Course title: Software Design and Testing
Course code: 63052
ECTS credits: 5
Requirements: None
Basic information
Level of studies: Undergraduate applied studies
Year of study: 3
Trimester: 8
Goal: Developing software engineering skills. Complex software system design and implementation, independently and within a team.
Outcome: Upon completion of the course, students should be able to implement standard techniques for request analysis and modelling as well as software design, testing, quality management and maintenance.
Contents of the course
Theoretical instruction
1. Introduction to sofware engineering
2. Use case modelling
3. Architecture design of a software system
4. Object-oriented software engineering
5. UML: Specifications, techniques and diagrams
6. Software quality and improvement management
7. Introduction to software testing
8. Software testing techniques. Manual and automated testing
9. Black box testing. White box testing
10. Unit, integration and system testing
11. Object-oriented testing
12. GUI testing
13. Concurrent testing
Practical instruction (Problem solving sessions/Lab work/Practical training)
1. In practical classes students use techniques as well as software tools for UML modeling, creating diagrams, project documentation and software testing, introduced in theory classes.
Textbooks and References

1. G. Myers, C. Sandler, T. Badgett, The Art of Software Testing, 2. izdanje, 2004.
2. J. Popović, Testiranje softvera u praksi, CET, 2012.
3. G. Booch, J. Rumbaugh, I. Jacobson, The Unified Modeling Language User Guide (2nd edition), Addison-Wesley, 2005.
4. B. Bruegge, A. Dutoit, Object-Oriented Software Engineering: Using UML, Patterns and Java, 3rd Edition, Prentice Hal, 2009.
Number of active classes (weekly)
Lectures: 4
Practical classes: 2
Other types of classes: 0
Grading (maximum number of points: 100)
Pre-exam obligations: Points
Activities during lectures:
Activities on practical exercises: 30
Seminary work:
Colloquium: 20
Final exam: Points
Written exam: 50
Oral exam:
Lecturer: Milorad Paskaš, PhD
Associate: Spasojević M. Marko