Las Positas College
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Course Outline for CIS 65

INTRODUCTION TO DESKTOP OPERATING SYSTEMS

Effective: Fall 2019

I. CATALOG DESCRIPTION:
CIS 65 — INTRODUCTION TO DESKTOP OPERATING SYSTEMS — 2.00 units

By performing numerous hands-on labs, students in this class will gain an understanding of the most widely used desktop operating systems (including Windows, Apple OS X, and Linux) using command line and GUI interfaces. Students will use virtualization software to install and configure operating systems and user applications on a class room computer. Students will also experiment with remote computing and storage. The course includes information on mobile operating systems, as well as chapters on subjects peripheral to operating systems, such as computer security, desktop virtualization, and connecting computers and mobile devices to networks. Students who have completed or are enrolled in Computer Networking Technology 50 may not receive credit.

1.00 Units Lecture 1.00 Units Lab

Strongly Recommended
CIS 50 - Intro to Computing Info Tech
with a minimum grade of C

Grading Methods:
Letter or P/NP

Discipline:
- Computer Service Technology

	MIN
Lecture Hours:	18.00
Lab Hours:	54.00
Total Hours:	72.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

Before entering this course, it is strongly recommended that the student should be able to:

A. CIS50
1. Describe and evaluate the development and use of information systems in business;
2. Solve common business problems using approporiate Information Technology applications and systems;
3. Demonstrate familiarity with the computing environment, including the hardware, operating system, the user interface, and applications;
4. Demonstrate the possible solution(s) for simple business applications by applying productivity tools including, word processing, spreadsheets, databases, and presentation software;
5. Investigate current issues in computer environments such as security, society and business ethics over the use of computer data, and organization of data processing resources within the organization; and
6. Describe the capabilities, use, and characteristics of programming languages in a computer environment.

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

A. Identify the operating system's functions, structures, and major system files and to explain the function of each
B. Compare the features of various operating system
C. Identify basic concepts and procedures for creating, viewing, and managing files, and folders for different operating systems
D. Use and explain command prompt functions on different operating systems
E. Perform disk maintenance operations such as backup, restore, defragment, scan disk
F. Install/upgrade Windows and Linux operating system
G. Explore Apple operating system and online desktops
H. Describe and troubleshoot the bootup and start sequence
I. Recognize common problems and determine how to resolve them
J. Identify concepts and capabilities relating to the Internet and basic procedures for setting up a system for Internet access
K. Identify networking capabilities of an operating system and the procedures for connecting a workstation to a network

V. CONTENT:
- A. Operating system theory
- B. Introduction to various operating systems including:
  1. Command Line Interfaces
  2. Windows Clients
  3. Linux
  4. Apple
  5. Virtual Machines
- C. Installing an operating system
- D. Configuring an operating system
  1. Configuring system settings
  2. Configuring hardware settings
  3. Configuring software settings
- E. Upgrading operating system software
- F. Managing storage space
  1. Partitioning disk
  2. Choosing a file system
  3. Disk compression
  4. Managing files and folders/directories
- G. Using and installing peripheral devices such as mice, scanners, printers, monitors, etc.
- H. Troubleshooting system errors
  1. Resolving hardware conflicts
  2. Controlling and troubleshooting the boot process
  3. Examining system files
- I. Networking and Internet connectivity
  1. Logging on to a network
  2. Workgroup/domain network environments
  3. Sharing resources
  4. Overview of Internet/Intranetworking

VI. LAB CONTENT:
- A. Operating system theory
- B. Introduction to various operating systems
- C. Installing an operating system
- D. Configuring an operating system
- E. Upgrading operating system software
- F. Managing storage space
- G. Using and installing peripheral devices such as mice, scanners, printers, monitors, etc.
- H. Troubleshooting system errors
- I. Networking and Internet connectivity

VII. METHODS OF INSTRUCTION:
- A. **Audio-visual Activity** - Videos; reading assignments; tutorials
- B. **Lab** - Hands-on labs with step-by-step exercises
- C. **Lecture** - Lectures and discussion with demonstrations

VIII. TYPICAL ASSIGNMENTS:
- A. Using the MS VirtualPC or VMware on your host machine, install the following Operating System.
- B. Download an iso file of the Debian Linux OS.
- C. Use your computer CD writing application, either Roxio or one you download from the Internet, and create a bootable live CD.
- D. Create a new virtual machine as per the instructions on the handout.
- E. Start Linux on your Windows computer and configure the network, user groups and user accounts. Show the instructor for credit.
- F. On one page, compare and contrast current desktop operating systems, web-based desktops and virtual machines.

IX. EVALUATION:
Methods/Frequency

- A. Exams/Tests
  Weekly
- B. Quizzes
  Weekly
- C. Class Participation
  Weekly
- D. Lab Activities
  Weekly
- E. Other

X. TYPICAL TEXTS:
1. Holcombe, J.. *Survey of Operating Systems.* 5 ed., McGraw-Hill, 2018.
2. Silberschatz, Abraham , and Peter Galvin . *Operating System Concepts.* 11th ed., Wiley, 2019.
3. Bos, Herbert . *Modern Operating Systems.* 5th ed., Pearson, 2019.
4. Association for Computing Machinery. Student Membership to Acm.org Digital Library, 2019 ed. New York: acm.org, 2019

XI. OTHER MATERIALS REQUIRED OF STUDENTS:
- A. Portable Storage Device, such as USB flash drive or External USB Hard Disk