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COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

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Revised by: B. Branch and D. Bowman   Fall 2003
Revised by: Dave Bowman   Spring 2012
Revised by: Jeff Jones   December 15, 2014
Revised by: Bill Branch   December 21, 2016
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A. Identification:
    1. Subject Area: Computer Information Systems (CIS)
    2. Course Number: 161
    3. Course Title: Linux Administration I
    4. Credit Hours: 4
    5. Course Description: This is the first of two semester courses designed to provide students with classroom and lab experience in current and emerging Linux Administration employment or further education and training in the Linux administration/networking field. This course is aligned with the first of two exams to achieve both the CompTIA Linux+ certification and Linux Professional Institute LPIC-1 certification. This course introduces the free and open source operating system of Linux. Students will learn to be proficient with system architecture, Linux installation and package management, GNU and UNIX commands, devices, Linux file systems, file system hierarchy standard, TCP/IP protocols and client access to the network. Pre/Co-requisite: CIS 120 or Consent of Instructor. Four Lecture. Fall.

B. Course Goals: Provide to the students' hands on experience with Linux administration, network models, network management tools, files and directories, Furthermore, the class will provide the logical background for understanding, design, and implementation and troubleshooting of small to medium networks managed with Linux operating systems. This first semester of the Linux administration will help students enter the network operating systems world.

C. Course Outcomes:
    Upon successful completion of this course, students will:
    1. determine and configure hardware settings;
    2. guide the system through the booting process, change runlevels/boot targets & shutdown or reboot system;
    3. design hard disk layout, install a boot manager & manage shared libraries;
    4. use default Linux package management for install, upgrade and uninstall binary packages;
    5. obtain package information like version, content, dependencies, package integrity and installation status (whether or not the package is installed);
    6. use RPM and YUM package management;
    7. process text streams using filters;
    8. perform basic file management such as create, edit, delete, copy, move and remove files and directories (recursively);
    9. use simple and advanced wildcard specifications in commands;
    10. using find to locate and act on files based on type, size, or time;
    11. usage of tar, cpio, dd with streams, pipes and redirects;

12. create, monitor and kill processes and modify process execution priorities;
13. perform basic file editing operations using vi or similar;
14. create partitions and file systems and maintain the integrity of file systems;
15. control mounting/unmounting of file systems and manage disk quotas;
16. manage file permissions and ownership;
17. create and change hard and symbolic links;
18. and explain and configure client side TCI/IP protocols.

D. Course Outcomes Assessment will include:
1. self-assessment chapter quizzes;
2. web based chapter exams;
3. hands-on lab assessment for each applicable chapter;
4. web final exam covering material from the entire semester;
5. and final practical exam.

E. Course Content will include:
1. system concepts;
2. Linux boot process;
3. installation;
4. initialization and shutdown;
5. user administration and security;
6. process control;
7. file systems;
8. files and directories;
9. disk configuration;
10. format;
11. and basic command syntax editor.