Course Unit Descriptor

Study Programme: Information Systems Engineering
Course Unit Title: Software Testing Fundamentals
Course Unit Code: IZOO16
Name of Lecturer(s): Mandić Vladimir
Type and Level of Studies: bachelor
Course Status (compulsory/elective): compulsory
Semester (winter/ summer): summer
Language of instruction: english
Mode of course unit delivery (face-to-face/distance learning): face-to-face
Number of ECTS Allocated: 5
Prerequisites: none
Course Aims:. The goal of course Software testing principles and methods is: (1) understanding of basic concepts, principles and methods of software testing, (2) integration of knowledge gained in the completion of cases involving security and quality control of software products, (3) identification and selection of business domains and application of appropriate methods. The aim of the course is also to enable the engineer to manage, recognize the weaknesses and improve the process of software testing within the project and / or company
Learning Outcomes: Students that attend the course and pass the exam are able to: (1) understand the basic concepts, principles and methods of software testing, (2) use tools to support testing, (3) draw conclusions, propose and compare different strategies and approaches, (4) form an action plan to improve the testing process, and (5) participate in the implementation of the strategy in the company from the position of leading engineer or analysts.
Syllabus. Introduction: Principles of testing. Testing throughout the software life-cycle: Testing in different models of software development (waterfall model, V-model, iterative model ...). Static testing: Review of project documentation. Static analysis tools. Test design techniques: Test development process. Techniques based on the specification. Techniques based on the structure of the code. Management of testing: Development strategies and approaches to software testing. Defining measures of effectiveness. Resource management. Testing support tools: Types and classification of tools according to the method of application. Improving the process of software testing: Different methods for improving the process of software testing.
Required Reading: Relevant literature in English, tbd

Weekly Contact Hours:2	**Lectures: 2**	**Practical work: 0**

Teaching Methods: Classes include lectures on the subject with examples of different principles and methods of software testing and evaluation and selection of the applied methods. Some lectures are held by experienced executives in the role of guest lecturers. Students are encouraged to work in groups. Exercises are performed with the help of computers
Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			