CIST 1135 - Operating Systems and Virtual/Cloud Computing (version 201512L)

Course Title **Course Development** **Learning Support**

Operating Systems and Virtual/Cloud Computing

Standard

No

Course Description

This course provides an overview of modern operating systems and their use in home and small business environments. Activities will utilize the graphical user interface (GUI) and command line environment (CLI). Topics include using the modern virtual operating systems and cloud environments.

Pre-requisites
Pre-requisites: None

Co-requisites
Co-requisites: None

Course Length

	Minutes	Contact Hour	Semester Credit	WLU
Lecture:	**1500**	**30**		
Lab 2:	**3000**	**60**		
Lab 3:	**0**	**0**		
Total:	**4500**	**90**	**4**	
Semester Credit Hours:			**4**	**142.5**
Breakout Detail of Lab 3				
Practicum/Internship	**0**	**0**		
Clinical	**0**	**0**		

Competencies & Outcomes

Order	Description	Lecture	Lab 2	Lab 3	Total Min	Credit Hrs	Pract Intern	Clinical
1	**Operating System Fundamentals**	450	500	0	950	0	0	0

Order	Description	Learning Domain	Level of Learning
1	Describe the history and evolution of operating systems	Cognitive	Comprehension
2	Describe the features of modern and legacy operating systems	Cognitive	Comprehension
3	Compare and Contrast operating systems as they are used in diverse situations	Cognitive	Evaluation
4	Demonstrate proficiency using a graphical user interface (GUI) and command line interface (CLI) environment	Cognitive	Application
5	Identify the steps and all associated files in the boot process	Cognitive	Knowledge

Order	Description	Lecture	Lab 2	Lab 3	Total Min	Credit Hrs	Pract Intern	Clinical
2	**Installing, Configuring, and Upgrading Operating Systems**	200	700	0	900	0	0	0

Order	Description	Learning Domain	Level of Learning

Order	Description	Learning Domain	Level of Learning
1	Identify hardware requirements for supporting operating systems	Cognitive	Knowledge
2	Identify supported hardware for various operating systems	Cognitive	Knowledge
3	Perform an installation using bootable media	Psychomotor	Guided Response
4	Perform an operating system upgrade	Psychomotor	Guided Response
5	Demonstrate how to configure a newly installed operating system to satisfy user requirements	Cognitive	Application
6	Demonstrate how to troubleshoot failed installation and upgrade attempts	Cognitive	Application

| 3 | Managing Storage, File Systems, Hardware, and System Resources | 200 | 650 | 0 | 850 | 0 | 0 | 0 |

Order	Description	Learning Domain	Level of Learning
1	Demonstrate proficiency partitioning and formatting storage	Cognitive	Application
2	Identify features, advantages, and disadvantages of file systems	Cognitive	Knowledge
3	Select the appropriate file system to meet specified needs	Cognitive	Application
4	Demonstrate ability to create, read, update, and delete objects in the file system using the GUI or CLI	Cognitive	Application
5	Use tools and utilities to manage hardware	Cognitive	Application
6	Describe system resources and how they are allocated	Cognitive	Comprehension
7	Use tools to manage system resources efficiently	Cognitive	Application

| 4 | Troubleshooting, Diagnostics, and Maintenance of Operating Systems | 150 | 650 | 0 | 800 | 0 | 0 | 0 |

Order	Description	Learning Domain	Level of Learning
1	Identify troubleshooting, maintenance, and diagnostics tools present in the operating system	Cognitive	Knowledge
2	Perform routine maintenance using system utilities	Psychomotor	Guided Response
3	Demonstrate how to schedule tasks and verify successful execution	Cognitive	Application
4	Demonstrate the ability to start, stop, and pause processes	Cognitive	Application
5	Use log files to observe system and user generated events	Cognitive	Application
6	Use troubleshooting techniques to repair software and operating system failures	Cognitive	Application
7	Demonstrate repairs using Safe mode and other recovery utilities available	Cognitive	Application

| 5 | Networking | 200 | 250 | 0 | 450 | 0 | 0 | 0 |

Order	Description	Learning Domain	Level of Learning
1	Identify the networking capabilities of operating systems	Cognitive	Knowledge

	2	Demonstrate ability to configure an operating system in a peer-to-peer network	Cognitive	Application
	3	Demonstrate the ability to remotely access an operating system	Cognitive	Application
	4	Demonstrate the ability to setup and secure simple file sharing	Cognitive	Application
	5	Identify good safety practices for setting up operating systems that are used on a network and the Internet	Cognitive	Knowledge
	6	Demonstrate the ability to setup firewalls and utilities designed to protect against intruders and malware	Cognitive	Application

6	**Virtual/Cloud Computing**	300	250	0	550	0	0	0

Order	Description						Learning Domain	Level of Learning
1	Identify the various types of virtual systems						Cognitive	Knowledge
2	Identify the various ways to utilize "cloud" environments						Cognitive	Knowledge
3	Demonstrate the ability to install a virtual operating system						Cognitive	Application
4	Demonstrate the ability to remotely access and use a "cloud"-based application or data source						Cognitive	Application

	Lecture	Lab 2	Lab 3	Total Min	Cred Hrs	Pract Intern	Clinical
Competency Totals:	1500	3000	0	4500	4	0	0