Study program: Informatics

Course title: Software Testing

Professor/assistant: Srđan V. Atanasijević

Type of course: Elective

ECTS credits: 7

Prerequisites: Software Quality Management

Aims of the course: Basic concepts, principles and methods of software testing; improvement of knowledge gained within the course and its application in ensuring and managing software quality; identifying business domain; selection and the use of adequate methods. The aim of the course is to teach an engineer to plan, implement, manage software testing, recognize its weaknesses and improve it either within a project and/or organization.

Learning outcomes: After passing the course, the student will be able to understand the basic concepts, principles and methods of software testing, use the tools to support and/or perform testing, propose and compare different strategies and approaches to testing, make a plan to perform and improve software testing process.

Syllabus:

Theoretical part:

1. Introduction: Principles of testing.
2. Testing throughout the software development life cycle: Use of testing on different models of software development (waterfall model, V-model, iteractive model…).
3. Test documentation: Preparation and production of test documentation.
4. Test development process: Manual and automatic testing.
5. Test design – techniques: Techniques based on specification. Techniques based on code structure.
6. Testing management: Development of strategy and approach to software testing. Defining the metrics of testing. Resource management.
7. Test support tools: Types and classifications of tools according to how they are implemented.
8. Test analyses: Results processing. Statistical analyses. Interpretation of results.
9. Upgrading/improvement of a software testing process: Different methods for improving the software testing process.

Practical part: Practical training

Literature:

1. Jovan Popović, Testiranje softvera u praksi, CET, 2012.
2. Hambling, B. et all, Software testing, BCS, 2010. (dodatna literatura)

Total number of active classes: 90	**Lectures:** 45	**Practical classes:** 45

Teaching methods: Lectures and practical computer exercises.

Grading system (maximum 100 points)

grading scale from 5 to 10: below 51 points – student fails the exam, 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	max 5	Oral exam	50
Practical training	max 5		
Written test(s)	max 10		
Term papers	max 30		
Minimum requirement for the final exam	30		