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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 | | | | Generalized inverses of operators | | |
| Level of study | | | | Bachelor Master’s x Doctoral | | |
| Type of course | | | | ☐ Obligatory x Elective | | |
| Semester | | | | x Autumn ☐Spring | | |
| Year of study | | | | The second year | | |
| Number of ECTS allocated | | | | 12 | | |
| 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 generalized inverses and apply generalized intereses for solving problems related to bounded linear operators on Banach and Hilbert spaces, or elements of Banach and C\*-algebras.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **Generalized inverses in rings, Banach and C\*-algebras.**  **Generalized inverse of operators on Banach and Hilbert spaces.**  **Perturbations and additive results.**  **Hermitian, normal and EP operators.**  **Reverse order law for generalized inverses.**  **Representations of generalized inverses of linear operators with closed range.**  **Operator equations.**  **Computing generalized inverses.** | | | | | | |
| **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** | | |  |
| **Practical teaching** | **40** | | **Oral examination** | | | **60** |
| **Teaching colloquia** |  | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |