

NAME OF THE COURSE		Natural toxins in the sea						
Code	PPC210	Year of study			3.			
Course teacher	dr. sc. Stjepan Orhanović, assistant professor	Credits (ECTS)			2,0			
Associate teachers		Type of instruction (number of hours)			L	S	E	F
		15						
Status of the course	electional	Percentage of application of e-learning			10%			
COURSE DESCRIPTION								
Course objectives	Course objective is acquiring knowledge about various sources of toxicity originating in the sea and their influence on the human health							
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)	<p>Upon completing exam student will be able to:</p> <ol style="list-style-type: none"> 1. recognize sources of toxicity in the marine environment 2. comprehend influence of the toxicity originating from phytoplanktons on the shellfish farming and humans 3. acquire insight in frequency and spatial distribution of the phytoplankton species responsible for shellfish intoxication in the Adriatic sea 4. know methods and techniques of analysis of the shellfish toxicity 							
Course content broken down in detail by weekly class schedule (syllabus)	<p>Lectures:</p> <ol style="list-style-type: none"> 1. Eutrophication and the red tide (1 hour) 2. Phytoplankton species – producers (1 hour) 3. Diarrheic toxins (2 hours) 4. Paralytic toxins (2 hours) 5. Neurotoxins (2 hours) 6. ASP (2 hours) 7. Cyanotoxins, azaspiroid intoxication (1 hour) 8. Ciguatera intoxication (1 hour) 9. Analytical methods: Mousse bioassay, HPLC, mass spectrometry, MALDI-TOF (2 hours) 10. Overview of the present state in the Adriatic (1 hour) 							
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 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	Attending classes and preparing seminar as a PPT presentation.							
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	1	(Other)			
	Written exam		Project		(Other)			
Grading and evaluating student work in class and at the final exam	Power point presentation on the chosen subject with reflection on the causes, influence, frequency and spatial distribution of intoxication and related analytical methods							
Required literature	Title				Number of	Availability via		

(available in the library and via other media)		copies in the library	other media
	Scientific articles on the subject presented		
	Optional literature (at the time of submission of study programme proposal)		
Quality assurance methods that ensure the acquisition of exit competences	Personal consultations, students survey for the evaluation of the subject and teacher, evidence of the presence on the classes.		
Other (as the proposer wishes to add)			