COURSE OUTLINE

CSO102

Prepared: Fred Carella   Approved: Cory Meunier

Course Code: Title	CSO102: INTRODUCTION TO LINUX
Program Number: Name	2090: COMPUTER PROGRAMMER
Department:	COMPUTER STUDIES
Semester/Term:	18W
Course Description:	This course introduces the student to the Linux Operating system with particular emphasis on command line tools, utilities and shell scripting. The student will learn and apply the various commands and utilities related to file system management, process management, program development and data processing. In addition the student will learn about shell concepts and become proficient in the use of shell features such as command line editing and learn and apply Unix concepts such as pipes and filters. The student will apply the aforementioned utilities and concepts in the writing of shell scripts
Total Credits:	4
Hours/Week:	4
Total Hours:	60
Prerequisites:	CSO104
Essential Employability Skills (EES):	#1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. #2. Respond to written, spoken, or visual messages in a manner that ensures effective communication. #4. Apply a systematic approach to solve problems. #6. Locate, select, organize, and document information using appropriate technology and information systems. #7. Analyze, evaluate, and apply relevant information from a variety of sources. #10. Manage the use of time and other resources to complete projects. #11. Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D
Other Course Evaluation & Assessment Requirements:	A+ = 90-100% A = 80-89% B = 70-79% C = 60-69%

D = 50-59%
F < 50%

Students are expected to be present to write all tests in class. If a student is unable to write a test due to illness or a legitimate emergency, that student must contact the professor prior to class and provide reasoning, which is acceptable to the professor. Should the student fail to contact the professor, the student shall receive a grade of zero on the test.

Once the test has commenced, the student is considered absent and will not be given the privilege of writing the test.

Students caught cheating during a test will receive an automatic zero. Please refer to the College Academic Dishonesty Policy for further information.

In order to qualify to write a missed test, the student shall have:
a) attended at least 80% of the classes.
b) provided the professor an acceptable explanation for his/her absence.
c) been granted permission by the professor.

NOTE: The missed test that has met the criteria above will be an end-of-semester test.

Labs and Assignments are due on the due-date indicated by the Professor. Notice by the professor will be written on the lab or verbally announced in the class and / or both. No late labs will be accepted beyond the due date. Once labs / assignments have been marked by the professor and returned to the student, no new labs will be accepted. It is the responsibility of the student who has missed a class to contact the professor immediately to obtain the lab / assignment. Students are responsible for doing their own work. Labs / assignments that are handed in and are deemed identical in content and personal wording to others may constitute academic dishonesty and result in a zero grade.

The total overall average of test scores combined must be 50% or higher in order to qualify to pass this course. In addition, combined tests, Labs / Assignments total grade must be 50% or higher.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Attendance-Participation	10%
Labs	30%
Tests	60%

Books and Required Resources:

A Practical Guide to Fedora and Redhat Enterprise Linux by Mark G. Sobell
Publisher: Pearson Education Edition: 7
ISBN: 978-0-13-347743-6

Course Outcomes and Learning Objectives:

Course Outcome 1.

Discuss the history and development of the Linux Operating System.

Learning Objectives 1.

- Describe the relationship between GNU and Linux.
- Describe the relationship between Linux and Unix.
- Discuss features which make Linux a viable and popular operating system.
- Describe various operating system concepts such as multitasking, virtual memory and

multiuser environments as they apply to Linux.

Course Outcome 2.

Work within a command line environment

Learning Objectives 2.

- Log in, from a terminal, a virtual terminal and remotely.
- Log out.
- Work with the shell and learn shell features such as command line editing.
- Access the various help systems.

Course Outcome 3.

Describe and apply various command line utilities

Learning Objectives 3.

- Describe and apply various file related commands
- List the names of files
- Display the contents of a file.
- Delete a file.
- Copy a file.
- Move a file.
- Print a file.
- Search the contents of a file.
- Pack and Unpack files (archiving).
- Find files.
- Describe and apply various utilities
- Display text.
- Display time and date.
- Test for a files contents.
- Obtain user information.
- Communicate with other users.

Course Outcome 4.

Work with the file System

Learning Objectives 4.

- Describe hierarchical file systems.
- Create and delete directories.
- Understand and apply knowledge of absolute and relative pathnames when specifying files.
- Describe the standard file and directory layout.
- Describe the various file types.
- Create and delete hard and soft (symbolic) links.
- Create and modify file permissions.

Course Outcome 5.

Work with shells

Learning Objectives 5.

- Understand how the command line is parsed and processed.
- Understand the concept of standard input and output.
- Understand and apply I/O redirection.
- Understand and apply the concepts of pipes and filters.
- Manipulate the directory stack.
- Understand the concept of shell parameters and variables.
- Create, view and delete shell variables.
- Understand how processes are created and their attributes.
- Create foreground and background processes.
- Create, view and delete processes.
- Work with shell history.
- Understanding the readline library and its features as applied to command line editing.
- Understand how shells are started and view/modify the shell configuration files.
- Create, modify and delete aliases.
- Create and execute simple shell scripts.
- Create and use functions.

Course Outcome 6.

Write shell scripts

Learning Objectives 6.

- Understand and apply the following concepts and features to the writing of shell scripts:
- Flow Control structures
- Looping Control structures
- Menu Control Structures
- The here document
- Arrays
- Special parameters
- Positional parameters and shifting
- Expressions
- Operators
- Pattern matching

Course Outcome 7.

Perform System Administration Tasks

Learning Objectives 7.

- Install Linux
- Gain root
- Understand and control the startup sequence (systemd)
- Start, stop, restart services
- Enable/disable services at startup
- Shutdown a system

	- Use system administration tools to monitor and maintain a system - Install and configure software - Install and configure services - Update the Operating System
Date:	Monday, January 22, 2018
	Please refer to the course outline addendum on the Learning Management System for further information.