|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | Faculty of Science and Mathematics | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Computer Science** | | |
| Study Module (if applicable) | | | |  | | |
| Course title | | | | Software design | | |
| 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)** | | | | | | |
| To familiarize students with theoretical basis and practical implementation of compiler and interpreter. Students are able to design and implement individual phases of translation using existing tools and programming languages. | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **Description of programming languages, syntax diagrams, Backus Normal Form (BNF) and extended Backus Normal Form (EBNF), context-independent-grammars, LL, LR and related grammar, generators, compilers, attributed grammar, examples of compiler generator, compiler examples for a subset of procedural or object-oriented programming language, the basic parts of compilers, management tables of symbols, the basic elements of lexical analysis, syntax analysis - a method of recursive descent, LL analysis, semantic analysis of alignment types, the abstract machine, code generation, code optimization, advanced methods of syntax analysis, application of LL and LR grammars.** | | | | | | |
| **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** | | | | | | |