

Syllabus

Course: Operating Systems

Course code: FPI12220

Lecture: Dr. Erik Bajalinov

Credits: 7

Weekly contact hours (theory + practice): 2+2

Course program

System concept, hierarchical structure of computer systems, tasks of operating system. Hardware concepts from the point of view of operating systems: processors, operating libraries, mass storage devices, other peripherals, interrupt systems.

Operating system classifications (single-user, batch multi-programmed, time-division, transactional, real-time, distributed, network). Processes, threads and schedules. Deadlock formation and treatment. Operating System Components, Functions, and Features: System Administration (Processor Scheduling, Interrupt Management, Synchronization, Process Control, Storage Management, Peripheral Management, File Management, Operation, Records, Operator Interface), Program Development Support (word processors, translators, interpreter, library management, Editor / Loader, Software Test Support Tools, Integrated Program Development Environment), Application Support (Operator or Batch Control Command Language System, shell, Graphical User Interface - GUI, System Services, Utility Kit, Application Packages). In practice, students learn about the basic structure and use of one or two operating systems (eg MS Windows, Unix / Linux).

2. Intermediate study requirements

Two tests, the result of which will be included in the exam result.

3. Assessment of acquired knowledge (term mark, exam)

term mark

4. Auxiliary materials for acquiring knowledge, skills and competences

Slides, software tools and other documents (samples, tasks, practice exercises) from the Web.

5. Compulsory and recommended literature

1. Silberschatz, Abraham, Operating system concepts, 4th edition, 1994.
2. Nutt, Gary J., Operating Systems: The Modern Perspective. Addison-Wesley, 1997.
3. Frisch, Aeleen, Windows NT System Administration, Kossuth, 1999.
4. Petersen, Richard, Linux: Reference Book: Can Be Easy, Panem, 1998.
5. B. W. Kernighan, Rob Pike, UNIX Operating System, Technical Publisher, 1994.

6. Andrew Tanenbaum, Herbert Bos: Modern Operating Systems, 4th Edition.
7. William R. Stanek, Microsoft Windows Command Line, Publisher, 2005.