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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) | Control Systems |
| Course title | Digital Signal Processing |
| Level of study | [x] Bachelor [ ]  Master’s [ ]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 3 |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Vlastimir Pavlovic, Goran Stancic, Nikolić V. Saša |
| Teaching mode |  [x] Lectures [ ] Group tutorials [x]  Individual tutorials [ ] Laboratory work [x]  Project work [ ]  Seminar [x] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Acquiring basic knowledge of analysis, synthesis and processing of digital signals. Introduction to the methods of practical implementation of the transfer function. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| z and inverse z transform. Discrete Fourier transform, convolution, linear difference equation with constant coefficients. Discrete system transfer function, frequency response. Analog to discrete space transformation.(bilinear transform). Non-recursive and recursive digital filters.  |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [x]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[x] Serbian with English mentoring [ ] Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** |  | **Written examination** | **30** |
| **Practical teaching** |  | **Oral examination** | **30** |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |