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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) | Electronics |
| Course title | Digital processing of audio signal |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | 2. |
| Number of ECTS allocated | 10 |
| Name of lecturer/lecturers | Vlastimir Pavlovic, Goran Stancic |
| 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)** |
| Introducing students with basic and advanced methods of digital audio signal processing. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Basic audio signal formats. Sampling and reconstruction of signal. A/D and D/A conversion. Adequate determination of sampling frequency and transformation. Effective calculation of fast Fourier transformation. Down-sampling and up-sampling. Digital filter banks. Spectral analysis. Parametric and nonparametric filter design methods. Examples of application of digital signal processing in analysis and synthesis of speach and music signals, and discrete analytical signals. |
| **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** |  |
| **Practical teaching** | **50** | **Oral examination** | **50** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |