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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) | Telecommunications |
| Course title | Audio Communications |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [x] Spring |
| Year of study  | 2 |
| Number of ECTS allocated | 10 |
| Name of lecturer/lecturers | Ćirić G. Dejan |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [x] Laboratory work [x]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Acquiring knowledge and skills, introduction to the latest developments and research in the field of audio communications, audio signals and systems, as well as audio signal processing.Theoretical knowledge; Solving of practical problems: analysis, synthesis and design. Skills of advanced usage of audio systems. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Audio signals (definitions, terms). Characteristics of speech and music signals. Audio communication systems (structure and features). Input and output acoustical environment (sound sources and receivers, environments). Auditory scenes (analysis and synthesis). Subjective effects of sound. Audio devices. Audio signal processing – analysis, filtering, dynamic processing. Audio effects. Sound synthesis. 3D sound. Virtual auditory environments. Audio restauration. Perceptual coding and audio compression. Sources discriminations and speech dereveberation. Speech analysis and processing. Audio signal quality measures (speech quality - intelligibility). Audiometry and audiology. Hearing aids.Solving of problems through study and research work (Audio signals. Audio communication systems. Effects of input and output environments. Auditory scenes and virtual environments. Subjective effects of sound. Audio signal processing. Audio effects. Sound synthesis. 3D sound. Audio signal quality measures. Audiometry and audiology). |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (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** | **25** | **Oral examination** | **50** |
| **Teaching colloquia** | **25** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |