

CSI 3660: System Administration

Credits Hours: 4 credits, 3.57 contact hours/week.

Instructor: Erik Fredericks, Ph.D.

Text book: Linux Command Line and Shell Scripting Bible - 3rd Edition Blum and Bresnahan
ISBN: 9781118983843

Specific course information

This course teaches the skills necessary to analyze, deploy, manage and troubleshoot enterprise computing infrastructures. Topics include user authentication management, system configuration and management, periodic tasks automation, network file systems and data backup techniques, server deployments, and system performance analysis techniques.

Prerequisites: CSI 2470 major standing

Elective course

Course Objectives: Upon successful completion of this course, students should be able to

- Describe the Linux file system [ABET IT:(a)]
- Use major features of the BASH Shell including redirection, piping, variables, aliases, and environment files [ABET IT: (a, i, j)]
- Manipulate processes including displaying their attributes, changing their priority, and terminating and scheduling them [ABET IT: (a, i)]
- Administrate log files and users [ABET IT: (a, i)]
- Demonstrate understanding of network configuration concepts including network utilities, TCP/IP configuration, and name resolution [ABET IT: (a)]

List of Topics:

- Linux system: kernels, distributions, file system structure
- System management: manage file and directories in a Linux system
- System administration: create, mount, and manage Linux file systems
- Processes: understand the different types of processes, view process attributes, change process priority, kill running processes, process scheduling
- Compression and backup: understand how to use common utilities for compressing files and performing system backups
- Network configuration: understand basic Linux networking concepts as well as common supporting utilities, TCP/IP and NIC configuration, name resolution, remote administration
- Network services: configuration of network administration, web services, file and directory sharing, remote logins

- Troubleshooting: common problems and how to resolve them with respect to hardware or software, common utilities for resolving performance issues,
- Security: protect against common attacks, secure system against unauthorized access
- Documentation: best practices for documenting configurations and services, team communication