Study program: Informatics

Course title: Software Engineering

Professor/assistant: Miroljub M. Banković

Type of course: Elective

ECTS credits: 5

Prerequisites: successfully finished course Information System Development

Aims of the course: To unite gained knowledge from previous professional subjects and upgrade the knowledge gained on the course Information System Development, with the aim of using modern tools for developing software products, while acquiring necessary theoretical, methodological and practical knowledge.

Learning outcomes: The student can independently or as a part of a team create software products.

Syllabus:

Theoretical part:

1. Introduction (paradigms of software architecture – comparing procedural and OO approaches).
2. Tools for developing software.
3. Designing software products (modeling, UML, processes of object-oriented development of IS).
4. Software processes and specifications (defining requests, techniques of request specification, application of interactive development methods).
5. CASE tools (meaning, classifications, components, representative examples, ways of integration)
6. Evaluations and reliability (models, techniques) of software products.
7. Managing software life cycle.
8. Redesign of the software (the process of redesigning, coding, analysis and simulation as a support to software redesign).

Practical part: Practical exercises (developing demoware, etc.), auditory exercises.

Literature:

1. Matt Westfield, Objektno orijentisani način mišljenja, CET, Beograd, 2003.
2. Shari Lawrence Pfleeger, Joanne M. Atlee, Softversko inžinjerstvo – teorija i praksa, Računarski fakultet, CET, Beograd, 2006.
3. E.J. Braude, M.E. Bernstein: Software Engineering – Modern Approaches, John Wiley and Sons, New York, 2010. (addional literature).
4. Veljović A., Osnove objektnog modeliranja UML, kompjuter biblioteka, Čačak, 2004. (addional literature).

Total number of active classes: 60	**Lectures:** 30	**Practical classes:** 30

Teaching methods: Lectures and practical exercises.

Grading system (maximum number of points 100)

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	Written exam	50
Practical training	max 5		
Written test(s)	max 20		
Term paper	max 20		
Minimum requirement for the final exam	30		