

Specification for the book of courses

Study program		Computing and Informatics		
Module		Software Engineering		
Type and level of studies		Master studies		
The name of the course		Advanced Web Technologies		
Lecturer (for lectures)		Petković M. Ivan		
Lecturer/associate (for exercises)		Petković M. Ivan		
Lecturer/associate (for OFE)				
Number of ECTS		4	Course status (obligatory/elective)	Elective
Prerequisites				
Course objectives		The goal of the course is to familiarize students with modern Web technologies that contribute to the efficient use of the Internet as a global resource, which means working with different types of data, structured and unstructured, and the development of Web applications that are accessible to a large number of users using different client applications.		
Course outcomes		Students should know how to use XML and Web services to integrate applications and data. Also they know technologies for development of Web 2.0 applications as well as applications with elements of Semantic Web and they will be able to implement projects that integrates advanced Web technology.		
Course outline				
Theoretical teaching		Internet as a global resource, advanced techniques for on-line searching. Working with unstructured data. A formal description and processing XML documents (DTD, XML Schema, XML DOM, SAX, XSLT). XML and RDF specifications. Web services and SOA applications. Rest services. Choreography and orchestration of Web services. Scalability, reliability and security of Web applications. Personalizing the Web. Web 2.0 technologies. Internet as a platform. Web and mobile applications. Web management.		
Practical teaching (exercises, OFE, study and research)		AJAX, HTML 5, CSS3. EcmaScript 6. Typescript. Front end frameworks (Vue, Angular, React). ASP.NET MVC Core. Linq. Dependency Injection. Repository pattern. ASP.NET Web API. Domain Driven Design.		
Textbooks/references				
1		Elliott Rusty Harold, W. Scott Means, XML in a Nutshell, 2nd Edition, O'Reilly, 2002.		
2		A Freeman, Pro ASP.NET Core MVC, Sixth Edition, Apress, September 2016		
3		Eric Evans, Domain-Driven Design: Tackling Complexity in the Heart of Software, Addison-Wesley Professional 2003		
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	1	0		
Teaching methods		Lectures by use of slides, seminars, projects.		
Grade (maximum number of points 100)				
Pre-exam duties		Points	Final exam	Points
Activity during lectures			Written exam	
Exercises			Oral exam	40
Colloquia				
Projects		60		