Course Outline

Division: Information Technology

Program/Dept.: Network Design and Administration

Course Number: NET 138 Credits: 5.0 Variable:

Course Title: Linux/Unix for Network Administration

Inst. Intent: 21 Vocational Preparatory CIP: 11.0901

Fee: Yes Type: CL - Computer Lab Fee

Degree/Certificate Requirement: Yes
Name of Degree/ Certificate Requirements:
Network Administration – Certificate/Cisco Alternative/AAS-T Programs

Distribution Requirement for AA/AAS: Yes

Transfer Status to 4-year institution: No

If yes, please describe:

Course Length: Based on 11 wks/qtr. Class Size: 24

Course Contact Hours: 55
Lecture: 55 Lab: Clinical: Other:

Prerequisite: Yes If yes, please describe: CIS 136 or instructor permission

Required Placement Tests: No If yes, please describe:

Comments:

Course Description:
This is an intermediate level course, covering the organization of Linux/Unix–based hardware components, the Linux/Unix operating system software and tools the Linux/Unix host administrator uses to control access, tune the system and account for system resources used. Advanced concepts will include multi-user, multi-tasking, time-sharing networked communications. Linux/Unix tools network scheduler, security, remote access and performance monitoring will be covered. Operational considerations (host initialization, suspension and termination, the physical environment of the system), networking aspects of Linux/Unix and the Internet (the Internet environment, threats to corporate data) will be examined. This course is directed at Network Technology students.
Course Outcomes/Learning Objectives:
Upon successful completion, the student will be able to:
1. Describe the hardware and software components required to network a Linux/Unix system.
2. Set up an FTP server and a web server on a Linux/Unix host.
3. Handle common administrative task necessary to maintain a Linux/Unix host, including a web server.
4. Use Linux/Linux/Unix operating system software tools to assess system usage and control access within a network environment.
5. Articulate the operational consideration and security issues involved in maintaining a Linux/Unix system.

SCCC General Education Outcomes and/or Related Instructional Outcomes (for technical courses) Met by Course: (list each outcome):
Outcome 1 Think critically in reading and writing.
Outcome 3 Discover, develop and communicate one’s own creative and critical ideas in writing and to respond in effective writing to the spoken, written and visual ideas of others.
Outcome 5 Apply computer competency appropriate to general education and occupational goals.

Topical Outline and/or Major Divisions:
Topics will include the following:
A. Organization of Linux/Unix-based hardware components (the processor, the kernel, the disk system and communications hardware.)
B. Organization of the Linux/Unix operating system software (the various shells and why a system administrator would select one versus another.)
C. Basic Linux/Unix commands (administrative tools to create user accounts, control access, tune the system and account for resources used.)
D. Advanced concepts (multi-user, multi-tasking, time-sharing networked communications.)
E. Linux/Unix tools for multi-tasking and networking (spoolers, daemons and schedulers.)
F. Accounts, access and permissions for data sharing (establishing, controlling and managing user accounts.)
G. Administrative considerations (security, remote access and performance monitoring.)
H. Operational considerations (host initialization, suspension and termination, the physical environment of the system.)
I. Networking aspects of Linux/Unix and the Internet (the Internet environment, threats to corporate data.)
J. Linux/Unix communications (Web Server, TCP/IP, smtp, sendmail, Pine and Elm accounts.)

Course Requirements (Expectation of Students):
1. Attending class sessions
2. Reading as indicated by instructor
3. Completing course assignments as indicated by instructor
4. Completing course exams

Methods of Assessment/Evaluation:
1. Instructor grading of assignments.
2. Instructor assessment of exams.

Required Text(s) and/or Materials:
Text as required by instructor.

Supplemental Text(s) and/or Materials:
As recommended by instructor.

Outline Developed by: DC Shoemaker Date: 2/25/99
Revised by: D.C. Shoemaker, R.M Costello Date: 9/05/00, 9/11/03, 10/23/03, 12/05
Lisa Sandoval 8/05