COURSE OUTLINE: CYB103 - WINDOWS SERVER/A.D.

Prepared: IT Studies
Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	CYB103: WINDOWS SERVER & ACTIVE DIRECTORY ADMIN.
Program Number: Name	5911: CYBERSECURITY
Department:	PPP triOS
Academic Year:	2021-2022
Course Description:	This course focuses on the configuration of Windows Server within an enterprise environment. More specifically, students will learn how to deploy, configure, manage and secure Windows Server and Windows Server networks, as well as configure network services and remote access. Additionally, this course covers the configuration and management of Active Directory and Group Policy, as well as Active Directory Certificate Services.
Total Credits:	6
Hours/Week:	6
Total Hours:	90
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**5911 - CYBERSECURITY** VLO 1 Develop and implement cyber security solutions to protect network systems and data. VLO 2 Plan and implement security assessment methodologies, vulnerability management strategies and2.incident response procedures to generate and communicate security analysis reports and recommendations to the proper level of the organization. VLO 3 Recommend processes and procedures for maintenance and deployment of cyber security solutions.
Essential Employability Skills (EES) addressed in this course:	EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 10 Manage the use of time and other resources to complete projects.
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Books and Required Resources:	Hands-On Microsoft Windows Server 2019 by Jason Eckert Publisher: Cengage

ISBN: 978-0-357-43615-8

Course Outcomes and Learning Objectives:	Course Outcome 1	Learning Objectives for Course Outcome 1
	Install and configure Windows server 2019.	1.1 Explain the functionality of Windows server virtualization and containers. 1.2 Review basic application of Windows Server 2019 features. 1.3 Differentiate the various Windows Server 2019 editions. 1.4 Prepare, install, and configure Windows Server 2019.
	Course Outcome 2	Learning Objectives for Course Outcome 2
	Implement Hyper-V and Rapid Server Deployment.	2.1 Install Hyper-V and configure a virtual machine. 2.2 Implement rapid server deployment using virtual machine templates and Windows Deployment Services.
	Course Outcome 3	Learning Objectives for Course Outcome 3
	Install, configure, and manage Active Directory.	3.1 Explain basic concepts of local users and groups and Active Directory. 3.2 Install Active Directory. 3.3 Configure Active Directory. 3.4 Manage Active Directory objects.
	Course Outcome 4	Learning Objectives for Course Outcome 4
	Configure resource access.	4.1 Configure basic and advanced folder and file attributes. 4.2 Manage and troubleshoot folder and file permissions. 4.3 Configure shared folders. 4.4 Implement a distributed file system by applying the appropriate settings. 4.5 Implement quotas and file screens by configuring user and folder quotas.
	Course Outcome 5	Learning Objectives for Course Outcome 5
	Configure printing set-up in a Windows environment.	5.1 Explain the basic Windows printing concepts. 5.2 Configure a Windows Server 2019 print server. 5.3 Manage print jobs. 5.4 Monitor and troubleshoot a printer.
	Course Outcome 6	Learning Objectives for Course Outcome 6
	Configure and manage data storage.	6.1 Explain Windows Server 2019 local storage options. 6.2 Create and manage local volumes. 6.3 Configure SAN storage devices. 6.4 Manage volume data.
	Course Outcome 7	Learning Objectives for Course Outcome 7
	Configure and manage network services.	7.1 Describe the DNS process, server types, and resource records. 7.2 Create and configure zones and forwarders. 7.3 Troubleshoot various scenarios using nslookup, DNS

	Manager, and log files. 7.4 Configure WINS. 7.5 Describe the DHCP lease process and DHCP relay. 7.6 Configure and troubleshoot a DHCP server.
Course Outcome 8	**Learning Objectives for Course Outcome 8**
Configure and manage remote access services.	8.1 Explain how organization networks and remote access work. 8.2 Illustrate basic VPN concepts and applications. 8.3 Set up a VPN. 8.4 Outline the implementation process of DirectAccess. 8.5 Install and confiture remote desktop services.
Course Outcome 9	**Learning Objectives for Course Outcome 9**
Configure web services and cloud technologies.	9.1 Explain the core concepts of cloud technologies. 9.2 Configure web services. 9.3 Configure containers. 9.4 Configure the Windows subsystem for Linux. 9.5 Configure Linux containers on Windows. 9.6 Install and configure Windows Server 2019 in a cloud environment.
Course Outcome 10	**Learning Objectives for Course Outcome 10**
Manage and secure Windows networks.	10.1 Configure a group policy. 10.2 Install and configure and Enterprise CA. 10.3 Configure RADIUS and a WAP for 802.1X wireless. 10.4 Install and configure Windows Server update services. 10.5 Configure Windows Defender.
Course Outcome 11	**Learning Objectives for Course Outcome 11**
Monitor and troubleshoot Windows Server 2019.	11.1 Explain methodology for monitoring and troubleshooting Windows Server 2019. 11.2 Use troubleshooting tools to monitor tasks, resources, performance, events, reliability, and data collector sets. 11.3 Analyze and resolve common system problems related to hardware, performance, software, operating system, and network.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final Exam	60%
Lab Work and Quizzes	30%
Professional Performance	10%

Date: June 30, 2022

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.