“MODERN OPERATING SYSTEMS”

Course Programme

1. Theory of operating systems: definition, history, main subsystems
2. OS Windows:
    a. Boot process. Files necessary for a successful boot.
    b. Microsoft Management Console (MMC) as an attempt to propose unified interface for system tools engineering
    c. Main administrative tasks: Users and Groups maintenance, workspace configuration. Registry as the main computer configuration data base. Program Regedit.
    d. GUI and command line interface: command format, commands for files, and directories management
    e. File systems: FAT32, NTFS. File system structure. File types. Additional opportunities of work in NTFS: permissions, audit, encryption, quotas, named streams.
    f. Different tools for system monitoring
3. Security concepts. Security subsystem in Windows. Security Center. Group policy management.
4. OS Linux:
    a. Boot process. Runlevels
    b. Main configuration files (/etc/passwd, /etc/shadow, /etc/group), their structure and implementation.
    c. Main administrative tasks: Users and Groups maintenance and workspace configuration. Home directory
    d. File systems: ext2/ext3/ext4, XFS, JFS, their structure and specific features.
    e. File types. Devices in Linux. Files related to devices
    f. File permissions (basic and advanced). File system creating and mounting. File /etc/fstab
    g. File system Hierarchy Standard
    h. Processes and Signals. Procfs
    i. Bash as an example of command interpreter in Linux