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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Pedagogical Faculty in Vranje |
| **GENERAL INFORMATION** |
| Study program  | Technical Education and Informatics |
| Study Module (if applicable) | / |
| Course title | Mathematics |
| Level of study | ☐Bachelor ☒ Master’s ☐ Doctoral |
| Type of course | ☒ Obligatory☐ Elective |
| Semester  | ☒ Autumn ☐Spring |
| Year of study  | First |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Milena Bogdanović, Ph.D |
| Teaching mode | ☒Lectures ☒Group tutorials ☐ Individual tutorials☐Laboratory work ☐ Project work ☒ Seminar☐Distance learning ☒ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Acquiring basic knowledge about basic concepts, ideas and methods of propositional account, sets, relations and mappings, algebraic structure of numerical systems, matrices and determinants, polynomials, combinatorics, real strings, the function of continuous argument, indefinite and definite integrals, vectors and analytical geometry and develop logical thinking and ability to solve mathematical problems and the implementation and verification of knowledge in practice. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Propositional calculus, tautology, contradictions, quantification, sets, relations, mappings, Combinatorics (permutations, variations, combinations, graphs), some algebraic structures (fields of rational, real and complex numbers), Numeral systems, polynomials, real strings, function of continuous argument - limes and continuity, derivative and differential of real functions of a real variable and applications, indefinite and definite integrals, vectors and analytical geometry. After completing the course the student is expected to be able to have the ability to generalization and abstraction of mathematical concepts necessary for establishing links with other classes; Continue, deepen and apply the knowledge in the course of mathematical logic. |
| **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** | **6** | **Written examination** | **30** |
| **Practical teaching** | **6** | **Oral examination** | **20** |
| **Teaching colloquia** | **38** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |