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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | Faculty of Electronic Engineering | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | Electrical Engineering and Computing | | |
| Study Module (if applicable) | | | | Applied Mathematics | | |
| Course title | | | | Numerical Linear Algebra | | |
| Level of study | | | | ☐Bachelor ☐ Master’s x Doctoral | | |
| Type of course | | | | ☐ Obligatory x Elective | | |
| Semester | | | | ☐ Autumn ☐ Spring | | |
| Year of study | | | | First year | | |
| Number of ECTS allocated | | | | 10 | | |
| Name of lecturer/lecturers | | | | Rančić Z. Lidija, Džunić S. Jovana | | |
| Teaching mode | | | | x Lectures x Group tutorials x Individual tutorials  ☐Laboratory work x Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| **Mastering the concepts of numerical mathematics. Students learn to use numerical algorithms for solving corresponding problems.** | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **Standard problems of numerical linear algebra. Vector and matrix norms. QR factorization. Orthogonalization. Hauscholder transform. Least-squares problems. Problem of conditioning and stability. Systems of linear equations. Conditioning and stability. Eigenvalue problems and SV decomposition. QR algorithms. Iterative methods. Arnoldi iterations, GMRES, Lanczos method. MATLAB implementations. Parallel computing in linear algebra.** | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| xSerbian (complete course) x 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** |  | | **Oral examination** | | | **50** |
| **Teaching colloquia** | **50** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |