

Common Course Outline

CINS 243

Linux/UNIX Administration

4 Semester Hours

The Community College of Baltimore County

Description

Advanced UNIX Operating System

Explores advanced concepts of the popular UNIX operating system including versions of UNIX including AIX and Linux; includes system administration, text-processing programs such as AWK, Korn shell scripts, PERL, UNIX kernel, process control, interprocess communication and use of CGI to enhance the capabilities of World Wide Web pages.

3 credits: 2 lecture hours, 2 laboratory hours.

Prerequisite: CINS 142 or consent of the Program Director or Academic Dean.

Overall Course Objectives

Upon completion of this course the student will be able to:

- A. Design, code, and debug programs using text processing programs using AWK
- B. Design, code, and debug programs using the Korn Shell
- C. Create programs that use interprocess communication to synchronize the flow of data
- D. Write programs that use the Common Gateway Interface (CGI) to process data collected from World Wide Web page forms
- E. Compile the UNIX kernel
- F. Administer a UNIX system

Major Topics

- A. Review of basic UNIX utilities
- B. Quoting Mechanisms
- C. AWK
- D. Introduction to lex and yacc
- E. UNIX internals
 - 1. Forking a process
 - 2. Exec(ing) a process

3. The init process
 4. Device files
- F. Shell Scripts
1. Bourne
 2. Korn
 3. C
 4. bash
- G. Interprocess communication (IPC)
- H. Concurrent, sequential, and other execution groupings
- I. Redirection from within scripts
- J. Named and FIFO pipes
- K. PERL
- L. The Common Gateway Interface (CGI)
- M. Administering the UNIX system
1. System boot and shutdown
 2. Adding and removing users
 3. Passwords
 5. Checking file system integrity
 6. Installing software
 - a. Rebuilding the kernel
 - b. Installing a system for the first time

Course Requirements

Grading: Grading procedures will be determined by the faculty member, will be provided the first week of class, and will include:

1. Minimum of 6 programming projects
2. Minimum of 6 tests or quizzes.
3. Comprehensive final exam.

Other Course Information

This is a CIS elective.

This course is taught in a computerized environment.

This course is the second course in a two-course sequence.