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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Pedagogical Faculty in Vranje |
| **GENERAL INFORMATION** |
| Study program  | Technical Education and Informatics |
| Study Module (if applicable) | / |
| Course title | Operating systems |
| Level of study | ☐ Bachelor ☒ Master’s ☐ Doctoral |
| Type of course | ☒Obligatory ☐ Elective |
| Semester  |  ☐ Autumn ☒Spring |
| Year of study  | Third |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Dragan H. Stojanović |
| Teaching mode |  ☒ Lectures ☐Group tutorials ☐ Individual tutorials☒Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring knowledge about fundamental concepts and principles of modern operating systems, as well as their structure, functionality and components. Theoretical and practical knowledge about concepts, internal design and implementation of modern operating systems.*  |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| *Teaching: Introduction and overview of operating systems. Process management. Threads and thread management. Concurrency: mutual exclusion and synchronization. Deadlock and starvation of processes and threads. Memory management. Virtual memory. Process and thread scheduling. U/I management and disk scheduling. File system. Operating system user interface. Consideration of structure and implementation of modern operating systems: UNIX/Linux, MS Windows, etc.**Practical work: Foundations of Unix/Linux operating systems. Advanced concepts and UNIX/Linux administration. Implementation of process and thread management and scheduling. Methods, algorithms and implementation of process synchronization and communication. Implementation of methods and algorithms for memory management and page replacement strategies. Methods and algorithms for data management and implementation of file system. Methods and implementations of device drivers and U/I management.* |
| **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** | **10** | **Written examination** | **50** |
| **Practical teaching** | **40** | **Oral examination** |  |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |