

1.	Course title	Proteomics		
2.	Course code	BIO-I-03		
3.	Study program	Bioinformatics		
4.	Unit offering the course	FCSE		
5.	Undergraduate/master/PhD	Master		
6.	Year/semester 1/winter/elective	7. ECTS: 6		
8.	Teacher(s)	associate professor Slobodan Kalajdziski		
9.	Course prerequisites	None		
10.	Goals (competences): The student will become familiar with the basic principles of proteomics and ways of determining the function of the protein.			
11.	Course content: Introduction to genomics, transcriptomics, and proteomics. Strategies for separating proteins. Identification of proteins. Proteomics and the analysis of protein sequences. Structural proteomics. Interactive proteomics. Experimental and computational methods for determining the interaction between proteins. Modular analysis of protein interaction networks. Topological analysis of protein interaction networks. Statistical analysis and machine-learning analysis based on protein interaction networks. Integrating GeneOntology into the analysis of protein interaction networks.			
12.	Teaching methods: Lectures supported by slide presentations, interactive lectures, trainings (using lab equipment and software packages), team work, case studies, invited guests and lectures, individual practical assignments presentations, seminar paper, e-learning (forums, consultations).			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	120 + 0 + 60 = 180 hours		
15.	Teaching activities	15.1.	Lectures	120 hours
		15.2.	Training (labs, problem solving), seminar and team work	0 hours
16.	Other activities	16.1.	Project work	15 hours
		16.2.	Self study	15 hours
		16.3.	Home work	30 hours
17.	Grading			
	17.1.	Tests		65 points
	17.2.	Seminar work/project (written or oral presentation)		25 points
	17.3.	Active participation		10 points
18.	Grading criteria		to 59 points	5 (five) (F)
			from 60 to 68 points	6 (six) (E)
			from 69 to 76 points	7 (seven) (D)
			from 77 to 84 points	8 (eight) (C)
			from 85 to 92 points	9 (nine) (B)

		from 93 to 100 points	10 (ten) (A)			
19.	Final exam prerequisites	Successfully completed activities 15.1 and 15.2				
20.	Course language	Macedonian and English				
21.	Quality assurance methods	Internal evaluation and student questionnaires				
22.	Literature					
	22.1.	Compulsory				
		No.	Authors	Title	Publisher	Year
		1.	R.M.Twyman	Principles of Proteomics	Taylor & Francis	2007
		2.	Ingvar Eidhammer, Kristian Flikka, Lennart Martens, and Svein-Ole Mikalsen	Computational Methods for Mass Spectrometry Proteomics	Wiley-Interscience	2008
	3.	Aidong Zhang	Protein Interaction Networks: Computational Analysis	Cambridge University Press	2009	
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year
		1.				
		2.				
3.						