



Course Name: Linux Fundamentals

Course Number: CST* E266

Credits: 3

Catalog description: A comprehensive introduction to the installation, scripting, and administration of the Linux operating system in both client and server configurations. Students will learn how to install and use the base Linux operating system and its major subsystems (e.g., DNS, NFS, SSH, FTP, Apache2, MySQL) and will use the Linux command line, shell scripting, and GUI interfaces to perform operating system administration, file management, system maintenance, system security, and secure communication. Course content is continually updated to reflect the current state of the art in the Linux operating system.

The course requires substantial hands-on computer work with Linux in a computerized classroom environment.

Prerequisite: The ability to perform basic file management and word processing tasks on a personal computer

Corequisite or Parallel:

General Education Competencies Satisfied:

HCC General Education Requirement Designated Competency Attribute Code(s):

None

Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:

None

Embedded Competency(ies):

None

Discipline-Specific Attribute Code(s):

COMP Computer Science Elective



Course objectives:

General Education Goals and Outcomes:

None

Course Specific Objectives:

1. Install the Linux operating system.
2. Install DNS, NFS, SSH, FTP, Apache2, TAR, and MySQL
3. Demonstrate proficiency in performing the basic tasks associated with Linux, DNS, NFS, SSH, FTP, Apache2, TAR, and MySQL in both command line and GUI mode.
4. Demonstrate proficiency in Linux shell scripting
5. Use shell scripting to administer the operating system and to perform file management, system maintenance, system security and secure communication.
6. Develop tools and techniques to monitor system performance
7. Use system tools to perform system maintenance, upgrades, enhanced security, and to add new subsystems.
8. Set up a secure user and file sharing capability
9. Demonstrate the ability to recognize specific software/subsystems to support user business requirements.

Course Content:

- Installing a vendor supplied Linux operating system
- Learning the software tools to install system maintenance
- Developing proficiency in Linux line commands
- Developing proficiency in aliases and shell scripting
- File management and file security
- Remote file sharing with NFS
- Secured file transfer and remote login using SSH
- Transfer files via FTP and secured FTP
- Advanced security through ACL
- Installing and using DNS and DHCP
- Backups and restores with command line and GUI interfaces
- Installing a database server (MySQL)
- Installing a web server (Apache2)

Date Course Created: Spring 2015

Date of Last Revision: 04/03/2017