

# Academic year 2021-2022 Assessment Plan

## Cybersecurity, Virtualization, and Networking

Academic year 2021-2022

### Cybersecurity, Virtualization, and Networking Learning Outcomes

#### Cybersecurity Fundamentals

Identify basic cybersecurity terminology, types of cybercrimes, and risk strategies.

MEASURES	RESULTS	ACTIONS
<p><b>NOCTI Cybersecurity Fundamentals</b></p> <p>Implementation Plan (timeline) Spring 2022</p> <p>Key/Responsible Personnel Logan Martinez</p> <p>Direct - Exam (Course)</p> <p><b>Target</b></p> <p>50% of students will score above the national average.</p>	<p><i>No results have been added.</i></p>	<p><i>No actions have been added.</i></p>
<p><b>NOCTI Cybersecurity Fundamentals</b></p> <p>Implementation Plan (timeline) Spring 2022</p> <p>Key/Responsible Personnel Logan Martinez</p> <p>Direct - Exam (Course)</p> <p><b>Target</b></p> <p>Mean score of students will be equal to the national average.</p>	<p><i>No results have been added.</i></p>	<p><i>No actions have been added.</i></p>

#### Network Connections

Demonstrate an understanding of NICs, identify different physical and logical characteristics of network connections, demonstrate use of remote access, and understand all types of wired and wireless communications.

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Physical Connection Types

Identify cable components and uses and demonstrate an understanding of signal characteristics and transmission among various media types.

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Network Standards and Devices

Understand OSI model layers; familiarity with TCP/IP model; identify IEEE, EIA/TIA standards, and common Port numbers; and distinguish various types and uses of network devices.

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**Network Troubleshooting**

Utilize ping, ipconfig, and netstat commands; utilize a CLI; maintain and troubleshoot cabling; and perform local and remote loopback.

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**Routing and Switching**

Explain the difference between static, dynamic, default, and gateway routes; recognize basic router operations and configurations; implement switch operations and configurations; and compare and contrast routed vs. routing protocols.

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**Network Terminology**

Demonstrate knowledge of various protocols and architecture terminology, identify various network operation systems, and identify various network types.

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**Network Architecture**

Understand various network architectures and various LAN, MAN, and WAN topologies.

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**Network Addressing**

Demonstrate knowledge of IP network addressing; differentiate between classful and classless IP addressing; understand Media Access Control addressing; convert binary, hexadecimal, and decimal numbers; and create subnets from a network address.

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Network Planning and Design

Demonstrate an understanding of analysis and planning concepts; compare and contrast principles of logical and physical design; install, maintain, and troubleshoot physical networks; describe various access methods; explain virtualization; and configure DHCP and DNS.

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Security Deployment

Demonstrate an understanding of security technologies (e.g. firewalls, routers, security appliances) deployment strategies.

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