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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | Faculty of Science and Mathematics | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Computer Science** | | |
| Study Module (if applicable) | | | |  | | |
| Course title | | | | Introduction to Software engineering | | |
| Level of study | | | | ☒Bachelor ☐ Master’s ☐ Doctoral | | |
| Type of course | | | | ☒ Obligatory ☐ Elective | | |
| Semester | | | | ☒ Autumn ☐Spring | | |
| Year of study | | | | 1 | | |
| Number of ECTS allocated | | | | 7 | | |
| Name of lecturer/lecturers | | | | Rancic Svetozar | | |
| Teaching mode | | | | ☒Lectures ☒Group tutorials ☐ Individual tutorials  ☐Laboratory work ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| Acquisition of sofrware enngineering knowadge, application of theory, knowledge and practice purposed for efficient production of software system, which satisfy specifications and customer requests | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **Principals of software engineering. Collection and analysis of customer requests. Design, construction, testing and maintenance. Software modelling and an introduction to UML: Basic elements of UML diagrams, development with UML. Modelling the structure and behaviour of software. Object-oriented analysis using UML. Analysis, architecture and design of classes. Design Patterns: Introduction to design patterns, their importance and applicability. Introduction to basic forms. User functions and user oriented design. Introduction to client - server architecture and client - server systems using UML, with an emphasis on class diagrams and state charts. Design Software: General principles of design: decomposition, bonding, cohesion, reuse, portability, flexibility. The evaluation of the design. Introduction to software testing and software project management. Implement the design using appropriate data structures, environments and APIs. Analysis, design and programming of simple applications.** | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| ☒Serbian (complete course) ☐ English (complete course) ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)  ☐Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| **ASSESSMENT METHODS AND CRITERIA** | | | | | | |
| **Pre exam duties** | **Points** | | **Final exam** | | | **points** |
| **Activity during lectures** | **0** | | **Written examination** | | | **25** |
| **Practical teaching** | **25** | | **Oral examination** | | | **25** |
| **Teaching colloquia** | **25** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |