CGS 3767
Computer Operating Systems
Credits: 3

Course Prerequisites

COP 2047 or COP2210 or COP2250 or COP2270

Official Catalog Course Description

Introduction to fundamental concepts of operating systems and their implementation in UNIX and Windows. Prerequisite: COP 2047

Prerequisites Topics:

- Primitive data types
- Basic program control structures
- Familiarity with methods or functions

Course Outcomes

1. Explain fundamental hardware and software concepts. [Understand]
2. Describe core operating system functions and resource management mechanisms. [Understand}
3. Explain the structure and management of file systems. [Understand]
4. Use text editors to create, modify, and manage text-based files. [Apply]
5. Execute basic command-line operations to navigate the system and manage files and processes. [Apply]
6. Develop simple shell scripts to automate routine system tasks. [Apply]
7. Identify key features and components of windowing systems and graphical user interfaces. [Understand]

Textbook and Course Materials

Guide to Parallel Operating Systems with Windows 10 and Linux (3rd Edition)
Publisher: Cengage Learning
ISBN-13: 978-1305107120

Course Calander

Weeks	Topic	Number of Lecture Hours	Outcome
1	• Hardware ○ Hardware and peripherals	3	1
2	• Hardware • Maintenance and testing	3	1

3	• Software
	  ○ Virtual machines
	  ○ Software components
	  ○ Functions of an operating system
		3	1,2

4	• Software
	  ○ Interaction between OS and hardware
	  ○ Common OS
	  ○ Common utilities and applications
		3	1,2

5	• File Systems
	  ○ Characteristics of file systems
	  ○ Creating and managing file systems
		2	2,3

6	• File Systems ○ Directory commands	2	2,3
7	• Files and file attributes	2	2,3
8	• Text Editors ○ Windows editors	3	4
9	• Text Editors ○ Unix editors	3	4

10	• Command Line
	  ○ File and directory commands
	  ○ Utility commands
	  ○ Command files
		3	2,5

11	• GUI	3	2,6

	○ Windows ○ KDE ○ GNOME		
12	• OS Management ○ Administrative activities ○ User policies	1	2
13 – 16	• Shell programming ○ File processing tools ○ Variables: configuration/environment/shell ○ Operators: defining/evaluating/arithmetic ○	5	2, 7
14	• Shell programming ○ Logic: sequential/decision/loop/case ○ Debugging scripts	4	2,7
15	• Shell programming ○ String tests, integer tests, boolean conditions • Script development cycle	4	2,7
16	• Final Exam preparation	3	1-7

Grading

Course Grades Distribution Table

Course Requirements	Number of Items	Points of Each	Weight
Quizzes	4	10	25%
Assignment/Project	4	20	35%
Exams	2	30	40%
Total	**10**		**100%**

Grading Scheme

Letter	Range%	Letter	Range%	Letter	Range%
A	93 or above	B	80 - 83.9	C	65 - 69.9
A-	88 - 92.9	B-	75 - 79.9	D	60 - 64.9
B+	84 - 87.9	C+	70 - 74.9	F	59.9 or less