

1.	Course Title	Introduction to Ecoinformatics		
2.	Code	F18L3S084		
3.	Study program	Software engineering and information systems		
4.	Study Program Organizer	Faculty of Computer Science and Engineering		
5.	Degree (first, second, third cycle)	first cycle		
6.	Academic year / semester 2 / summer / optional	7. ECTS credits	6	
8.	Teacher	full professor Kosta Mitreski		
9.	Course enrollment prerequisites	Вовед во компјутерски науки		
10.	<p>Course program goals (competencies):</p> <p>Ecoinformatics is the science of information (informatics) in ecology and environmental science. It integrates environmental and information science to define entities and natural language processes common to people and computers. EcoInformatics aims to facilitate research and management of the environment by developing ways of accessing, integrating environmental information databases and developing new algorithms that allow the combination of different environmental databases to test the environmental hypotheses.</p> <p>https://cals.wisc.edu/ecoinformatics/ https://www.witpress.com/Secure/elibrary/papers/9781845642075/9781845642075003FU1.pdf</p>			
11.	<p>Course program content:</p> <p>Introduction to Eco-Informatics. Tools for analyzing data from the natural system. Monitoring and acquisition of the data needed for Ecoinformatics. Ecological modeling. Visualization of data and results obtained. Machine Learning in Eco Informatics.</p>			
12.	<p>Learning methods:</p> <p>Lectures using presentations, interactive lectures, exercises (using equipment and software packages), teamwork, case studies, invited guest lecturers, independent preparation and defense of a project assignment and seminar work.</p>			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	30 + 45 + 15 + 15 + 75 = 180 hours		
15.	Teaching activity forms	15.1.	Lectures – theoretical teaching	30 hours
		15.2.	Exercises (laboratory, auditory), seminar papers, teamwork	45 hours

16.	Other activity forms		16.1.	Project Tasks	15 hours
			16.2.	Independent Learning Tasks	15 hours
			16.3.	Home learning	75 hours
17.	Assessment methodology				
17.1.	Tests			10 points	
17.2.	Seminar paper/project (presentation: written and oral)			10 points	
17.3.	Activity and learning			10 points	
17.4.	Final exam			70 points	
18.	Assessment criteria (points/grade)		up to 50 points		5 (five) (F)
			51 to 60 points		6 (six) (E)
			61 to 70 points		7 (seven) (D)
			71 to 80 points		8 (eight) (C)
			81 to 90 points		9 (nine) (B)
			91 to 100 points		10 (ten) (A)
19.	Course completion and final exam requirements		Realized activities 15.1 and 15.2		
20.	Teaching Language		Macedonian and English		
21.	Teaching quality evaluation method		Internal evaluation mechanisms and questionnaires		
22.	Course Material				
22.1.	Mandatory course material				
	No	Author	Title	Publisher	Year
	1	Vladimir F. Krapivin, Costas A. Varotsos, Vladimir Yu. Soldatov	New Ecoinformatics Tools in Environmental Science: Applications and Decision-making	Springer	2017
	2	R. A. Reddy	Ecoinformatics: Tools and Techniques	SBS Publishers & Distributors, 2009	2009
	3	S.E. Jørgensen, T-S. Chon, F. Recknagel	Handbook of Ecological Modelling and Informatics	WIT Press	2009

22.2.	Additional course material			
No.	Author	Title	Publisher	Year