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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Electrical Engineering |
| **GENERAL INFORMATION** |
| Study program  | Electrical Engineering and Computing |
| Study Module (if applicable) | Telecommunications |
| Course title | Microwave Electronics |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [ ] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 10 |
| Name of lecturer/lecturers | Pronić-Rančić R. Olivera, Maleš-Ilić P. Nataša |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [x]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Understanding the principles of operation and ability to design microwave electronic circuits. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Microwave semiconductor devices: microwave diodes and transistors. Applications of microwave semiconductor devices. RF and microwave amplifiers. Small signal amplifiers and nonlinear amplifiers. Low-noise amplifiers. Broadband amplifiers. Power amplifiers - basic features and applications. Classes of power amplifiers. Harmonic balance analysis. RF and microwave oscillators. Mixers. Detectors. Modulators. Microwave control circuits (switches, phase shifters, limiters, attenuators). Microwave integrated circuits. |
| **LANGUAGE OF INSTRUCTION** |
| [ ] 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** | **50** | **Oral examination** | **50** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |