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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 - Embedded Systems, Multimedia Technologies |
| Course title | Communication circuits and systems |
| Level of study | [x] Bachelor [ ]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  | [ ]  Autumn [x] Spring |
| Year of study  | 4 |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Goran Jovanović |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [x] Laboratory work [x]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Educate students for RF circuits and systems design. Show how the designers solve the problems that exist in practice. Work in a typical RF design environment by using special software and performance measurement tools. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **RF circuits and systems designer job: working environment software and measuring tools.****Problems in design of non-linear active circuits: harmonic distortion, compression point, intermodulation distortion. Calculation, simulation and measurement noise. Low-noise and minimal nonlinear distortion amplifier design. Design of oscillators and PLL circuits. Phase noise and stability. Layout design of printed circuit boards for RF circuits. Layout design for RF integrated circuits. Coils and capacitors on a chip.** |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  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** | **10** | **Written examination** | **30** |
| **Practical teaching** | **20** | **Oral examination** | **40** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |