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

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Course Code: Title	CYB103: WINDOWS SERVER & ACTIVE DIRECTORY ADMIN.
Program Number: Name	2198: CYBERSECURITY 5911: CYBERSECURITY
Department:	PPP triOS
Academic Year:	2024-2025
Course Description:	This course focuses on the administration and configuration of Windows Server in both on-premises and Microsoft Azure cloud environments. Learners will deploy, configure, manage and secure Windows Server and network services through the use of admin tools, policies, network security and access management.
Total Credits:	6
Hours/Week:	6
Total Hours:	84
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.**	**2198 - 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 and 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 VLO 4 Select and deploy optimal security appliances and technologies to safeguard an organization's network **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. VLO 4 Select and deploy optimal security appliances and technologies to safeguard an organization's network.
Essential Employability	EES 4 Apply a systematic approach to solve problems.

Skills (EES) addressed in this course:	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.
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, unless otherwise specified. 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. Should the student fail to contact the professor, the student shall receive a grade of zero on the test. If a student is not present 10 minutes after the test begins, the student will be considered absent and will not be given the privilege of writing the test. Students exhibiting academic dishonesty 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 75% of the classes to-date. b.) provide the professor an acceptable explanation for his/her absence. c.) be granted permission by the professor. NOTE: The missed test that has met the above criteria will be an end-of-semester test. Labs / assignments are due on the due date indicated by the professor. Notice by the professor will be written on the labs / assignments and verbally announced in advance, during class. Labs and assignments that are deemed late will have a 10% reduction per academic day to a maximum of 5 academic days at 50% (excluding weekends and holidays). Example: 1 day late - 10% reduction, 2 days late, 20%, up to 50%. After 5 academic days, no late assignments and labs will be accepted. If you are going to miss a lab / assignment deadline due to circumstances beyond your control and seek an extension of time beyond the due date, you must contact your professor in advance of the deadline with a legitimate reason that is acceptable. 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 or near identical in content may constitute academic dishonesty and result in a zero grade. Students are expected to be present to write in-classroom quizzes. There are no make-up options for missed in-class quizzes.

Students have the right to learn in an environment that is distraction-free, therefore, everyone is expected to arrive on-time in class. Should lectures become distracted due to students walking in late, the professor may deny entry until the 1st break period, which can be up to 50 minutes after class starts or until that component of the lecture is complete.

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.

Books and Required Resources:

Mastering Windows Server 2022 with Azure Cloud Services by William Panek
Publisher: Wiley-Sybex Edition: 1st
ISBN: 978-1-119-79892-7

Purchase an External Portable USB - SSD Drive - NOT a Thumb-Drive by USB External Portable SSD - 1 TB or larger

Course Outcomes and Learning Objectives:

Course Outcome 1	**Learning Objectives for Course Outcome 1**
Install and configure a Windows Server.	1.1 Explain the functionality of Windows server virtualization and containers. 1.2 Review basic application of Windows Server features. 1.3 Differentiate the various Windows Server editions. 1.4 Prepare, install, and configure a Windows Server. 1.5 Diagram and explain the Active Directory Forest-Tree model. 1.6 Create a Domain and Domain Controller via Active Directory. 1.7 Utilize the Windows Administrative Tools menu to access various Active Directory functions. 1.8 Add users and groups into the Active Directory database. 1.9 Create Organization Groups in Active Directory.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Configure Access Resources.	2.1 Add users, groups and organizational units into the Active Directory database. 2.2 Configure basic and advanced folder and file attributes. 2.3 Manage and troubleshoot folder and file permissions. 2.4 Configure shared folders. 2.5 Examine and test effective folder / file permissions in combination with shares. 2.6 Implement user disk quotas.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
Configure and manage on-premises network services.	3.1 Describe the DNS process, server types, and resource records. 3.2 Install and configure a DNS server including forward zones. 3.3 Troubleshoot various scenarios using nslookup, DNS Manager, and log files. 3.4 Configure a HOSTS file. 3.5 Describe the DHCP lease process and DHCP relay. 3.6 Configure and troubleshoot a DHCP server.

Course Outcome 4	Learning Objectives for Course Outcome 4
Configure and manage remote access services.	4.1 Explain how organization networks and remote access work. 4.2 Identify the tcp/udp ports used in both remote desktop and various vpn connection types. 4.3 Setup and test the Windows Server for remote desktop access. 4.4 Identify the components of a vpn connection. 4.5 Configure a vpn server using routing and remote access server. 4.6 Create and test a vpn client connection.
Course Outcome 5	**Learning Objectives for Course Outcome 5**
Monitor and troubleshoot a Windows Server.	5.1 Explain the methodology for monitoring and troubleshooting Windows Server. 5.2 Use troubleshooting tools to monitor tasks, resources, performance, events, reliability, and data collector sets. 5.3 Analyze and resolve common system problems related to hardware, performance, software, operating system, and network. 5.4 Explain the role of AI in network monitoring. 5.5 Identify and contrast various industry-leading vendor products. 5.6 Implement trial versions of network monitoring tools.
Course Outcome 6	**Learning Objectives for Course Outcome 6**
Configure and administer Microsoft Azure Cloud.	6.1 Identify benefits of Windows Server in the cloud. 6.2 Explain the role of tenant in a Microsoft cloud environment. 6.3 Explore and utilize the Azure dashboard. 6.4 Add and manage users and groups in a tenant. 6.5 Identify Microsoft subscription types available to clients. 6.6 Attach subscriptions to users and groups. 6.7 Create and enable multifactor authentication policies for users. 6.8 Create resource groups. 6.9 Create and configure virtual networks. 6.10 Explain and diagram a hybrid Microsoft Server environment that uses the cloud.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Lab Work and Quizzes	40%
Test 1	30%
Test 2	30%

Date: June 16, 2024

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