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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Sciences and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Computer Science** |
| Study Module (if applicable) | Software development |
| Course title | Functional Programming |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 7 |
| Name of lecturer/lecturers | Predrag S. Stanimirović |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| The goal of this course is to introduce the students to a programming paradigm and an appropriate programming language chosen from those that are currently important in industry or that show high promise of becoming important. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Introduction to Functional style of programming.** Comparison of functional and structured programming, higher-order functions, program modularization by means of functions, lazy evaluation. Functions as the first-class objects, functions as arguments, structures as elements of structural data types, functions as values of other functions. Polymorphic types, static typing. Recursion and induction. List processing.Functional programming in Ocaml, Functional programming in package Mathematica, Functional programming in language Python.Principles of functional languages in 8structural languages Perl and C#. |
| **LANGUAGE OF INSTRUCTION** |
| [x] 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** | **10** | **Written examination** | **20** |
| **Practical teaching** |  | **Oral examination** | **50** |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |