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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Science and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Mathematics** |
| Study Module (if applicable) |  |
| Course title | Metric spaces and Riemann-Stieltjes integral |
| Level of study | xBachelor ☐ Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory x Elective |
| Semester  |  Autumn xSpring |
| Year of study  | The second year |
| Number of ECTS allocated | 7 |
| Name of lecturer/lecturers | Dijana V. Mosić |
| Teaching mode | xLectures ☐Group tutorials ☐ Individual tutorials☐Laboratory work ☐ Project work ☐ Seminar☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *The students will master advanced theory of metric spaces and Riemann-Stieltjes integral.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **• Metric spaces. Descriptive characteristics of sets in metric spaces. Separable spaces. Base of space. Convergence. Complete metric spaces. Completion of spaces. Continuity. Compact and relatively compact spaces. Continuous functions on compact spaces. Special criterias for relatively compactness.****• Мonotonic functions. Functions of bounded variation. Riemann-Stieltjes integral. Limit for Riemann-Stieltjes integral. Computing Riemann-Stieltjes integral.** |
| **LANGUAGE OF INSTRUCTION** |
| xSerbian (complete course) ☐ English (complete course) ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)☐Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ćASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** |  | **Written examination** | **40** |
| **Practical teaching** | **15** | **Oral examination** |  |
| **Teaching colloquia** | **45** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |