



CIS 1620

Division: Career and Technical Education

Department: Computer Information Systems

Course: CIS 1620

Title: Linux Fundamentals

Catalog Description:

This course will introduce students to the fundamentals of the Linux OS and Linux networking concepts. Students will become familiar with Linux installation, usage, file system, management of GUI interface and networking processes, troubleshooting and security.

General Education Requirements: N/A

Semesters Offered: TBA

Credit/Time Requirement: Credit: 3; Lecture: 3; Lab: 1

Clock/Hour Requirements: 60

Offered for Non-Credit: Yes

Prerequisites: CIS 1121, CIS 1122, and CIS 1140

Corequisites: N/A

Justification:

Linux networking offers network engineers a vendor neutral alternative for the networking environment. An increasing portion of the networking world is turning to a Unix/Linux environment as opposed to Novell or Microsoft. Technicians preparing to enter the workplace should have Linux knowledge in order to administer networks of this kind. Students who choose to work in the IT field will benefit from a solid understanding of Linux networking and will be able to more precisely manage networks running this operating system. This course prepares students for job readiness at graduation and/or transfer to some advanced training institutions. This course has been recommended by the program advisory committee.

Student Learning Outcomes:

Through successful completion of this course, students will be able to:

- perform a Linux operating system installation
- identify and explain the Linux file system
- identify and configure the Linux shell and kernel
- manage and administrate background processes and tasks related to the proper functioning of a Linux system
- explain and perform backup, troubleshooting and performance tasks
- configure network level and security services for a Linux environment.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following areas:

- Linux Installation and Usage
- Linux File Systems, Management and Administration
- Advanced Installation Concepts
- Linux Shell, Initialization and X-Windows Environment
- Common Administrative Tasks
- System Backup and Software Installation
- Troubleshooting and Performance
- Network Configuration
- Network Services and Security.

General Education Outcomes:

Applied Education Outcomes:

- 1) Students will acquire entry-level skills specific to and appropriate for employment in their chosen field of study. Students will be exposed to the basic concepts of Linux operating systems on a theoretical and practical application basis. The entry-level skills will be practiced through hands-on exercises such as installing and supporting a Linux desktop system, installing and supporting a Linux server system, comparing a Linux system with a Windows system, etc.
- 2) Students will become aware of industry specific certification and develop skills sufficient to acquire the same. The course and text are designed around the knowledge domains encompassed by the Linux+ industry certification. Each chapter and hands-on activity will be referenced to this certification.

Key Performance Indicators:

In class:

- Student grades will be based on a combination of lab exercises (5-25%), quizzes (5-25%), tests (10-50%), and a final exam or project (20-50%). Percentages are approximate.

Following class:

- Post evaluation will be measured by subsequent student performance in courses where students are expected to be familiar with Linux Operating System Fundamentals. If students choose to pursue industry certification, the CompTIA Linux+ exam will provide indicators to student success in this course.

Representative Text and/or Supplies:

- Jason Eckert and M. John Schitka, *Linux+ Guide to Linux Certification*, current edition, Thompson.

Optimum Class Size: 16

Maximum Class Size: 16

Signatures:

I hereby submit this course syllabus:

Michael Medley, MBA, Instructor

I hereby find this course consistent with the goals and resources of the Computer Information Systems Department:

Michael P. Medley, MBA, Assistant Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)