

# LINC 88: INTRODUCTION TO COMPUTER OPERATING SYSTEMS

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
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, covering 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:

1. Define operating systems types
2. Define computer hardware components
3. Explain operating systems (Windows, Mac OS X, Linux, Unix)
4. Prepare for operating system installation
5. Install operating systems
6. Upgrade the operating system
7. Describe various input/output devices
8. Design home/small business wireless systems
9. Explain networking connectivity configurations

10. Configure file and print sharing resources over a network
11. Perform file system maintenance and backups

## Course Content

1. Define operating systems types
  - a. History of operating systems
  - b. Single-tasking vs. multitasking
  - c. Single-user vs. multi-user operating systems
  - d. Current operating systems
2. Computer hardware
  - a. Popular PC processors
  - b. System architecture
3. Operating systems
  - a. The DOS/Windows file system
  - b. The Windows Vista/7 file systems
  - c. The Windows NT file systems
  - d. The Window 8 file system
  - e. The UNIX file system
  - f. The Macintosh (Mac OS X) file system
4. Preparing for operating system installation
  - a. Installation of Windows operating systems
5. Operating system installation
  - a. Windows 7
  - b. Windows 8
  - c. Windows 10
  - d. Unix and Linux
  - e. Mac OS X
6. Upgrading the operating system
  - a. Windows
  - b. Mac OS X
  - c. Linux
7. Input/Output devices
  - a. Device drivers
  - b. Printer technologies
8. Home/Small business wireless architecture
  - a. Wireless protocols and standards
  - b. Wireless hardware
  - c. Wireless network design and configuration
  - d. Wireless network installation
9. Networking connectivity
  - a. WAN, LAN, cloud network configurations
  - b. Interconnectedness of different networks
  - c. Troubleshooting connectivity issues
  - d. Network maintenance procedures
10. Sharing resources over a network
  - a. Windows permissions: users, groups
  - b. Mac OS X: users, permissions
  - c. Local server sharing
  - d. Cloud server sharing
11. File system maintenance
  - a. Windows file system
  - b. Mac OS X file system
  - c. Unix/Linux file system

- d. File backup systems, processes, procedures
- e. Operating system performance optimization

## Lab Content

1. Discover Information About Your Operating System Lab
2. Computer Hardware Component Lab
3. File System Lab
4. OS Installation Preparation Lab
5. OS Installation Lab
6. Upgrade OS Lab
7. Printer Setup Lab
8. Wireless Network Configuration Lab
9. Physical Network Configuration Lab
10. Network Sharing Lab

## Special Facilities and/or Equipment

1. When offered on/off campus: Lecture room equipped with projector, whiteboard, and a demonstration computer connected online. Computer laboratories equipped with computers or laptops with internet access.
2. When taught via the internet: Students must have current email accounts and ongoing access to computers with web browsing capability and internet access.

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Completion of written homework assignments and lab reports  
Class performance with demonstrations  
Quizzes  
Final exam

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Students will actively take notes during lectures and demonstrations  
Students will be actively engaged in individual learning practices  
Students will conduct online research  
Students will complete lab work  
Students will meet with other students in one-on-one sessions or small group instruction

## Representative Text(s) and Other Materials

Matthews, Suzanne J., Tia Newhall, and Kevin C. Webb. [Dive Into Systems: A Gentle Introduction to Computer Systems](#). 2022.

Instructor-assigned notes, materials, and resources, including instructional materials, open education resources, multimedia, and websites.

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

1. 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 or Instructional Design/Technology