

1.	Course title	Web Programming		
2.	Course code			
3.	Study program			
4.	Unit offering the course	FCSE		
5.	Undergraduate/postgraduate/PhD	Undergraduate		
6.	Year/semester	7. ECTS: 6		
8.	Teacher(s)	Assoc. prof. dr. Dimitar Trajanov, assist. prof. dr. Goce Armenski		
9.	Course prerequisites	Internet technologies		
10.	Goals (competences): Development of advanced server based web applications based on templates. Development of cloud based web applications.			
11.	Course content: MVC Template for development of web applications. Asynchronous calls to web services. Basic tools for development of MVC for web applications. URL routing. Controllers and actions. Filters. Extending controllers. Views. Models templates. Connecting models. Model validation. Ajax. jQuery. Security. Authentication and authorisation. Web API. Installation of web applications. Web development in cloud. Using cloud as a platform for development of web applications. Storing data in the cloud. Using and creating services in the cloud.			
12.	Teaching methods: Lectures supported by presentations with slides, interactive lectures, exercises (use of equipment and software packages), real life examples, invited guest lecturers, preparation and defence of a project work and seminar thesis, learning in an e-environment (forums, consultations).			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	30 + 45 + 40 + 30 + 35= 180		
15.	Teaching activities	15.1.	Lectures	30 hours
		15.2.	Training (labs, problem solving), seminar and team work	45 hours
16.	Other activities	16.1.	Project work	40 hours
		16.2.	Self study	30 hours
		16.3.	Home work	35 hours
17.	Grading			
	17.1.	Tests	60 points	
	17.2.	Seminar work/project (written and oral presentation)	30 points	
	17.3.	Active participation	10 points	
18.	Grading criteria	to 50 points		5 (five) (F)
		from 51 to 60 points		6 (six) (E)
		from 61 to 70 points		7 (seven) (D)
		from 71 to 80 points		8 (eight) (C)

		from 81 to 90 points	9 (nine) (B)			
		from 91 to 100 points	10 (ten) (A)			
19.	Final exam prerequisites	Completed activities 15 and 16				
20.	Course language	Macedonian and English				
21.	Quality assurance methods	Internal evaluation mechanisms supported by student polls				
22.	Literature					
	22.1.	Compulsory				
		No.	Authors	Title	Publisher	Year
		1.	Adam Freeman	Pro ASP.NET MVC 4	Apress	2012
		2.	Marten Deinum , Koen Serneels , Colin Yates , Seth Ladd , Christophe Vanfleteren	Pro Spring MVC: With Web Flow	Apress	2012
	3.	Tejaswi Redkar , Tony Guidici	Windows Azure Platform 2nd Edition	Apress	2012	
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year
		1.	Adam Freeman , Matthew MacDonald , Mario Szpuszta	Pro ASP.NET 4.5 in C#	Apress	2012
		2.	Alexander Reelsen	Play Framework Cookbook	Packt Publishing	2011
3.						