

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
1.0 Introduction						
1.0.1 - Why should I take this module?						
1.0.2 - What will I learn to do in this module?						
1.0.3 - Video - Download and Install Packet Tracer	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.7.	3B-NI-03	
1.0.4 - Video - Getting Started in Cisco Packet Tracer	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.7.	3B-NI-03	
1.0.5 - Packet Tracer - Logical and Physical Mode Exploration	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.9.	3B-NI-03	
1.1 - Networks Affect our Lives						
1.1.1 - Networks Connect Us	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.		3A-NI-04; 3A-NI-08;	
1.1.2 - Video - The Cisco Networking Academy Learning Experience	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-08;	
1.1.3 - No Boundaries	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	
1.2 - Network Components						
1.2.1 - Host Roles	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components

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1.2.2 - Peer-to-Peer	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.2.3 - End Devices	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.2.4 - Intermediary Devices	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.2.5 - Network Media	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.2.6 - Check Your Understanding - Network Components	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.3 - Network Representations and Topologies						
1.3.1 - Network Representations	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures
1.3.2 - Topology Diagrams	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures
1.3.3 - Check Your Understanding - Network Representations and Topologies	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures
1.4 - Common Types of Networks						

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1.4.1 - Networks of Many Sizes	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud
1.4.2 - LANs and WANs	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud
1.4.3 - The Internet	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud
1.4.4 - Intranets and Extranets	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud

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1.4.5 - Check Your Understanding - Common Types of Networks	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud
1.5 - Internet Connections						
1.5.1 - Internet Access Technologies	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud
1.5.2 - Home and Small Office Internet Connections	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud
1.5.3 - Businesses Internet Connections	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud
1.5.4 - The Converging Network	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L., ITEA.7.G.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
1.5.5 - Packet Tracer - Network Representation	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.17.O.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	1.2 Describe characteristics of network topology architectures 1.2.d WAN 1.2.e Small office/home office (SOHO) 1.2.f On-premises and cloud
1.6 - Reliable Networks						
1.6.1 - Network Architecture	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	
1.6.2 - Fault Tolerance	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	
1.6.3 - Scalability	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	
1.6.4 - Quality of Service	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	
1.6.5 - Network Security	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	
1.6.6 - Check Your Understanding - Reliable Networks	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-08;	
1.7 - Network Trends						
1.7.1 - Recent Trends	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components

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1.7.2 - Bring Your Own Device (BYOD)	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.7.3 - Online Collaboration	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.7.4 - Video Communications	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.7.5 - Video - Cisco Webex for Huddles	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.7.6 - Cloud Computing	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.7.7 - Technology Trends in the Home	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.7.8 - Powerline Networking	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.7.9 - Wireless Broadband	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.N.	IT-NET 3	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components
1.7.10 - Check Your Understanding - Network Trends	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.1.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-08;	1.1 Explain the role and function of network components

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1.8 - Network Security						
1.8.1 - Security Threats	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.4.J.	IT-NET 3	3A-NI-04; 3A-NI-08;	5.1 Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
1.8.2 - Security Solutions	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.4.J.	IT-NET 3	3A-NI-04; 3A-NI-08;	5.1 Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
1.8.3 - Check Your Understanding - Network Security	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.4.J.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-08;	5.1 Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
1.9 - The IT Professional						5.1 Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
1.9.1 - CCNA	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.5.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	5.1 Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
1.9.2 - Networking Jobs	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.5.L.	IT-NET 3	3A-NI-04; 3A-NI-08;	5.1 Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
1.9.3 - Lab - Research IT and Networking Job Opportunities	K0114; K0255; K0395; K0491;	HS-ETS1-3.	ITEA.5.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-08;	5.1 Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
1.10 - Module Practice and Quiz						
1.10.1 - What did I learn in this module?						
1.10.2 - Module Quiz - Networking Today						
2.0 - Introduction						
2.0.1 - Why should I take this module?						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
2.0.2 - What will I learn to do in this module?						
2.1 - Cisco IOS Access						
2.1.1 - Operating Systems	K0224	HS-ETS1-3.	ITEA.2.W.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.1.2 - GUI	K0224				3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.1.3 - Purpose of an OS	K0224	HS-ETS1-3.	ITEA.2.W.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.1.4 - Access Methods	K0224	HS-ETS1-3.	ITEA.2.W.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.1.5 - Terminal Emulation Programs	K0224	HS-ETS1-3.	ITEA.2.W.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.1.6 - Check Your Understanding - Cisco IOS Access	K0224	HS-ETS1-3.	ITEA.2.W.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.4.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.2 - IOS Navigation						
2.2.1 - Primary Command Modes	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
2.2.2 - Configuration Mode and Subconfiguration Modes	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.2.3 - Video - IOS CLI Primary Command Modes	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.2.4 - Navigate Between IOS Modes	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.2.5 - Video - Navigate Between IOS Modes	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.2.6 - A Note About Syntax Checker Activities	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.2.7 - Syntax Checker - Navigate Between IOS Modes	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.2.8 Activity - Check Your Understanding - IOS Navigation	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.2.9 - Check Your Understanding - IOS Navigation	K0224	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity

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2.3 - The Command Structure						
2.3.1 - Basic IOS Command Structure	A0058, K0129; K0318;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.3.2 - IOS Command Syntax Check	A0058, K0129; K0318;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.3.3 - IOS Help Features	A0058, K0129; K0318;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.3.4 - Video - Context Sensitive Help and Command Syntax Check	A0058, K0129; K0318;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.3.5 - Hot Keys and Shortcuts	A0058, K0129; K0318;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.3.6 - Video - Hot Keys and Shortcuts	A0058, K0129; K0318;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity
2.3.7 - Packet Tracer - Navigate the IOS	A0058, K0129; K0318;	HS-ETS1-3.		IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.9.	3B-NI-03	2.2 Configure and verify interswitch connectivity
2.3.8 - Lab - Navigate the IOS by Using Tera Term for Console Connectivity	A0058, K0129; K0318;	HS-ETS1-3.		IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.3.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity

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2.4 - Basic Device Configuration						
2.4.1 - Device Names	K0057; K0393; K0491; K0516;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.4.2 - Password Guidelines	K0057; K0393; K0491; K0516;				3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.4.3 - Configure Passwords	K0057; K0393; K0491; K0516;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.4.4 - Encrypt Passwords	K0057; K0393; K0491; K0516;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.4.5 - Banner Messages	K0057; K0393; K0491; K0516;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.4.6 - Video - Secure Administrative Access to a Switch	K0057; K0393; K0491; K0516;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.4.7 - Syntax Checker - Basic Device Configuration	K0057; K0393; K0491; K0516;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.4.8 - Check Your Understanding - Basic Device Configuration	K0057; K0393; K0491; K0516;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
					3A-NI-07; 3A-NI-08;	
2.5 - Save Configurations						
2.5.1 - Configuration Files	K0132; K0393; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.5.2 - Alter the Running Configuration	K0132; K0393; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.5.3 - Video - Alter the Running Configuration	K0132; K0393; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.5.4 - Capture Configuration to a Text File	K0132; K0393; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.5.5 - Packet Tracer - Configure Initial Switch Settings	K0132; K0393; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	2.2 Configure and verify interswitch connectivity 5.3 Configure device access control using local passwords
2.6 - Ports and Addresses						
2.6.1 - IP Addresses	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	
2.6.2 - Interfaces and Ports	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
					3A-NI-07; 3A-NI-08;	
2.6.3 - Check Your Understanding - Ports and Addresses	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	
2.7 - Configure IP Addressing						
2.7.1 - Manual IP Address Configuration for End Devices	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux)
2.7.2 - Automatic IP Address Configuration for End Devices	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux)
2.7.3 - Syntax Checker - Verify Windows PC IP Configuration	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux)
2.7.4 - Switch Virtual Interface Configuration	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux)
2.7.5 - Syntax Checker - Configure a Switch Virtual Interface	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux)
2.7.6 - Packet Tracer - Implement Basic Connectivity	K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux)

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
2.8 - Verify Connectivity						
2.8.1 - Video Activity - Test the Interface Assignment	K0029; K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 2.2 Configure and verify interswitch connectivity
2.8.2 - Video Activity - Test End-to-End Connectivity	K0029; K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 2.2 Configure and verify interswitch connectivity
2.9 - Module Practice and Quiz						
2.9.1 - Packet Tracer - Basic Switch and End Device Configuration	K0029; K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.9.	3B-NI-03	
2.9.2 - Lab - Basic Switch and End Device Configuration	K0029; K0471; K0491;	HS-ETS1-3.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.3.	3A-CS-02; 3A-NI-04; 3A-NI-06; 3A-NI-07; 3A-NI-08;	
2.9.3 - What did I learn in this module?						
2.9.4 - Module Quiz - Basic Switch and End Device Configuration						
3.0 - Introduction						
3.0.1 - Why should I take this module?						
3.0.2 - What will I learn to do in this module?						
3.0.3 - Class Activity - Design a Communications System						
3.1 - The Rules						
3.1.1 - Video - Devices in a Bubble	K0010; K0034; K0113; K0491;	HS-ETS1-3.	ITEA.2.X., ITEA.2.FF., ITEA.12.P.	IT-NET 4.2 CCR.ELA- Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
3.1.2 - Communications Fundamentals	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.3 - Communication Protocols	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.4 - Rule Establishment	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.5 - Network Protocol Requirements	K0010; K0034; K0113; K0491;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.6 - Message Encoding	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.7 - Message Formatting and Encapsulation	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.8 - Message Size	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.9 - Message Timing	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.10 - Message Delivery Options	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
3.1.11 - A Note About the Node Icon	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.1.12 - Check Your Understanding - The Rules	K0010; K0034; K0113; K0491;	HS-PS4-5.	ITEA.12.P., ITEA.17.L., ITEA.17.O.	IT-NET 3	3A-NI-04; 3A-NI-05;	1.5 Compare TCP to UDP
3.2 - Protocols						
3.2.1 - Network Protocol Overview	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.2.2 - Network Protocol Functions	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.2.3 - Protocol Interaction	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.2.4 - Check Your Understanding - Protocols	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-05;	
3.3 - Protocol Suites						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
3.3.1 - Network Protocol Suites	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.3.2 - Evolution of Protocol Suites	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.3.3 - TCP/IP Protocol Example	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.3.4 - TCP/IP Protocol Suite	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.3.5 - TCP/IP Communication Process	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.3.6 - Check Your Understanding - Protocol Suites	K0001; K0034; K0174; K0255; K0491; K0555;	HS-ETS1-3.	ITEA.8.H, ITEA.17.L	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-05;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
3.4 - Standards Organizations						
3.4.1 - Open Standards	K0054; K0087;	HS-ETS1.	ITEA.7.I	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.4.2 - Internet Standards	K0087	HS-ETS1.	ITEA.7.I	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.4.3 - Electronic and Communications Standards	K0088	HS-ETS1.	ITEA.7.I	IT-NET 4	3A-NI-04; 3A-NI-05;	
3.4.4 - Lab - Research Networking Standards	K0087	HS-ETS1.	ITEA.7.I	IT-NET 3 CCR.ELA-Literacy.WH ST.11-12.7.	3A-NI-04; 3A-NI-05;	
3.4.5 - Check Your Understanding - Standards Organizations	K0087	HS-ETS1.	ITEA.7.I	IT-NET 3 CCR.ELA-Literacy.WH ST.11-12.7.	3A-NI-04; 3A-NI-05;	
3.5 - Reference Models						
3.5.1 - The Benefits of Using a Layered Model	K0061; K0555;	HS-ETS1.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	Prerequisite/intro content to supplement the following: 1.5 Compare TCP to UDP
3.5.2 - The OSI Reference Model	K0061; K0555;	HS-ETS1.	ITEA.8.H, ITEA.17.L	IT-NET 4	3A-NI-04; 3A-NI-05;	Prerequisite/intro content to supplement the following: 1.5 Compare TCP to UDP
3.5.3 - The TCP/IP Protocol Model	K0061; K0555;	HS-ETS1.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	Prerequisite/intro content to supplement the following: 1.5 Compare TCP to UDP
3.5.4 - OSI and TCP/IP Model Comparison	K0061; K0555;	HS-ETS1.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	Prerequisite/intro content to supplement the following: 1.5 Compare TCP to UDP
3.5.5 - Packet Tracer - Investigate the TCP/IP and OSI Models in Action	K0061; K0555;	HS-ETS1.	ITEA.8.H, ITEA.17.L	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3B-NI-03	Prerequisite/intro content to supplement the following: 1.5 Compare TCP to UDP
3.6 - Data Encapsulation						
3.6.1 - Segmenting Messages	K0491, S0121	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
3.6.2 - Sequencing	K0491, S0121	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.6.3 - Protocol Data Units	K0491, S0121	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.6.4 - Encapsulation Example	K0491, S0121	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.6.5 - De-encapsulation Example	K0491, S0121	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.6.6 - Check Your Understanding - Data Encapsulation	K0491, S0121	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.4.	3A-NI-04; 3A-NI-05;	
3.7 - Data Access						
3.7.1 - Addresses	K0491	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.7.2 - Layer 3 Logical Address	K0491	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.7.3 - Devices on the Same Network	K0491	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.7.4 - Role of the Data Link Layer Addresses: Same IP Network	K0491	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.7.5 - Devices on a Remote Network	K0491	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.7.6 - Role of the Network Layer Addresses	K0491	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.7.7 - Role of the Data Link Layer Addresses: Different IP Networks	K0491	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.7.8 Data Link Addresses	K0491	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3	3A-NI-04; 3A-NI-05;	
3.7.9 - Lab - Install Wireshark	K0185, K0301, S0046	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.3.	3A-NI-04; 3A-NI-05;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
3.7.10 - Lab - Use Wireshark to View Network Traffic	K0185, K0301, S0046	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.3.	3A-NI-04; 3A-NI-05;	
3.7.11 - Check Your Understanding - Data Access	K0185, K0301, S0046	HS-PS4-1., HS-PS4-5.	ITEA.8.H, ITEA.17.L	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.3.	3A-NI-04; 3A-NI-05;	
3.8 - Module Practice and Quiz						
3.8.1 - What did I learn in this module?						
3.8.2 - Module Quiz - Protocols and Models						
4.0 - Introduction						
4.0.1 - Why should I take this module?						
4.0.2 - What will I learn to do in this module?						
4.1 - Purpose of the Physical Layer						
4.1.1 - The Physical Connection	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.11 Describe wireless principles
4.1.2 - The Physical Layer	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.11 Describe wireless principles
4.1.3 - Check Your Understanding - Purpose of the Physical Layer	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.11 Describe wireless principles

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
4.2 - Physical Layer Characteristics						
4.2.1 - Physical Layer Standards	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types
4.2.2 - Physical Components	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types
4.2.3 - Encoding	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types
4.2.4 - Signaling	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types
4.2.5 - Bandwidth	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.16.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types
4.2.6 - Bandwidth Terminology	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.16.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
4.2.7 - Check Your Understanding - Physical Layer Characteristics	K0050; K0108; K0160; K0244; K0516;	HS-PS4-1., HS-PS4-5.	ITEA.16.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types
4.3 - Copper Cabling						
4.3.1 - Characteristics of Copper Cabling	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.3.2 - Types of Copper Cabling	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.3.3 - Unshielded twisted-pair (UTP)	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.3.4 - Shielded twisted-pair (STP)	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.3.5 - Coaxial cable	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.3.6 - Check Your Understanding - Copper Cabling	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
4.4 - UTP Cabling						
4.4.1 - Properties of UTP Cabling	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.4.2 - UTP Cabling Standards and Connectors	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.4.3 - Straight-through and Crossover UTP Cables	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.4.4 - Activity - Cable Pinouts	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.5 - Fiber-Optic Cabling						
4.5.1 - Properties of Fiber-Optic Cabling	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.5.2 - Types of Fiber Media	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper

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Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
4.5.3 - Fiber-Optic Cabling Usage	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.5.4 - Fiber-Optic Connectors	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.5.5 - Fiber Patch Cords	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.5.6 - Fiber versus Copper	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.5.7 - Check Your Understanding - Fiber-Optic Cabling	K0050; K0108; K0160; K0244; K0516;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.3 Compare physical interface and cabling types 1.3.a Single-mode fiber, multimode fiber, copper
4.6 - Wireless Media						
4.6.1 - Properties of Wireless Media	K0108; K0446; K0600; K0614;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.11 Describe wireless principles
4.6.2 - Types of Wireless Media	K0108; K0446; K0600; K0614;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.11 Describe wireless principles

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
4.6.3 - Wireless LAN	K0108; K0446; K0600; K0614;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.11 Describe wireless principles
4.6.4 - Check Your Understanding - Wireless Media	K0108; K0446; K0600; K0614;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.4.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.11 Describe wireless principles
4.6.5 - Packet Tracer - Connect a Wired and Wireless LAN	K0108; K0446; K0600; K0614;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	1.11 Describe wireless principles
4.6.6 - Lab - View Wired and Wireless NIC Information	K0108; K0446; K0600; K0614;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.3.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.11 Describe wireless principles
4.7 - Module Practice and Quiz						1.11 Describe wireless principles
4.7.1 - Packet Tracer - Physical Layer Exploration	K0108; K0446; K0600; K0614;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.3.	3B-NI-03	1.11 Describe wireless principles
4.7.2 - Packet Tracer - Connect the Physical Layer	K0108; K0446; K0600; K0614;	HS-PS3-1.	ITEA.2.AA., ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.3.	3B-NI-03	1.11 Describe wireless principles
4.7.3 - What did I learn in this module?						
4.7.4 - Module Quiz - Physical Layer						
5.0 - Introduction						
5.0.1 - Why should I take this module?						
5.0.2 - What will I learn to do in this module?						
5.1 - Binary Number System						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
5.1.1 - Binary and IPv4 Addresses	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.2 - Video - Converting Between Binary and Decimal Numbering Systems	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.3 - Binary Positional Notation	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.4 - Check Your Understanding - Binary Number System	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.5 - Convert Binary to Decimal	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.6 - Activity - Binary to Decimal Conversions	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.7 - Decimal to Binary Conversion	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.8 - Decimal to Binary Conversion Example	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.9 - Activity - Decimal to Binary Conversions	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
5.1.10 - Activity - Binary Game	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.1.11 - IPv4 Addresses	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.2 - Hexadecimal Number System						
5.2.1 - Hexadecimal and IPv6 Addresses	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.2.2 - Video - Converting Between Hexadecimal and Decimal Numbering Systems	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.2.3 - Decimal to Hexadecimal Conversions	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.2.4 - Hexadecimal to Decimal Conversion	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.2.5 - Check Your Understanding - Hexadecimal Number System	K0254; S0088; S0094; S0270;	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-DA-09; 3A-CS-02;	1.6 Configure and verify IPv4 addressing and subnetting 1.8 Configure and verify IPv6 addressing and prefix.
5.3 - Module Practice and Quiz						
5.3.1 - What did I learn in this module?						
5.3.2 - Module Quiz - Number Systems						
6.0 - Introduction						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
6.0.1 - Why should I take this module?						
6.0.2 - What will I learn to do in this module?						
6.1 - Purpose of the Data Link Layer						
6.1.1 - The Data Link Layer	K0179; K0113; K0137; K0255;	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.1.2 - IEEE 802 LAN/MAN Data Link Sublayers	K0179; K0113; K0137; K0255;	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.1.3 - Providing Access to Media	K0179; K0113; K0137; K0255;	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.1.4 - Data Link Layer Standards	K0179; K0113; K0137; K0255;	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.1.5 - Check Your Understanding - Purpose of the Data Link Layer	K0179; K0113; K0137; K0255;	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.2 - Topologies						
6.2.1 - Physical and Logical Topologies	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.2.2 - WAN Topologies	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
6.2.3 - Point-to-Point WAN Topology	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.2.4 - LAN Topologies	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.2.5 - Half and Full Duplex Communication	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.2.6 - Access Control Methods	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.2.7 - Contention-Based Access - CSMA/CD	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.2.8 - Contention-Based Access - CSMA/CA	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.2.9 - Check Your Understanding - Topologies	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.3 - Data Link Frame						
6.3.1 - The Frame	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
6.3.2 - Frame Fields	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.3.3 - Layer 2 Addresses	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.3.4 - LAN and WAN Frames	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.3.5 - Check Your Understanding - Data Link Frame	K0179; K0113; K0137; K0255;	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
6.4 - Module Practice and Quiz						
6.4.1 - What did I learn in this module?						
6.4.2 - Module Quiz - Data Link Layer						
7.0 - Introduction						
7.0.1 - Why should I take this module?						
7.0.2 - What will I learn to do in this module?						
7.1 - Ethernet Frames						
7.1.1 - Ethernet Encapsulation	K0417, K0491	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts
7.1.2 - Data Link Sublayers	K0417, K0491	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts
7.1.3 - MAC Sublayer	K0417, K0491	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
7.1.4 - Ethernet Frame Fields	K0417, K0491	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts
7.1.5 - Check Your Understanding - Ethernet Switching	K0417, K0491	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts
7.1.6 - Lab - Use Wireshark to Examine Ethernet Frames	K0417, K0491	HS-ETS1.	ITEA.9.I, ITEA.10.I	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.3.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts
7.2 - Ethernet MAC Address						
7.2.1 - MAC Address and Hexadecimal	K0417, K0491	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching 1.13.c Frame flooding
7.2.2 - Ethernet MAC Address	K0417, K0491	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching 1.13.c Frame flooding
7.2.3 - Frame Processing	K0417, K0491	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching 1.13.c Frame flooding
7.2.4 - Unicast MAC Address	K0417, K0491	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching 1.13.c Frame flooding
7.2.5 - Broadcast MAC Address	K0417, K0491	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching 1.13.c Frame flooding
7.2.6 - Multicast MAC Address	K0417, K0491	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching 1.13.c Frame flooding
7.2.7 - Lab - View Network Device MAC Addresses	K0417, K0491	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching 1.13.c Frame flooding
7.3 - The MAC Address Table						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
7.3.1 - Switch Fundamentals	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.3.2 - Switch Learning and Forwarding	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.3.3 - Filtering Frames	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.3.4 - Video - MAC Address Tables on Connected Switches	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.3.5 - Video - Sending the Frame to the Default Gateway	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.3.6 - Activity - Switch It!	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.3.7 - Lab - View the Switch MAC Address Table	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.3.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
7.4 - Switch Speeds and Forwarding Methods						
7.4.1 - Frame Forwarding Methods on Cisco Switches	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed) 1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.4.2 - Cut-Through Switching	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed) 1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.4.3 - Memory Buffering on Switches	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed) 1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.4.4 - Duplex and Speed Settings	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed) 1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
7.4.5 - Auto-MDIX	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed) 1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.4.6 - Check Your Understanding - Switch Speeds and Forwarding Methods	K0417, K0491	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed) 1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching 1.13.c Frame flooding 1.13.d MAC address table
7.5 - Module Practice and Quiz						
7.5.1 - What did I learn in this module?						
7.5.2 - Module Quiz - Ethernet Switching						
8.0 - Introduction						
8.0.1 - Why should I take this module?						
8.0.2 - What will I learn to do in this module?						
8.1 - Network Layer Characteristics						
8.1.1 - The Network Layer	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers
8.1.2 - IP Encapsulation	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
8.1.3 - Characteristics of IP	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers
8.1.4 - Connectionless	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers
8.1.5 - Best Effort	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers
8.1.6 - Media Independent	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers
8.1.7 - Check Your Understanding - IP Characteristics	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers
8.2 - IPv4 Packet						
8.2.1 - IPv4 Packet Header	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.2.2 - IPv4 Packet Header Fields	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.2.3 - Video - Sample IPv4 Headers in Wireshark	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.2.4 - Check Your Understanding - IPv4 Packet	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.3 - IPv6 Packet						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
8.3.1 - Limitations of IPv4	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.11.N.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.3.2 - IPv6 Overview	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.11.N.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.3.3 - IPv4 Packet Header Fields in the IPv6 Packet Header	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.11.N.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.3.4 - IPv6 Packet Header	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.11.N.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.3.5 - Video - Sample IPv6 Headers in Wireshark	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.11.N.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.3.6 - Check Your Understanding - IPv6 Packet	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.11.N.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
8.4 - How a Host Routes						
8.4.1 - Host Forwarding Decision	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table 3.2 Determine how a router makes a forwarding decision by default
8.4.2 - Default Gateway	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table 3.2 Determine how a router makes a forwarding decision by default
8.4.3 - A Host Routes to the Default Gateway	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table 3.2 Determine how a router makes a forwarding decision by default

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
8.4.4 - Host Routing Tables	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table 3.2 Determine how a router makes a forwarding decision by default
8.4.5 - Check Your Understanding - How a Host Routes	K0221, K0061	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table 3.2 Determine how a router makes a forwarding decision by default
8.5 - Introduction to Routing						
8.5.1 - Router Packet Forwarding Decision	K0491, K0565	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers 1.1.b L2 and L3 switches 3.1 Interpret the components of routing table 3.1.a Routing protocol code 3.1.b Prefix 3.1.c Network Mask 3.1.d Next Hop 3.1.e Administrative distance 3.1.f Metric 3.1.g Gateway of last resort 3.2 Determine how a router makes a forwarding decision by default

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
8.5.2 - IP Router Routing Table	K0491, K0565	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers 1.1.b L2 and L3 switches 3.1 Interpret the components of routing table 3.1.a Routing protocol code 3.1.b Prefix 3.1.c Network Mask 3.1.d Next Hop 3.1.e Administrative distance 3.1.f Metric 3.1.g Gateway of last resort 3.2 Determine how a router makes a forwarding decision by default
8.5.3 - Static Routing	K0491, K0565	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers 1.1.b L2 and L3 switches 3.1 Interpret the components of routing table 3.1.a Routing protocol code 3.1.b Prefix 3.1.c Network Mask 3.1.d Next Hop 3.1.e Administrative distance 3.1.f Metric 3.1.g Gateway of last resort 3.2 Determine how a router makes a forwarding decision by default

CCNA 1: Introduction to Networks

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
8.5.4 - Dynamic Routing	K0491, K0565	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers 1.1.b L2 and L3 switches 3.1 Interpret the components of routing table 3.1.a Routing protocol code 3.1.b Prefix 3.1.c Network Mask 3.1.d Next Hop 3.1.e Administrative distance 3.1.f Metric 3.1.g Gateway of last resort 3.2 Determine how a router makes a forwarding decision by default
8.5.5 - Video- IPv4 Router Routing Tables	K0491, K0565	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers 1.1.b L2 and L3 switches 3.1 Interpret the components of routing table 3.1.a Routing protocol code 3.1.b Prefix 3.1.c Network Mask 3.1.d Next Hop 3.1.e Administrative distance 3.1.f Metric 3.1.g Gateway of last resort 3.2 Determine how a router makes a forwarding decision by default

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
8.5.6 - Introduction to an IPv4 Routing Table	K0491, K0565	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers 1.1.b L2 and L3 switches 3.1 Interpret the components of routing table 3.1.a Routing protocol code 3.1.b Prefix 3.1.c Network Mask 3.1.d Next Hop 3.1.e Administrative distance 3.1.f Metric 3.1.g Gateway of last resort 3.2 Determine how a router makes a forwarding decision by default
8.5.7 - Check Your Understanding - Introduction to Routing	K0491, K0565	HS-PS3-3., HS-PS4-5.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.a Routers 1.1.b L2 and L3 switches 3.1 Interpret the components of routing table 3.1.a Routing protocol code 3.1.b Prefix 3.1.c Network Mask 3.1.d Next Hop 3.1.e Administrative distance 3.1.f Metric 3.1.g Gateway of last resort 3.2 Determine how a router makes a forwarding decision by default
8.6 - Module Practice and Quiz						
8.6.1 - What did I learn in this module?						
8.6.2 - Module Quiz - Network Layer						
9.0 - Introduction						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
9.0.1 - Why should I take this module?						1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.0.2 - What will I learn to do in this module?						1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.1 - MAC and IP						
9.1.1 - Destination on Same Network	K0332, K0179	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
9.1.2 - Destination on Remote Network	K0332, K0179	HS-ETS1.	ITEA.17.	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
9.1.3 - Packet Tracer - Identify MAC and IP Addresses	K0332, K0179	HS-ETS1.	ITEA.17.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	1.13 Describe switching concepts 1.13.b Frame switching
9.1.4 - Check Your Understanding - MAC and IP	K0332, K0179	HS-ETS1.	ITEA.17.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.b Frame switching
9.2 - ARP						
9.2.1 - ARP Overview	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.2.2 - ARP Functions	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.2.3 - Video - ARP Request	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.2.4 - Video - ARP Operation - ARP Reply	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
9.2.5 - Video - ARP Role in Remote Communications	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.2.6 - Removing Entries from an ARP Table	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.2.7 - ARP Tables on Networking Devices	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.2.8 - ARP Issues - ARP Broadcasts and ARP Spoofing	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.2.9 - Packet Tracer - Examine the ARP Table	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3B-NI-03	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.2.10 - Check Your Understanding - ARP	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	1.13 Describe switching concepts 1.13.a MAC learning and aging 1.13.b Frame switching
9.3 - IPv6 Neighbor Discovery						
9.3.1 - Video - IPv6 Neighbor Discovery	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	
9.3.2 - IPv6 Neighbor Discovery Messages	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	
9.3.3 - IPv6 Neighbor Discovery - Address Resolution	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	
9.3.4 - Packet Tracer - IPv6 Neighbor Discovery	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3B-NI-03	
9.3.5 - Check Your Understanding - Neighbor Discovery	K0332, K0179	HS-PS3-3., HS-PS4-5.	ITEA.9.I, ITEA.10.I	IT-NET 3	3A-NI-04; 3A-NI-05; 3A-NI-06;	
9.4 - Module Practice and Quiz						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
9.4.1 - What did I learn in this module?						
9.4.2 - Module Quiz - Address Resolution						
10.0 - Introduction						
10.0.1 - Why should I take this module?						
10.0.2 - What will I learn in this module?						
10.1 - Configure Initial Router Settings						
10.1.1 - Basic Router Configuration Steps	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.3 Configure device access control using local passwords
10.1.2 - Basic Router Configuration Example	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.3 Configure device access control using local passwords
10.1.3 - Syntax Checker - Configure Initial Router Settings	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3B-NI-03	5.3 Configure device access control using local passwords
10.1.4 - Packet Tracer - Configure Initial Router Settings	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3B-NI-03	5.3 Configure device access control using local passwords
10.2 - Configure Interfaces						
10.2.1 - Configure Router Interfaces	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table
10.2.2 - Configure Router Interfaces Example	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table
10.2.3 - Verify Interface Configuration	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
10.2.4 - Configuration Verification Commands	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	3.1 Interpret the components of routing table
10.2.5 - Syntax Checker – Configure Interfaces	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3B-NI-03	3.1 Interpret the components of routing table
10.3 - Configure the Default Gateway						
10.3.1 - Default Gateway on a Host	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	No matching claim but prerequisite/intro content to supplement the following:: 2.2 Configure and verify interswitch connectivity 3.1 Interpret the components of routing table 5.3 Configure device access control using local passwords
10.3.2 - Default Gateway on a Switch	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	No matching claim but prerequisite/intro content to supplement the following:: 2.2 Configure and verify interswitch connectivity 3.1 Interpret the components of routing table 5.3 Configure device access control using local passwords
10.3.3 - Syntax Checker - Configure the Default Gateway	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3	3B-NI-03	No matching claim but prerequisite/intro content to supplement the following:: 2.2 Configure and verify interswitch connectivity 3.1 Interpret the components of routing table 5.3 Configure device access control using local passwords

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
10.3.4 - Packet Tracer - Connect a Router to a LAN	S0041	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3 CCR.ELA- Literacy.WH ST.11-12.9.	3B-NI-03	No matching claim but prerequisite/intro content to supplement the following:: 2.2 Configure and verify interswitch connectivity 3.1 Interpret the components of routing table 5.3 Configure device access control using local passwords
10.3.5 - Packet Tracer - Troubleshoot Default Gateway Issues	T0035	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3 CCR.ELA- Literacy.WH ST.11-12.9.	3B-NI-03	No matching claim but prerequisite/intro content to supplement the following:: 2.2 Configure and verify interswitch connectivity 3.1 Interpret the components of routing table 5.3 Configure device access control using local passwords
10.4 - Module Practice and Quiz						
10.4.1 - Video - Network Device Differences: Part 1	S0041	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.3.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
10.4.2 - Video - Network Device Differences: Part 2	S0041	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.3.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
10.4.3 - Packet Tracer - Basic Device Configuration	S0041	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.3.	3B-NI-03	
10.4.4 - Lab - Build a Switch and Router Network	S0041	HS-PS3-3., HS-PS4-5.	ITEA.17.O	IT-NET 3 CCR.ELA- Literacy.RS T.11-12.3.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
10.4.5 - What did I learn in this module?						
10.4.6 - Module Quiz - Basic Router Configuration						
11.0 - Introduction						
11.0.1 - Why should I take this module?						1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.0.2 - What will I learn to do in this module?						1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.1 - IPv4 Address Structure						
11.1.1 - Network and Host Portions	K0471	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.1.2 - The Subnet Mask	K0471	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.1.3 - The Prefix Length	K0471	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.1.4 - Determining the Network: Logical AND	K0471	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.1.5 - Video - Network, Host and Broadcast Addresses	K0471	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.1.6 - Network, Host, and Broadcast Addresses	K0471	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
11.1.7 - Activity - ANDing to Determine the Network Address	K0471	HS-PS2-2.	ITEA.3.J, ITEA.11.P	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.1.8 - Check Your Understanding - IPv4 Address Structure	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.2 - IPv4 Unicast, Broadcast, and Multicast						
11.2.1 - Unicast	K0332	HS-PS3-1.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.2.2 - Broadcast	K0332	HS-PS3-1.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.2.3 - Multicast	K0332	HS-PS3-1.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.2.4 - Activity - Unicast, Broadcast, or Multicast	K0332	HS-PS3-1.	ITEA.17.L.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.3 - Types of IPv4 Addresses						
11.3.1 - Public and Private IPv4 Addresses	K0471	HS-PS2-2.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.3.2 - Routing to the Internet	K0471	HS-PS2-2.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.3.3 - Activity - Pass or Block IPv4 Addresses	K0471	HS-PS2-2.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
11.3.4 - Special Use IPv4 Addresses	K0471	HS-PS2-2.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.3.5 - Legacy Classful Addressing	K0471	HS-PS2-2.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.3.6 - Assignment of IP Addresses	K0471	HS-PS2-2.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.3.7 - Activity - Public or Private IPv4 Address	K0471	HS-PS2-2.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.3.8 - Check Your Understanding - Types of IPv4 Addresses	K0471	HS-PS2-2.	ITEA.17.L.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.4 - Network Segmentation						
11.4.1 - Broadcast Domains and Segmentation	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.4.2 - Problems with Large Broadcast Domains	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.4.3 - Reasons for Segmenting Networks	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.4.4 - Check Your Understanding - Network Segmentation	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.5 - Subnet an IPv4 Network						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
11.5.1 - Subnet on an Octet Boundary	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.5.2 - Subnet within an Octet Boundary	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.5.3 - Video - The Subnet Mask	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.5.4 - Video - Subnet with the Magic Number	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.5.5 - Packet Tracer - Subnet an IPv4 Network	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	1.6 Configure and verify IPv4 addressing and subnetting
11.6 - Subnet a Slash 16 and a Slash 8 Prefix						
11.6.1 - Create Subnets with a Slash 16 prefix	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.6.2 - Create 100 Subnets with a Slash 16 prefix	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.6.3 - Create 1000 Subnets with a Slash 8 prefix	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.6.4 - Video - Subnet Across Multiple Octets	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.6.5 - Activity - Calculate the Subnet Mask	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
11.6.6 - Lab - Calculate IPv4 Subnets	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.7 - Subnet to Meet Requirements						
11.7.1 - Subnet Private versus Public IPv4 Address Space	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.7.2 - Minimize Unused Host IPv4 Addresses and Maximize Subnets	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.7.3 - Example: Efficient IPv4 Subnetting	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.7.4 - Activity - Determine the Number of Bits to Borrow	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.7.5 - Packet Tracer - Subnetting Scenario	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.8 - VLSM						
11.8.1 - Video - VLSM Basics	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.8.2 - Video - VLSM Example	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.8.3 - IPv4 Address Conservation	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
11.8.4 - VLSM	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.8.5 - VLSM Topology Address Assignment	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.8.6 - Activity - VLSM Practice	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting
11.9 - Structured Design						
11.9.1 - IPv4 Network Address Planning	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.9.2 - Device Address Assignment	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.9.3 - Packet Tracer - VLSM Design and Implementation Practice	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3B-NI-03	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.10 - Module Practice and Quiz					3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.10.1 - Packet Tracer - Design and Implement a VLSM Addressing Scheme	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3B-NI-03	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.10.2 - Lab - Design and Implement a VLSM Addressing Scheme	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.6 Configure and verify IPv4 addressing and subnetting 1.7 Describe the need for private IPv4 addressing
11.10.3 - What did I learn in this module?						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
11.10.4 - Module Quiz - IPv4 Addressing						
12.0 - Introduction						
12.0.1 - Why should I take this module?						
12.0.2 - What will I learn in this module?						
12.1 - IPv4 Issues						
12.1.1 - Need for IPv6	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
12.1.2 - IPv4 and IPv6 Coexistence	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
12.1.3 - Check Your Understanding - IPv4 Issues	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	
12.2 - IPv6 Address Representation						
12.2.1 - IPv6 Addressing Formats	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.2.2 - Rule 1 - Omit Leading Zeros	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.2.3 - Rule 2 - Double Colon	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.2.4 - Check Your Understanding - IPv6 Address Representation	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.3 - IPv6 Address Types						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
12.3.1 - Unicast, Multicast, Anycast	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local 1.9.c Link local 1.9.d Anycast 1.9.e Multicast 1.9.f Modified EUI 64
12.3.2 - IPv6 Prefix Length	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local 1.9.c Link local 1.9.d Anycast 1.9.e Multicast 1.9.f Modified EUI 65
12.3.3 - Types of IPv6 Unicast Addresses	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local 1.9.c Link local 1.9.d Anycast 1.9.e Multicast 1.9.f Modified EUI 66
12.3.4 - A Note About the Unique Local Address	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local 1.9.c Link local 1.9.d Anycast 1.9.e Multicast 1.9.f Modified EUI 67

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Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
12.3.5 - IPv6 GUA	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local 1.9.c Link local 1.9.d Anycast 1.9.e Multicast 1.9.f Modified EUI 68
12.3.6 - IPv6 GUA Structure	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local 1.9.c Link local 1.9.d Anycast 1.9.e Multicast 1.9.f Modified EUI 69
12.3.7 - IPv6 LLA	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local 1.9.c Link local 1.9.d Anycast 1.9.e Multicast 1.9.f Modified EUI 70
12.3.8 - Check Your Understanding - IPv6 Address Types	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local 1.9.c Link local 1.9.d Anycast 1.9.e Multicast 1.9.f Modified EUI 71

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
12.4 - GUA and LLA Static Configuration						
12.4.1 - Static GUA Configuration on a Router	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local
12.4.2 - Static GUA Configuration on a Windows Host	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local
12.4.3 - Static Configuration of a Link-Local Unicast Address	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.b Unique local
12.4.4 - Syntax Checker - GUA and LLA Static Configuration	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3B-NI-03	
12.5 - Dynamic Addressing for IPv6 GUAs						
12.5.1 - RS and RA Messages	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.f Modified EUI 64
12.5.2 - Method 1: SLAAC	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.f Modified EUI 65
12.5.3 - Method 2: SLAAC and Stateless DHCPv6	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.f Modified EUI 66

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
12.5.4 - Method 3: Stateful DHCPv6	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.f Modified EUI 67
12.5.5 - EUI-64 Process vs. Randomly Generated	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.f Modified EUI 68
12.5.6 - EUI-64 Process	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.f Modified EUI 69
12.5.7 - Randomly Generated Interface IDs	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.f Modified EUI 70
12.5.8 - Check Your Understanding - Dynamic Addressing for IPv6 GUAs	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix 1.9 Compare IPv6 address types 1.9.a Global unicast 1.9.f Modified EUI 71
12.6 - Dynamic Addressing for IPv6 LLAs						
12.6.1 - Dynamic LLAs	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.6.2 - Dynamic LLAs on Windows	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.6.3 - Dynamic LLAs on Cisco Routers	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
12.6.4 - Verify IPv6 Address Configuration	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.6.5 - Syntax Checker - Verify IPv6 Address Configuration	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.6.6 - Packet Tracer - Configure IPv6 Addressing	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3B-NI-03	
12.7 - IPv6 Multicast Addresses						
12.7.1 - Assigned IPv6 Multicast Addresses	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.9 Compare IPv6 address types
12.7.2 - Well-Known IPv6 Multicast Addresses	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.9 Compare IPv6 address types
12.7.3 - Solicited-Node IPv6 Multicast Addresses	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.9 Compare IPv6 address types
12.7.4 - Lab - Identify IPv6 Addresses	K0471	HS-PS2-2.	ITEA.5.H.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.9 Compare IPv6 address types
12.8 - Subnet an IPv6 Network						
12.8.1 - Subnet Using the Subnet ID	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.8.2 - IPv6 Subnetting Example	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.8.3 - IPv6 Subnet Allocation	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.8.4 - Router Configured with IPv6 Subnets	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
12.8.5 - Check Your Understanding - Subnet an IPv6 Network	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.WH ST.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	1.8 Configure and verify IPv6 addressing and prefix
12.9 - Module Practice and Quiz						
12.9.1 - Packet Tracer - Implement a Subnetted IPv6 Addressing Scheme	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	
12.9.2 - Lab - Configure IPv6 Addresses on Network Devices	K0047	HS-PS2-2.	ITEA.11.P.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	
12.9.3 - What did I learn in this module?						
12.9.4 - Module Quiz - IPv6 Addressing						
13.0 - Introduction						
13.0.1 - Why should I take this module?						
13.0.2 - What will I learn in this module?						
13.1 - ICMP Messages						
13.1.1 - ICMPv4 and ICMPv6 Messages	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.1.2 - Host Reachability	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.1.3 - Destination or Service Unreachable	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.1.4 - Time Exceeded	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
13.1.5 - ICMPv6 Messages	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.1.6 - Check Your Understanding - ICMP Messages	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.2 - Ping and Traceroute Tests						
13.2.1 - Ping - Test Connectivity	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.2.2 - Ping the Loopback	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.2.3 - Ping the Default Gateway	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.2.4 - Ping a Remote Host	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.2.5 - Traceroute - Test the Path	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.2.6 - Packet Tracer - Verify IPv4 and IPv6 Addressing	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3	3B-NI-03	
13.2.7 - Packet Tracer - Use Ping and Traceroute to Test Network Connectivity	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	
13.3 - Module Practice and Quiz						
13.3.1 - Packet Tracer - Use ICMP to Test and Correct Network Connectivity	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
13.3.2 - Lab - Use Ping and Traceroute to Test Network Connectivity	A0055	HS-ETS1.	ITEA.10.I	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05;	
13.3.3 - What did I learn in this module?						
13.3.4 - Module Quiz - ICMP						
14.0 - Introduction						
14.0.1 - Why should I take this module?						1.5 Compare TCP to UDP
14.0.2 - What will I learn to do in this module?						1.5 Compare TCP to UDP
14.1 - Transportation of Data						
14.1.1 - Role of the Transport Layer	K0061	HS-ETS1-2.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.1.2 - Transport Layer Responsibilities	K0061	HS-ETS1-2.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.1.3 - Transport Layer Protocols	K0061	HS-ETS1-2.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.1.4 - Transmission Control Protocol (TCP)	K0061	HS-ETS1-2.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.1.5 - User Datagram Protocol (UDP)	K0061	HS-ETS1-2.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.1.6 - The Right Transport Layer Protocol for the Right Application	K0061	HS-ETS1-2.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
14.1.7 - Check Your Understanding - Transportation of Data	K0061	HS-ETS1-2.	ITEA.2.X.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.2 - TCP Overview						
14.2.1 - TCP Features	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.2.2 - TCP Header	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.2.3 - TCP Header Fields	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.2.4 - Applications that use TCP	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.2.5 - Check Your Understanding - TCP Overview	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.3 - UDP Overview						
14.3.1 - UDP Features	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.3.2 - UDP Header	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.3.3 - UDP Header Fields	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
14.3.4 - Applications that use UDP	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.3.5 - Check Your Understanding - UDP Overview	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.4 - Port Numbers						
14.4.1 - Multiple Separate Communications	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.4.2 - Socket Pairs	K0471	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.4.3 - Port Number Groups	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.4.4 - The netstat Command	K0471	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.4.5 - Check Your Understanding - Port Numbers	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.5 - TCP Communication Process						
14.5.1 - TCP Server Processes	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.5.2 - TCP Connection Establishment	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
14.5.3 - Session Termination	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.5.4 - TCP Three-way Handshake Analysis	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.5.5 - Video - TCP 3-Way Handshake	K0221	HS-ETS1-2.	ITEA.17.	CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.5.6 - Check Your Understanding - TCP Communication Process	K0221	HS-ETS1-2.	ITEA.17.	CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.5 Compare TCP to UDP
14.6 - Reliability and Flow Control						
14.6.1 - TCP Reliability - Guaranteed and Ordered Delivery	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.6.2 - Video - TCP Reliability - Sequence Numbers and Acknowledgments	K0221	HS-ETS1-2.	ITEA.17.	CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.6.3 - TCP Reliability - Data Loss and Retransmission	K0221	HS-ETS1-2.	ITEA.17.	CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.6.4 - Video - TCP Reliability - Data Loss and Retransmission	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.6.5 - TCP Flow Control - Window Size and Acknowledgments	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
14.6.6 - TCP Flow Control - Maximum Segment Size (MSS)	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.6.7 - TCP Flow Control - Congestion Avoidance	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.6.8 - Check Your Understanding - Reliability and Flow Control	K0221	HS-ETS1-2.	ITEA.17.	CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.7 - UDP Communication						
14.7.1 - UDP Low Overhead versus Reliability	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.7.2 - UDP Datagram Reassembly	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.7.3 - UDP Server Processes and Requests	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.7.4 - UDP Client Processes	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.7.5 - Check Your Understanding - UDP Communication	K0221	HS-ETS1-2.	ITEA.17.	CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
14.8 - Module Practice and Quiz						
14.8.1 - Packet Tracer - TCP and UDP Communications	K0221	HS-ETS1-2.	ITEA.17.	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
14.8.2 - What did I learn in this module?						
14.8.3 - Module Quiz - Transport Layer						
15.0 - Introduction						
15.0.1 - Why should I take this module?						
15.0.2 - What will I learn to do in this module?						
15.1 - Application, Presentation, and Session						
15.1.1 - Application Layer	K0471	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.1.2 - Presentation and Session Layer	K0471	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.1.3 - TCP/IP Application Layer Protocols	K0471	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.1.4 - Check Your Understanding - Application, Session, Presentation	K0471	HS-ETS1.	ITEA.2	CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.2 - Peer-to-Peer						
15.2.1 - Client-Server Model	K0286	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.2.2 - Peer-to-Peer Networks	K0286	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
15.2.3 - Peer-to-Peer Applications	K0286	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.2.4 - Common P2P Applications	K0286	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.2.5 - Check Your Understanding - Peer-to-Peer	K0286	HS-ETS1.	ITEA.2	CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.3 - Web and Email Protocols						
15.3.1 - Hypertext Transfer Protocol and Hypertext Markup Language	K0444	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.3.2 - HTTP and HTTPS	K0444	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.3.3 - Email Protocols	K0444	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.3.4 - SMTP, POP, and IMAP	K0444	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.3.5 - Check Your Understanding - Web and Email Protocols	K0444	HS-ETS1.	ITEA.2	CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
15.4 - IP Addressing Services						
15.4.1 - Domain Name System	K0332	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
15.4.2 - DNS Message Format	K0332	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network
15.4.3 - DNS Hierarchy	K0332	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network
15.4.4 - The nslookup Command	K0332	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network
15.4.5 - Syntax Checker - The nslookup Command	K0332	HS-ETS1.	ITEA.2	CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network
15.4.6 - Dynamic Host Configuration Protocol	K0332	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network
15.4.7 - DHCP Operation	K0332	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network
15.4.8 - Lab - Observe DNS Resolution	K0332	HS-ETS1.	ITEA.2	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network
15.4.9 - Check Your Understanding - IP Addressing Services	K0332	HS-ETS1.	ITEA.2	CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.3 Explain the role of DHCP and DNS within the network
15.5 - File Sharing Services						
15.5.1 - File Transfer Protocol	K0452	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.9 Describe the capabilities and function of TFTP/FTP in the network

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
15.5.2 - Server Message Block	K0452	HS-ETS1.	ITEA.2	IT-NET 3	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.9 Describe the capabilities and function of TFTP/FTP in the network
15.5.3 - Check Your Understanding - File Sharing Services	K0452	HS-ETS1.	ITEA.2	IT-NET 3 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.9 Describe the capabilities and function of TFTP/FTP in the network
15.6 - Module Practice and Quiz						
15.6.1 - What did I learn in this module?						
15.6.2 - Module Quiz - Application Layer						
16.0 - Introduction						
16.0.1 - Why should I take this module?						
16.0.2 - What will I learn to do in this module?						
16.1 - Security Threats and Vulnerabilities						
16.1.1 - Types of Threats	T0013	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.1.2 - Types of Vulnerabilities	T0013	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.1.3 - Physical Security	T0013	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.1.4 - Check Your Understanding - Security Threats and Vulnerabilities	T0013	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.2 - Network Attacks						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.2.1 - Types of Malware	T0181	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.2.2 - Reconnaissance Attacks	T0181	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.2.3 - Access Attacks	T0181	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.2.4 - Denial of Service Attacks	T0181	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.2.5 - Check Your Understanding - Network Attacks	T0181	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.2.6 - Lab - Research Network Security Threats		HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8 CCR.ELA-Literacy.WH ST.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques)
16.3 - Network Attack Mitigations						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.3.1 - The Defense-in-Depth Approach	T0418	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.c Next-generation firewalls and IPS 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.2 Describe Security program elements (user awareness and training, physical access control) 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics) 5.8 Differentiate authentication, authorization, and accounting concepts

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.3.2 - Keep Backups	T0418	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.c Next-generation firewalls and IPS 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.2 Describe Security program elements (user awareness and training, physical access control) 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics) 5.8 Differentiate authentication, authorization, and accounting concepts

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.3.3 - Upgrade, Update, and Patch	T0446	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.c Next-generation firewalls and IPS 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.2 Describe Security program elements (user awareness and training, physical access control) 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics) 5.8 Differentiate authentication, authorization, and accounting concepts

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Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.3.4 - Authentication, Authorization, and Accounting	T0438	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.c Next-generation firewalls and IPS 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.2 Describe Security program elements (user awareness and training, physical access control) 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics) 5.8 Differentiate authentication, authorization, and accounting concepts

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.3.5 - Firewalls	T0438	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.c Next-generation firewalls and IPS 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.2 Describe Security program elements (user awareness and training, physical access control) 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics) 5.8 Differentiate authentication, authorization, and accounting concepts

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.3.6 - Types of Firewalls	T0438	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.c Next-generation firewalls and IPS 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.2 Describe Security program elements (user awareness and training, physical access control) 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics) 5.8 Differentiate authentication, authorization, and accounting concepts

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.3.7 - Endpoint Security	T0438	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.c Next-generation firewalls and IPS 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.2 Describe Security program elements (user awareness and training, physical access control) 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics) 5.8 Differentiate authentication, authorization, and accounting concepts

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.3.8 - Check Your Understanding - Network Attack Mitigation	T0438	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.1.c Next-generation firewalls and IPS 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.2 Describe Security program elements (user awareness and training, physical access control) 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics) 5.8 Differentiate authentication, authorization, and accounting concepts
16.4 - Device Security						
16.4.1 - Cisco AutoSecure	S0264	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.8 Configure network devices for remote access using SSH 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.3 Configure device access control using local passwords 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics)

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Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.4.2 - Passwords	S0264	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.8 Configure network devices for remote access using SSH 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.3 Configure device access control using local passwords 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics)
16.4.3 - Additional Password Security	T0581	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.8 Configure network devices for remote access using SSH 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.3 Configure device access control using local passwords 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics)

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Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.4.4 - Enable SSH	S0201	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.8 Configure network devices for remote access using SSH 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.3 Configure device access control using local passwords 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics)
16.4.5 - Disable Unused Services	S0201	HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.8 Configure network devices for remote access using SSH 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.3 Configure device access control using local passwords 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics)

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Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.4.6 - Packet Tracer - Configure Secure Passwords and SSH		HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	4.8 Configure network devices for remote access using SSH 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.3 Configure device access control using local passwords 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics)
16.4.7 - Lab - Configure Network Devices with SSH		HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	4.8 Configure network devices for remote access using SSH 5.1 Define key security concepts (threats, vulnerabilities, exploits and mitigation techniques) 5.3 Configure device access control using local passwords 5.4 Describe Security password policies elements such as management, complexity and password alternatives(multi-factor authentication, certificates, biometrics)
16.5 - Module Practice and Quiz						
16.5.1 - Packet Tracer - Secure Network Devices		HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	
16.5.2 - Lab - Secure Network Devices		HS-ETS1-1.	ITEA.4.J.	IT-NET 3.8 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
16.5.3 - What did I learn in this module?						
16.5.4 - Module Quiz - Network Security Fundamentals						
17.0 - Introduction						
17.0.1 - Why should I take this module?						
17.0.2 - What will I learn to do in this module?						
17.1 - Devices in a Small Network						
17.1.1 - Small Network Topologies	S0041	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.1.2 - Device Selection for a Small Network	S0041	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.1.3 - IP Addressing for a Small Network	S0041	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.1.4 - Redundancy in a Small Network	S0041	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
17.1.5 - Traffic Management	S0041	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.1.6 - Check Your Understanding - Devices in a Small Network	S0041	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components 1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.2 - Small Network Applications and Protocols						
17.2.1 - Common Applications	K0001	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.2.2 - Common Protocols	K0033	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.2.3 - Voice and Video Applications	K0159	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.2.4 - Check Your Understanding - Small Network Applications and Protocols	K0159	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.2 Describe characteristics of network topology architectures 1.6 Configure and verify IPv4 addressing and subnetting
17.3 - Scale to Larger Networks						
17.3.1 - Small Network Growth	T0044	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.2 Describe characteristics of network topology architectures

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
17.3.2 - Protocol Analysis	T0035	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.2 Describe characteristics of network topology architectures
17.3.3 - Employee Network Utilization	T0926	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.2 Describe characteristics of network topology architectures
17.3.4 - Check Your Understanding - Scale to Larger Networks	T0926	HS-ETS1-1.	ITEA.1.J.	IT-NET 1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.2 Describe characteristics of network topology architectures
17.4 - Verify Connectivity						
17.4.1 - Verify Connectivity with Ping	K0111	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
17.4.2 - Extended Ping	K0111	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
17.4.3 - Verify Connectivity with Traceroute	K0111	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
17.4.4 - Extended Traceroute	K0111	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
17.4.5 - Network Baseline	K0111	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
17.4.6 - Lab - Test Network Latency with Ping and Traceroute	K0111	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
17.5 - Host and IOS Commands						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
17.5.1 - IP Configuration on a Windows Host	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components
17.5.2 - IP Configuration on a Linux Host	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components
17.5.3 - IP Configuration on a macOS Host	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components
17.5.4 - The arp Command	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components
17.5.5 - Common show Commands Revisited	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components
17.5.6 - The show cdp neighbors Command	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components
17.5.7 - The show ip interface brief Command	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components
17.5.8 - Video - The show version Command	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1 CCR.ELA-Literacy.RS T.11-12.7.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	1.1 Explain the role and function of network components
17.5.9 - Packet Tracer - Interpret show Command Output	A0058	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	1.1 Explain the role and function of network components
17.6 - Troubleshooting Methodologies						

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
17.6.1 - Basic Troubleshooting Approaches	T0237	HS-ETS1-3.	ITEA.10.	IT-NET 5.9	3A-CS-03;	
17.6.2 - Resolve or Escalate?	T0418	HS-ETS1-3.	ITEA.10.	IT-NET 5.9	3A-CS-03;	
17.6.3 - The debug Command	T0531	HS-ETS1-3.	ITEA.10.	IT-NET 5.9	3A-CS-03;	
17.6.4 - The terminal monitor Command	K0079	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-03;	
17.6.5 - Check Your Understanding - Troubleshooting Methodologies	K0079	HS-ETS1-1.	ITEA.12.P.	IT-NET 5.1	3A-CS-03;	
17.7 - Troubleshooting Scenarios						
17.7.1 - Duplex Operation and Mismatch Issues	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9	3A-CS-03;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex and/or speed) 1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 4.3 Explain the role of DHCP and DNS within the network 5.3 Configure device access control using local passwords
17.7.2 - IP Addressing Issues on IOS Devices	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9	3A-CS-03;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex and/or speed) 1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 4.3 Explain the role of DHCP and DNS within the network 5.3 Configure device access control using local passwords

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
17.7.3 - IP Addressing Issues on End Devices	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9	3A-CS-03;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex and/or speed) 1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 4.3 Explain the role of DHCP and DNS within the network 5.3 Configure device access control using local passwords
17.7.4 - Default Gateway Issues	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9	3A-CS-03;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex and/or speed) 1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 4.3 Explain the role of DHCP and DNS within the network 5.3 Configure device access control using local passwords
17.7.5 - Troubleshooting DNS Issues	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9	3A-CS-03;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex and/or speed) 1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 4.3 Explain the role of DHCP and DNS within the network 5.3 Configure device access control using local passwords

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
17.7.6 - Packet Tracer - Troubleshoot Connectivity Issues	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex and/or speed) 1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 4.3 Explain the role of DHCP and DNS within the network 5.3 Configure device access control using local passwords
17.7.7 - Lab - Troubleshoot Connectivity Issues	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9 CCR.ELA-Literacy.RS T.11-12.9.	3A-CS-03;	1.4 Identify interface and cable issues (collisions, errors, mismatch duplex and/or speed) 1.6 Configure and verify IPv4 addressing and subnetting 1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux) 4.3 Explain the role of DHCP and DNS within the network 5.3 Configure device access control using local passwords
17.8 - Module Practice and Quiz						
17.8.1 - Lab - Design and Build a Small Business Network	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9 CCR.ELA-Literacy.WH ST.11-12.9.	3A-CS-02; 3A-NI-04; 3A-NI-05; 3A-NI-06;	
17.8.2 - Packet Tracer - Skills Integration Challenge	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	
17.8.3 - Packet Tracer - Troubleshooting Challenge	S0041	HS-ETS1-3.	ITEA.10.	IT-NET 5.9 CCR.ELA-Literacy.RS T.11-12.9.	3B-NI-03	

Module	NICE	NGSS	ITEA	DODEA	CSTA	Exam Objective Standard
17.8.4 - What did I learn in this module?						
17.8.5 - Module Quiz - Build a Small Network						