Lecture 2. species richness</u> Measurement of species richness, concept of species richness, methods of species richness assessment, key species (flagship, umbrella, indicator, ecosystem engineers) and their importance in biodiversity protection.</p> <p><u>Lecture 3. Measurement of biological diversity</u> Genetic diversity, genetic structure of the population, mechanisms of maintaining and creating genetic diversity of populations, the process of determining the genetic diversity of higher levels of the organization, measuring biodiversity at higher levels of the organization.</p> <p><u>Lecture 4. Environmental factors and diversity gradients</u> Environmental factors correlated with biodiversity, gradients affecting biodiversity.</p> <p><u>Lecture 5. Biodiversity regulation</u> Methods of analysis of local and regional diversity (<math>\alpha</math>, <math>\gamma</math> and <math>\beta</math> diversity), mechanisms of biodiversity regulation, predation and environmental disturbances.</p> <p><u>Lecture 6. Stability and functioning of ecosystems under the influence of biological diversity</u> Community diversity and community stability, ecosystem function, human-influenced biodiversity change and climate change.</p> <p><u>Lecture 7. Biodiversity loss</u></p>					

	<p>Consequences of biodiversity loss, changes in Earth's biodiversity over geological time, mass extinctions of species over the past, risks of extinction on different spatial scales: local, regional and global.</p> <p><u>Lecture 8. Conservation of biological diversity</u></p> <p>Basics of conservation biology, strategies and action plans for the protection of biological and landscape diversity of the Republic of Croatia. Ecological Network of the Republic of Croatia and NATURA 2000 Network. Criteria applied in the selection of species for protection, mechanisms for protection of biological diversity (Ex situ and In situ protection).</p> <p>SEMINARS: Seminar 1. Databases and literature related to biodiversity Seminar 2. Critical approach to data analysis in the field of biodiversity Seminar 3. Statistical data analysis Seminar 4. Biological diversity of CroatiaSeminar 5. Protected areas of CroatiaSeminar 6. Analysis of scientific work in the field of biodiversity</p>					
Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input checked="" type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input type="checkbox"/> independent assignments <input checked="" type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)			
Student responsibilities	Students' presence in the amount of at least 70% of scheduled lectures, student seminar work.					
Screening student work ( <i>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</i> )	Class attendance	0.5	Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay	0.5	(Other)	
	Tests		Oral exam		(Other)	
	Written exam	1	Project		(Other)	
Grading and evaluating student work in class and at the final exam	Students are graded on the basis of a seminar paper and a written exam (or 2 partial written colloquia).					
Required literature (available in the library and via other media)	<b>Title</b>			<b>Number of copies in the library</b>	<b>Availability via other media</b>	
	Artiola, J. F., Pepper, I. L., Brusseau, M. L. (2004) Environmental Monitoring and Characterization. Elsevier Academic Press, San Diego, str. 1-410				web	
	Sodhi, N.S., Ehrlich P.R. (2010): Conservation Biology for All. Oxford University Press.				web	
	Gaston, K.J.and Spicer J.I. (1998). Biodiversity: An Introduction. Second edition. Blackwell Publishing				web	
Šolić, M. (2009). Ljepota različitosti –ekološki uzroci biološke raznolikosti na Zemlji. Izvori, Zagreb			3			

Optional literature (at the time of submission of study programme proposal)	<p>-UNEP World Conservation Monitoring Centre. 2000. Global biodiversity -Earth's living resources in the 21st century. WorldConservation Press, Cambridge.</p> <p>-Wilson, E.O. 1992. The diversity of life. Penguin books, London.</p> <p>-Radović, J. 1999. Pregled stanja biološke i krajobrazne raznolikosti Hrvatske sa strategijom i akcijskim planovima zaštite. DUZO, Zagreb.4.</p> <p>-Gaston, K.J.(ed.). 1996. Biodiversity: A Biology of Numbers and Difference, Wiley.</p>		
Quality assurance methods that ensure the acquisition of exit competences	<p>-Taking attendance of students during classes.</p> <p>-Students' survey evaluation of teacher's work.</p> <p>-Feedback from graduated students on the relevance of the course content.</p>		
Other (as the proposer wishes to add)	<p>Consultations are taking place according to the agreement with the students or by e-mail: <a href="mailto:spuljas@pmfst.hr">spuljas@pmfst.hr</a> and <a href="mailto:mrus@pmfst.hr">mrus@pmfst.hr</a></p>		