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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** |  |
| **GENERAL INFORMATION** |
| Study program  | Mathematics |
| Study Module (if applicable) | General mathematics |
| Course title | Algebraic structures |
| Level of study | ☐Bachelor x Master’s ☐ Doctoral |
| Type of course | x Obligatory ☐ Elective |  |
| Semester  | ☐ Autumn x Spring |
| Year of study  | first |
| Number of ECTS allocated | 7.5 |
| Name of lecturer/lecturers |  Prof. Snežana Ilić  |
| Teaching mode | X Lectures x Group tutorials ☐ Individual tutorials☐Laboratory work ☐ Project work ☐ Seminar☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Students will expand the knowledge of theory of groups, rings and fields, and become familiar with the elements of Galois theory.Students are trained to solve complex problems that require apparatus of the theory of algebraic structures. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Some of the topics that will be covered are listed as follows: group action on a set, *p*-groups, the Sylow theorems, internal direct products, finitely generated Abelian groups, finite groups, series of groups, solvable and nilpotent groups, rings, characteristics of rings, quotient rings and ideals, homomorphisms, polynomials rings, factorization of polynomials over a field, Introduction to extension fields, algebraic extensions, splitting fields, separable extensions, perfect fields, finite fields, normal extensions, Galois extensions, Introduction to Galois theory. |
| **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 |  | Written examination |  |
| Practical teaching | 10 | Oral examination | 50 |
| Teaching colloquia | 40 | OVERALL SUM | 100 |
| \*Final examination mark is formed in accordance with the Institutional documents |