

LINC 88: INTRODUCTION TO COMPUTER OPERATING SYSTEMS

Foothill College Course Outline of Record

Heading	Value
Units:	4
Hours:	3 lecture, 3 laboratory per week (72 total per quarter)
Advisory:	Basic computer skills and knowledge of Macintosh or Windows operating systems and basic skills and knowledge of internet technologies, such as using web browsers, email, bookmarking, searching, and downloading.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- Define Computer Hardware components
- Define Operating Systems Types
- Explain Operating Systems (Windows, MacOS X, Linux, Unix)
- Prepare for Operating System Installation

Description

Introductory course covers computer operating systems such as Microsoft Windows 7, Windows 8, Windows 10 and Linux. Students learn to install, configure, and administer a desktop operating system, automate operating system installation, set up and manage user accounts, and configure local file systems. Configure and troubleshoot both local and network printers, manage and troubleshoot access to shared folders, and recover from system failures.

Course Objectives

The student will be able to:

- Define operating systems types
- Define computer hardware components
- Explain operating systems (Windows, Mac OS X, Linux, UNIX)
- Prepare for operating system installation
- Install operating systems
- Upgrade the operating system
- Describe various input/output devices
- Design home/small business wireless systems
- Explain networking connectivity configurations
- Troubleshoot networking problems
- Configure file and print sharing resources over a network
- Perform file system maintenance and backups

Course Content

- Define Operating Systems Types
 - History of operating systems
 - Single-tasking versus multitasking
 - Single-user versus multi-user operating systems
 - Current operating systems
- Computer Hardware
 - Popular PC processors
 - System architecture
- Operating Systems
 - The DOS/Windows file system
 - The Windows Vista/7 file systems
 - The Windows NT file systems
 - The Window 8 file system
 - The UNIX file system
 - The Macintosh (Mac OS X) file system
- Preparing for Operating System Installation
 - Installation of Windows operating systems
- Operating System Installation
 - Windows 7
 - Windows 8
 - Windows 10
 - UNIX and Linux
 - Mac OS X
- Upgrading the Operating System
 - Windows
 - Mac OS X
 - Linux
- Input/Output Devices
 - Device drivers
 - Printer technologies
- Home/Small Business Wireless Architecture
 - Wireless protocols and standards
 - Wireless hardware
 - Wireless network design and configuration
 - Wireless network installation
- Networking Connectivity
 - WAN, LAN, cloud network configurations
 - Interconnectedness of different networks
 - Troubleshooting connectivity issues
 - Network maintenance procedures
- Sharing Resources Over a Network
 - Windows permissions: Users, groups
 - Mac OS X: Users, permissions
 - Local server sharing
 - Cloud server sharing
- File System Maintenance
 - Windows file system
 - Mac OS X file system
 - UNIX/Linux file system
 - File backup systems, processes, procedures
 - Operating system performance optimization

Lab Content

- Discover Information About Your Operating System Lab
- Computer Hardware Component Lab
- File System Lab
- OS Installation Preparation Lab
- OS Installation Lab
- Upgrade OS Lab

- G. Printer Setup Lab
- H. Wireless Network Configuration Lab
- I. Physical Network Configuration Lab
- J. Network Sharing Lab

Special Facilities and/or Equipment

- A. When offered on/off campus: Lecture room equipped with overhead projector, white/black board, and a demonstration computer connected online. Computer laboratories equipped with online PCs and Macintosh computers, network server access, and printers.
- B. When taught via Foothill Global Access on the Internet: Students must have currently existing email accounts/email address and ongoing access to computers with email software, GUI web browsing capability, FTP program, and access to the World Wide Web.

Method(s) of Evaluation

- A. Completing written homework assignments and lab reports
- B. Class performance with demonstrations
- C. Quizzes
- D. Final exam

Method(s) of Instruction

During periods of instruction the student will be:

- A. Actively taking notes during lectures and demonstrations
- B. Actively engaged in self-paced learning practices
- C. Conducting online research
- D. Completing lab work
- E. Meeting with other students in one-on-one sessions or small group instruction.

Representative Text(s) and Other Materials

Stallings, William. Operating Systems: Internals and Design Principles. 8th ed. Hoboken, NJ: Pearson Education, 2014. Print.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

Reading assignments: Weekly reading assignments from the text, online curriculum, instructor's chapter notes, PowerPoint, and outside sources, 20-40 pages weekly.

Discipline(s)

Computer Service Technology, Instructional Design/Technology