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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering |
| **GENERAL INFORMATION** |
| Study Program | **Mechanical Engineering** |
| Study Module (if applicable) | - |
| Course Title | Technical diagnostics |
| Level of Study | ☒Bachelor | ☐ Master’s | ☐ Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☐ Autumn | ☒ Spring |
| Year of Study | III |
| Number of ECTS Allocated | 6 |
| Name of Lecturer/Lecturers | Miloš D. Milovančević |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | ☒ Project work | ☒ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *Student who successfully pass exams will be able to: master the technical diagnostics of mechanical systems; define choose and use methods of technical diagnostics of mechanical systems* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| Theoretical study. Introduction. The basic features and technical systems. Parameters of working ability and technical base diagnostics. Systems of technical diagnostics. Control of working capacity of mechanical systems. Classification diagnosis and diagnostic parameters. Stages in the process of diagnosis and determine the optimal procedure. Establishing the legality parameter changes the situation and their suitability for control. Methods of technical diagnostics. Subjective methods of diagnosis (testing audio, visual optical tests, etc.,.). Methods for measuring the operating parameters (temperature, angular velocity and number of revolutions, of torque, mechanical power). Test procedures wear debris (testing changes lubricant properties, diagnosis tribological assemblies). Vibro-acoustic methods of diagnosis. Diagnosis of the condition of working condition. The parameters of the state of working condition. Basic types of cancellation in machinery and equipment. Methods of detection and location of failure. Multi-parametric analysis. Hardware and software support. Definition of hardware and software technical support system diagnostics. Information systems of technical diagnostics. Practical teaching: Laboratory classes, Teamwork (3 to 6 students) on the preparation of term papers  |
| **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** | **Final Exam** | **Points** |
| **Activity During Lectures** | **5** | **Written Examination** | **50** |
| **Practical Teaching** | **10** | **Oral Examination** | **Max. 35 (depending on Teaching Colloquia)** |
| **Teaching Colloquia** | **35** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |