

Study program: Modern computer technologies			
Course title: Software Engenering			
Professor/assistant: Miloš B. Stojanović			
Type of course: compulsory			
ECTS credits: 6			
Pre-requisites: none			
Aims of the course: Mastering methods and tools for software design, development, testing and evolution. Introduction to methods for measuring the quality of software products and processes.			
Learning outcomes: Students are able to: use modern software design tools, apply traditional and modern methodologies for software development, define and implement software validation, plan and perform software testing, perform its maintenance and measure the quality of software.			
Syllabus			
<i>Theoretical part</i> Models of software development. Software processes. Agile software development. Basic activities in management of software projects. Software architecture. Basic principles and methods of software design. Software design using UML unified modeling language. Software design using design patterns. Principles of software realization. Code development. Code refactoring. Validation and verification. Software testing. Software metrics. Maintenance and evolution of software.			
<i>Practical part</i> Designing a software system, based on object-oriented model, using the UML modeling language. Project development, by creating software in one of the programming languages, such as Java, C ++ or C #.			
Literature			
<ol style="list-style-type: none"> 1. D. Živković, Osnove dizajna i analize algoritama, CET, 2007. 2. R. Pressman, Software Enginnering A Practitioner's Approach, 7th ed., McGraw-Hill, 2010. 3. B. Bruegge, A. Dutoit, Object-Oriented Software Engineering using UML, Patterns, and Java, 3rd ed., Prentice Hall, 2010. 			
Number of active classes			Other forms of teaching:
Lectures: 45	Practical classes: 30	Research work:	
Teaching methods Combination of interactive approach with practical problem solving.			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	10	written exam	30
practical training	40	oral exam	
colloquium(s)/seminar papers	20		
Sum	70	Sum	30