|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UNIVERSITY OF NIŠ** | | | | | | | | |
| **Course Unit Descriptor** | | | **Faculty** | | Faculty of Mechanical Engineering | | | |
| **GENERAL INFORMATION** | | | | | | | | |
| Study Program | **Mechanical Engineering** | | | | | | | |
| Study Module (if applicable) | - | | | | | | | |
| Course Title | Intelligent Manufacturing Systems | | | | | | | |
| Level of Study | ☐ Bachelor | | | ☐ Master’s | | | | ☒ Doctoral |
| Type of Course | ☐ Obligatory | | | ☒ Elective | | | | |
| Semester | ☐ Autumn | | | ☒ Spring | | | | |
| Year of Study | I | | | | | | | |
| Number of ECTS Allocated | 10 | | | | | | | |
| Name of Lecturer/Lecturers | Miodrag T. Manić | | | | | | | |
| Teaching Mode | ☐ Lectures | | | ☐ Group tutorials | | | | ☒ Individual tutorials |
| ☒ Laboratory work | | | ☒ Project work | | | | ☒ Seminar |
| ☐ Distance learning | | | ☐ Blended learning | | | | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** | | | | | | | | |
| *Transfer knowledge to students about the principles, concept and structure of intelligent manufacturing systems. Introduction to the components of the IMS, management, and planning procedures of IMS.* | | | | | | | | |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** | | | | | | | | |
| 1)Basics of flexible manufacturing structure. Technological basis for the design and implementation of intelligent and flexible manufacturing structure , 2)CNC machine tools as components of intelligent manufacturing systems ( IMS ), 3)Manipulating systems (industrial robots ) as a component of IMS, 3)Measuring and control systems in IMS, Systems for monitoring and diagnosis of IMS, 4)Computer Integrated Manufacturing - CIM, 5)Development trends of modern integrated software CAD / CAE / CAM system, 6)Artificial intelligence and expert systems for IMS., 7) Digital and e-manufacturing, 8)Virtual manufacturing systems . | | | | | | | | |
| **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** | | | | | | | | |