

Course Abstract

If you need accommodations due to a disability, contact Disability Services in Edison Hall Room 100, 732.906.2546.

To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct which is published in the college catalog and website.

Course ID and Name: CSC246 – Unix and Web Server Administration

Department: Business and Computer Science

Chairperson or Course Coordinator: Dr. Aslihan Cakmak

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Prerequisites: CSC245

Co-requisites: None

Course Description:

Builds on the understanding of UNIX and shell programming developed in CSC245. UNIX is the dominant operating system of Internet routers and web servers. This course covers the essential elements of designing a client/server UNIX configuration, installing it, and keeping it running in an effective fashion. Local Area Networks (LANs), Wide Area Networks (WANs) and the TCP/IP protocol suite are a fundamental part of the UNIX client server configuration and are fully covered. The installation of UNIX applications is also covered, with electronic mail tools and web browsers as primary examples of these applications. The emphasis is on serving UNIX client/server needs on a global basis as occurs in a modern multinational corporation.

General Education Status: N/A

Credits: 3 **Lecture Hours:** 2 **Lab Hours:** 3

Learning Outcomes:

Upon successful completion of this course, a student will be able to:

1. Describe client, server, and networking hardware and be able to specify a LINUX/UNIX client-server architecture for a small company.
2. Enumerate the components of the TCP/IP protocol suite.
3. Define basic networking terms, such as host ID, network ID, packets, and subnet mask.
4. Explain the major steps in installing a LINUX/UNIX client.

5. Demonstrate the use of automated tools for communicating with users. Demonstrate use of network debugging tools such as ping and traceroute.
6. Install and configure a LINUX/UNIX operating system.
7. Explain the configuration and Operation of Domain Name Service.
8. Explain what a filesystem, node, and directory are and be able to obtain information about a filesystem.
9. Explain what a process is and be able to obtain information about it.
10. Set up logins and passwords.
11. Set up a filesystem.
12. Measure use of computing and networking resources, identify bottlenecks, and recommend remedial action.
13. Explain how to implement a hardware and software upgrade.
14. Enumerate the steps for installing common LINUX/UNIX applications such as electronic mail tools and Web browsers.

Course Content Areas:

- Introduction to the Linux Operating System
- Installing OpenSUSE
- Managing Files and Directories
- Creating and Editing Files with Text Editors
- Creating Shell Scripts and Displaying File Contents
- Managing Data: Backup and recovery Processes
- Managing Users and Groups
- Network Communications
- Installing Software Packages
- Apache Web Server
- Domain Name System
- Configuring a Mail Server
- Working with the Network File System
- Planning for a Linux Installation
- Linux File System Management and Administration
- Managing Resources in Linux
- Networking in a Linux Environment
- Using Samba for Interoperating Linux and Windows
- Securing Linux
- Advanced Linux Administration