

**PALOMAR COLLEGE**  
**COURSE OUTLINE OF RECORD FOR**  
**DEGREE CREDIT COURSE**

X Transfer Course    X A.A. Degree applicable course  
(check all that apply)

**COURSE NUMBER AND TITLE:** R CSIS 145/CSIS 145 Introduction to Linux

**UNIT VALUE:** 3

**MINIMUM NUMBER OF SEMESTER HOURS:** 96

**BASIC SKILLS REQUIREMENTS:** Appropriate language and computational skills

**ENTRANCE REQUIREMENTS**

**PREREQUISITE:** None

**COREQUISITE:** None

**RECOMMENDED PREPARATION:** None

**SCOPE OF COURSE:**

An overview of the Linux operating system, utilities, and associated applications for workstations. Includes installation, configuration and troubleshooting of Linux systems within the command-line environment and the graphical X-Windows environment.

**SPECIFIC COURSE OBJECTIVES:**

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

1. Install/uninstall and work within the Linux operating system;
2. Explain, set up, and work within the Linux file system;
3. Define and apply common command-line operations;
4. Set up and implement selected administrative utilities;
5. Describe and apply Linux devices including dynamic kernel modules and the X-Windows System;
6. Install and configure physical and logical devices;
7. Create and troubleshoot users and groups;
8. Create and restore system backups;
9. Apply basic TCP/IP networking principles within the Linux environment;
10. Configure system and troubleshoot system and network problems.

## CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Introduction
  - A Overview
  - B Course content and grading system
  - C Safety procedures
- II. Introduction to Linux Operating System
  - A Definition
  - B History
  - C Distribution
  - D Common Uses
- III. Installation
  - A Hardware and pre-installation information
  - B Directory structure
  - C Viewing files and directories
  - D Searching for text within files
  - E Editing text files
- IV. Concepts of Filesystem Management
  - A The Filesystem Hierarchy Standard
  - B Functions of files and directories
  - C Finding files
  - D Linking files
  - E Files and directory permissions
- V. Concepts of Filesystem Administration
  - A The /dev directory
  - B Filesystems: floppy disks; CD-ROMs; hard disks
  - C Monitoring filesystems
  - D Hard disk quotes
- VI. Troubleshooting the Installation
  - A Hardware configuration
  - B Installation methods
  - C The boot process
  - D Boot loaders
  - E Linux initialization
  - F Printer
  - G Log file
  - H Users and groups
- VII. Introduction to the Bash Shell
  - A Command input/output
  - B Shell variables
  - C Shell scripts
- VIII. Introduction to the X-Windows System
  - A Linux GUI components
  - B Starting and stopping X-Windows
  - C Configuring X-Windows
- IX. Working with Command Line Processes
  - A Viewing processes
  - B Killing processes
  - C Process execution
  - D Running processes in the background

- E Process priorities
- F Scheduling commands
- X. Compression, System Back-Up and Software Installation
  - A Compression
  - B System back-up
  - C Software installation
- XI. Troubleshooting and Performance
  - A Troubleshooting methodology
  - B Resolving common system problems
  - C Performance monitoring
  - D Customizing the kernel
- XII. Overview of Linux Networking
  - A Networking and TCP/IP
  - B Configuring a NIC Interface
  - C Configuring a PPP Interface
  - D Name resolution
  - E Connecting to network resources
  - F Common network services

### **REQUIRED READING:**

Eckert, Jason, and John Schitka. *Linux+ Guide to Linux Certification*. Boston, MA: Course Technology Incorporated, 2003. ISBN 0-619-13004-0.

### **SUGGESTED READING:**

Wells, Nick. *Guide to Linux Networking and Security*. Boston, MA: Course Technology Incorporated, 2002. ISBN 0-619-00094-5.

### **REQUIRED WRITING:**

Writing: completion of 10 to 20 lab project sheets; quizzes; midterm and final exams.

Skills demonstration: operating system installation, file and process management, administrative tasks, and troubleshooting.

### **OUTSIDE ASSIGNMENTS:**

**Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.**

Reading textbook assignments; studying for quizzes and exams; lab project sheets.

**INSTRUCTIONAL METHODOLOGY:**

**Check all that apply:**

- lecture
- laboratory
- lecture-laboratory combination
- directed study

**DISTANCE LEARNING:**

**This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.**

Yes  No

**If yes, check all that apply:**

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

**GRADING POLICY AND STANDARDS** (include methods of determining whether the stated objectives have been met by students):

Homework, Quizzes, and Lab Sheets	35%	A=90.0-100%
Mid-Term Exam	25%	B=80.0-89.9%
Final Exam	40%	C=70.0-79.9%
		D=80.0-69.9%

**IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?**

Yes  No  Number of times course may be taken for credit: 1

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

**CONTACT PERSON:** Bruce Gan (x2295) or Vickie McCullough (x2502)

**SIGNATURES ON FILE:**