NAME OF THE COURSE	Biology Education II					
Code	PMB249	Year of study	2			
Course teacher	Associate Professor Mirko Ruščić, PhD	Credits (ECTS)	5			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			30	30		
Status of the course	Mandatory	Percentage of application of e-learning	10			

COURSE DESCRIPTION	
Course objectives	Develop a system of opinions and attitudes that will be the foundation for the organization of heuristic biology teaching based on a problem-based, exploratory and experimental approach. The knowledge gained within this subject will enable quality preparation and implementation of biology teaching.
Course enrolment requirements and entry competences required for the course	Course taken: Biology Education I. Input Competencies: basic biological knowledge, knowledge of precautionary measures in biology practice; the foundations of didactics and psychology of education.
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Student will be able to: 1. Make detailed preparation for the lesson using the biological contents provided by the curriculum. 2. Formulate the goals and outcomes of learning in preparation and select and properly use the original reality of teaching resources and aids. 3. Maintain a simulated lesson observing good qualities and guidelines for correcting detected errors. 4. Perform the teaching lesson of biology according to the methodological principles and legalities to analyze the performance syllabus classes in Primary and Secondary Schools. 5. Create valid valuation tools. Prepare the levels of presentation of biology teaching contents and integrate elements of individual levels properly. 7. Organize active learning biology. 8. Properly interpret the meaning of key concepts in the applicable curricula. 9. Explain the importance of proper language service in teaching biology. 10. Explain and illustrate the concept of methodical knowledge.
Course content broken down in detail by weekly class schedule (syllabus)	Lectures: / Exercises: 1. Types of classes in biology teaching; 2 P. 2. Repeating and Exercising in Biology Class 2P + 2S. 3. Valuation of knowledge; 2P + 2S. 4. Learning by learning cycle through the application of the organizer of attention to the presentation of students; 2P + 2S. 5. Preparation of teaching materials for structured student discovery; 2P + 2S 6. Development of evaluation instruments; 2P + 2S. 7. Organization and simulation of workshops for the purpose of learning and popularizing biology (open forms of teaching, the creation of students and teachers); 2P + 3S. 8. Biology curricula; 2P.

	9. Conceptual understanding of biology through the integration of macroscopic, submicroscopic and symbolic content presentation levels; 2P + 2S. 10. Active learning in biology teaching; 2P + 2S. 11. Preparation and simulation of learning with a problematic task with graphic representation; 2P + 3S. 12. Acquisition and application of knowledge on teaching basic biological concepts; 2P + 2S. 13. Teaching lesson in school - applying knowledge 2P + 3S. 14. Qualitative assessment of written tests and constructions, implementation and analysis of written knowledge assessment; 2P + 3S. 15. External Evaluation with the Analysis of National Examinations, State Matura, PISA and TIMSS Surveys); 2P + 2S.

Format of instruction	☒lectures ☒seminars and workshops ☒exercises ☐*on line*in entirety ☐partial e-learning ☐field work	☒independent assignments ☒multimedia ☒laboratory ☐work with mentor ☐ (other)
Studentresponsibilities	Regular attendance, solving individual tasks, preparing written lesson, teaching lessons.	

Screening student work*(name the proportion of ECTS credits for eachactivity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	1.5	Research		Practical training	0,5
	Experimental work		Report		(Other)	
	Essay		Seminar essay	1	(Other)	
	Tests		Oral exam	2	(Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	Teaching time 40% - Oral exam: 40% - Seminar assignment 20%

Required literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Ruščić, M., 2011. Biology teaching methodology.Interna script		mail
	Bruening, L. 2008. By studying to successful teaching: how to activate students and encourage them to cooperate. Naklada Kosinj. Zagreb	1	
	Marzano, R.J., Pickering, D.J., Pollock, J.E., 2006 Teaching strategies: How to apply the nine most successful teaching strategies translated T. Jakovčević, EDUCA, Zagreb	1	
	Sampson, V., Schleigh, S., 2012. Scientific Argumentation in Biology: 30 Classroom Activities, NSTA Brown, C.R. 1995. The effective teaching of biology. Longman Publishing, New York.	1	

	Koba S., Tweed A. 2009.Hard-to-teach biology concepts: a framework to deepen student understanding. NSTA press. Arlington, Virginia, USA.		
	https://books.google.hr/books?id=eQiQ4jWwQikC&pg=PR12&lpg=PR	1	
	Allen D., Tanner K. 2009.Transformations. Approaches to College Science Teaching. W.H.Freeman & co. New York, USA.	1	
	Killermann, W. 1991. Biologieuntericht heute - Eine moderne Fachdidaktik. Verlag Ludwig Auer. Donauwrth	1	
Optional literature (at the time of submission of study programme proposal)	Biology textbooks for elementary and high school approved by the Ministry of Science, Education and Sports. Herr N. 2006. The sourcebook for teaching science, http://www.csun.edu/~vceed002/biology/index.html Professional and scientific articles and other sources are highlighted as additional literature and available through the subject pages. Methodology of Biology Education, http://merlin.srce.hr/ Willis J. 2006. Research-based strategies to ignite student learning: insights from a neurologist and classroom teacher. ASCD. Alexandria, Virginia, USA		
Quality assurance methods that ensure the acquisition of exit competences	Talk-Individual Consultation Analysis of individual tasks Institutional evaluation of the teaching process.		
Other (as the proposer wishes to add)			