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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | **Pedagogical Faculty in Vranje** |
| **GENERAL INFORMATION** |
| Study program  |  **Integrated academic studies****(Undergraduate + Postgraduate)** |
| Study Module (if applicable) | Technical Education and Informatics |
| Course title | **Introduction to Metrology** |
| Level of study | ☒Bachelor X Master’s ☐ Doctoral **Integrated academic studies** |
| Type of course | ☐ Obligatory ☒ Elective |
| Semester  | ☒ Autumn ☐Spring |
| Year of study  | **Third**  |
| Number of ECTS allocated | **5** |
| Name of lecturer/lecturers | **Dragan B. Denić** |
| Teaching mode | ☒Lectures ☒Group tutorials ☒ Individual tutorials☒Laboratory work ☒ Project work ☐ Seminar☒Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| **Education and introduction of students with basic theoretical and practical knowledge from area of metrology, measurement of electrical and non-electrical quantities. Training of students for solving the practical problems from measurement area, on the basis of good knowing of measurement methods and techniques, with proper use of modern measuring instruments and equipment. Providing capability of students for lather application of acquired knowledge about measurement techniques in areas of electrical engineering, computer science and informatics.** |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Basics of measurement theory – metrology, Basic electrical quantities and measurement units, Standards of measurement units ampere, ohm and volt in MKSA system (etalons and norms), Basics for measurement of electrical quantities – voltage, current and resistance, Basics for measurement of non-electrical quantities – sensors for measurement of temperature, pressure, force, acceleration, vibrations and humidity. Measurement errors – processing of measurement results, basic tips and classification of measurement errors. Metrological characteristics of electrical measuring resources, Analogue and digital measuring instruments, Modern intelligent and computer based measuring instruments, Measuring bridges, Oscilloscopes.**  |
| **LANGUAGE OF INSTRUCTION** |
| ☒ Serbian (complete course) ☐ English (complete course) ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)☐Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points 20** | **Final exam** | **Points 80** |
| **Activity during lectures** | **10** | **Written examination** | **40** |
| **Practical teaching** | **10** | **Oral examination** | **40** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |