

Module	NICE	NGSS	ITEA	DODEA	CSTA
1.0 Introduction					
1.0.1 First Time in this Course					
1.0.2 Student Resources					
1.0.3 Video - Welcome to the Cisco Networking Academy	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8		3A-NI-04
1.0.4 Video - Meet Your Video Instructors	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8		3A-NI-04
1.0.5 Why Should I Take this Module?					
1.0.6 What Will I Learn in this Module?					
1.1 Network Types					
1.1.1 Everything is Online	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.1.2 Who Owns “The Internet”?	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.1.3 Local Networks	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.1.4 Video - Different Network Connections	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.1.5 Mobile Devices	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-CS-02
1.1.6 Connected Home Devices	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-CS-02
1.1.7 Other Connected Devices	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-CS-02
1.1.8 Check Your Understanding - Network Types	K0061; K0443	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3B-AP-09
1.2 Data Transmission					
1.2.1 Video - Types of Personal Data	K0260	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-IC-27
1.2.2 Types of Personal Data	K0260	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-IC-27
1.2.3 Interactive Activity - The Bit	K0260; S0132	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3A-IC-27
1.2.4 Animation - Common Methods of Data Transmission	K0260	HS-ETS1-3; HS-ETS1-4	ITEA.2; ITEA.8	IT-NET 2	3A-IC-27
1.2.5 Check Your Understanding - Data Transmission	K0260	HS-ETS1-3	ITEA.2; ITEA.8	IT-NET 2	3B-AP-09
1.3 Bandwidth and Throughput					
1.3.1 Bandwidth	K0050	HS-PS4-1	ITEA.2; ITEA.8	IT-NET 2	3B-NI-03
1.3.2 Video - Throughput	K0050	HS-PS4-1	ITEA.2; ITEA.8	IT-NET 2	3B-NI-03
1.3.3 Throughput	K0050	HS-PS4-1	ITEA.2; ITEA.8	IT-NET 2	3B-NI-03
1.3.4 Check Your Understanding - Bandwidth and Throughput	K0050	HS-PS4-1	ITEA.2; ITEA.8	IT-NET 2	3B-NI-03
1.4 Clients and Servers					
1.4.1 Clients and Server Roles	K0077	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.4.2 Peer-to-Peer Networks	K0077	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.4.3 Peer-to-Peer Applications	K0077	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.4.4 Multiple Roles in the Network	K0077	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04

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1.4.5 Check Your Understanding - Clients and Servers	K0077	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3B-AP-09
1.5 Network Components					
1.5.1 Video - Network Infrastructure Symbols	K0109; K0395	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.5.2 Network Infrastructure	K0109; K0395	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.5.3 Animation - End Devices	K0109; K0395	HS-ETS1-1; HS-ETS1-4	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.5.4 Lab - My Local Network	K0109; K0395	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.5.5 Check Your Understanding - Identify End and Intermediary Devices	K0109; K0395	HS-ETS1-1	ITEA.2; ITEA.8	IT-NET 2	3A-NI-04
1.6 Communications in a Connected World Summary					3A-NI-04
1.6.1 What Did I Learn in this Module?					
1.6.2 Module 1 - Communications in a Connected World Quiz					
2.0 Introduction					
2.0.1 Why Should I Take this Module?					
2.0.2 What Will I Learn in this Module?					
2.1 Wireless Networks					
2.1.1 Video - Types of Wireless Networks	K0108; K0614	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.1.2 Video - Cell Phone Interactions with Different Networks	K0108; K0614	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.1.3 Other Wireless Networks	K0108; K0614	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.1.4 Check Your Understanding - Wireless Networks	K0108; K0614	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.2 Local Network Connections					
2.2.1 Video - Types of Network Components	K0029; K0050; K0113	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04

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2.2.2 LAN Components	K0029; K0050; K0113	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.2.3 Video - Configure IP Addressing Information on Windows	K0029; K0050; K0113	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.2.4 End Device Addressing	K0029; K0050; K0113	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.2.5 Video - Manual and Automatic Addressing	K0029; K0050; K0113	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.2.6 Manual and Automatic Address Assignment	K0029; K0050; K0113	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.2.7 Lab - Determine the IP Address Configuration of a Computer	K0029; K0050; K0113	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.3 Network Documentation					
2.3.1 Device Names and Address Planning	K0001; T0063	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.3.2 Network Topologies and Representations	K0001; T0063	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.3.3 Video - Network Documentation	K0001; T0063	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.3.4 Logical Network Information	K0001; T0063	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04
2.3.5 Check Your Understanding - Network Documentation	K0001; T0063	HS-PS2-1; HS-PS3-1	ITEA.8; ITEA.11; ITEA.17	IT-NET 1	3A-NI-04

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2.4 Online Connections Summary					
2.4.1 What Did I Learn in this Module?					
2.4.2 Module 2 - Online Connections Quiz					
3.0 Introduction					
3.0.1 Why Should I Take this Module?					
3.0.2 What Will I Learn in this Module?					
3.1 Packet Tracer Network Simulator					
3.1.1 Video - Introduction to Cisco Packet Tracer	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A- AP-16; 3B- AP-19; 3B- DA-07
3.2 Packet Tracer Installation	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A- AP-16; 3B- AP-19; 3B- DA-07
3.2.1 Video - Download and Install Packet Tracer	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A- AP-16; 3B- AP-19; 3B- DA-07
3.3 The Packet Tracer User Interface					
3.3.1 Video - Getting Started in Cisco Packet Tracer	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A- AP-16; 3B- AP-19; 3B- DA-07
3.3.2 Locate and Deploy Devices	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A- AP-16; 3B- AP-19; 3B- DA-07
3.3.3 Packet Tracer - Deploy Devices	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A- AP-16; 3B- AP-19; 3B- DA-07
3.3.4 Packet Tracer - Deploy and Cable Devices	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A- AP-16; 3B-

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					AP-19; 3B-DA-07
3.4 Packet Tracer Network Configuration					
3.4.1 Video - Device Configuration in Packet Tracer	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A-AP-16; 3B-AP-19; 3B-DA-07
3.4.2 GUI and CLI Configuration in Packet Tracer	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A-AP-16; 3B-AP-19; 3B-DA-07
3.4.3 Packet Tracer - Configure End Devices	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A-AP-16; 3B-AP-19; 3B-DA-07
3.5 Explore Networks with Packet Tracer Summary					
3.5.1 Packet Tracer - Create a Simple Network	K0078; K0111; K0301	HS-ETS1-4	ITEA.9; ITEA.11	IT 02	3B-NI-03; 3A-AP-16; 3B-AP-19; 3B-DA-07
3.5.2 What Did I Learn in this Module?					
3.5.3 Module 3 - Explore Networks with Packet Tracer Quiz					
4.0 Introduction					
4.0.1 Why Should I Take this Module?					
4.0.2 What Will I Learn in this Module?					
4.1 Network Media Types					
4.1.1 Video - Network Media Types	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.1.2 Three Media Types	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02

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4.1.3 Common Network Cables	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.1.4 Check Your Understanding - Network Media Types	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.2 Ethernet Cabling					
4.2.1 Twisted-Pair Cables	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.2.2 Types of Twisted-Pair Cables	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.2.3 Check Your Understanding - Ethernet Cabling	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.3 Coaxial and Fiber-Optic Cabling					
4.3.1 Animation - Cable TV and Satellite Cables	K0011; K0108	HS-ETS1-2; HS-ETS1-4	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.3.2 Fiber-Optic Cables	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.3.3 Check Your Understanding - Coaxial and Fiber-Optic Cabling	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.4 Twisted-Pair Operation					
4.4.1 Twisted-Pair Wiring Schemes	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.4.2 Animation - Twisted-Pair Transmit and Receive Pairs	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02

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4.4.3 Check Your Understanding - Twisted-Pair Operation	K0011; K0108	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.5 Verify Connectivity					
4.5.1 Video - The ping Command	K0111: A0055	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.5.2 Animation - Using the ping Command	K0111: A0055	HS-ETS1-2; HS-ETS1-4	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.5.3 The traceroute Command	K0111: A0055	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.5.4 Video - Build a Network in Packet Tracer	K0111: A0055	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.5.5 Video - Trace a Path through the Network	K0111: A0055	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.5.6 Video - Traceroute Operation	K0111: A0055	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.5.7 Lab - Build a Simple Network	K0111: A0055	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.5.8 Lab - Trace a Route	K0111: A0055	HS-ETS1-2	ITEA.2; ITEA.8; ITEA.17	IT-NET 4	3A-CS-02
4.6 Build a Simple Network Summary					
4.6.1 What Did I Learn in this Module?					
4.6.2 Module 4 - Build a Simple Network Quiz					
5.0 Introduction					
5.0.1 Why Should I Take this Module?					
5.0.2 What Will I Learn in this Module?					

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5.1 The Rules					
5.1.1 Animations - The Three Elements	K0061; K0417; K0221	HS-ETS1-1; HS-ETS1-4	ITEA.2	IT-NET 3	3A-DA-12
5.1.2 Communication Protocols	K0061; K0417; K0221	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.1.3 Why Protocols Matter	K0061; K0417; K0221	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.1.4 Lab - My Protocol Rules	K0061; K0417; K0221	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.2 Communication Standards					
5.2.1 Video - Devices in a Bubble	K0061; K0417; K0221	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.2.2 The Internet and Standards	K0061; K0417; K0221	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.2.3 Network Standards Organizations	K0061; K0417; K0221	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.2.4 Check Your Understanding - Communications Standards	K0061; K0417; K0221	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.3 Network Communication Models					
5.3.1 Video - Network Protocols	K0061; K0221	HS-PS4-2; HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.3.2 Video - The Protocol Stack	K0061; K0221	HS-PS4-2; HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.3.3 The Protocol Stack	K0061; K0221	HS-PS4-2; HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.3.4 The TCP/IP Model	K0061; K0221; K0332	HS-PS4-2; HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.3.5 The OSI Reference Model	K0061; K0221	HS-PS4-2; HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.3.6 Upper and Lower Layers of the OSI Model	K0061; K0221	HS-PS4-2; HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.3.7 OSI Model and TCP/IP Model Comparison	K0061; K0221; K0332	HS-PS4-2; HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12

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5.3.8 Check Your Understanding - Network Communication Models	K0061; K0221	HS-PS4-2; HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.4 Ethernet					
5.4.1 The Rise of Ethernet	K0061; K0221	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.4.2 Animation - Ethernet Evolution	K0061; K0221	HS-ETS1-1; HS-ETS1-4	ITEA.2	IT-NET 3	3A-DA-12
5.4.3 Video - Ethernet Addressing	K0061; K0221; K0471	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.4.4 Animation - The Ethernet MAC Address	K0061; K0221; K0471	HS-ETS1-1; HS-ETS1-4	ITEA.2	IT-NET 3	3A-DA-12
5.4.5 Lab - Determine the MAC Address of a Host	K0061; K0221; K0471	HS-ETS1-1	ITEA.2	IT-NET 3	3A-DA-12
5.5 Communication Principles Summary					
5.5.1 What Did I Learn in this Module?					
5.5.2 Module 5 - Communication Principles Quiz					
6.0 Introduction					
6.0.1 Why Should I Take this Module?					
6.0.2 What Will I Learn in this Module?					
6.1 Encapsulation and the Ethernet Frame					
6.1.1 Video - The Fields of the Ethernet Frame	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.1.2 Animation - Encapsulation	K0417; K0560	HS-PS3-1; HS-PS4-1; HS-ETS1-4	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.1.3 Ethernet Frame	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.1.4 Check Your Understanding - Encapsulation and the Ethernet Frame	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.2 Hierarchical Network Design					
6.2.1 Video - Physical and Logical Addresses	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.2.2 Physical and Logical Addresses	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08

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6.2.3 Video - View Network Information on My Device	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.2.4 Lab - View Wireless and Wired NIC Information	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.2.5 Hierarchical Analogy	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.2.6 Video - Benefits of a Hierarchical Network Design	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.2.7 Benefits of a Hierarchical Design	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.2.8 Access, Distribution, and Core	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.2.9 Check Your Understanding - Hierarchical Network Design	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.3 The Access Layer					
6.3.1 Access Layer Devices	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.3.2 Interactive Activity - Ethernet Hubs	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.3.3 Video - Ethernet Switches	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.3.4 Interactive Activity - Ethernet Switches	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.3.5 Video - MAC Address Tables	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.3.6 Animation - The MAC Address Table	K0417; K0560	HS-PS3-1; HS-PS4-1; HS-ETS1-4	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.3.7 Check Your Understanding - The Access Layer	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.4 Broadcast Containment					
6.4.1 Video - The Ethernet Broadcast	K0417; K0560; K0136	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08

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6.4.2 Animation - Ethernet Broadcasts in the Local Network	K0417; K0560	HS-PS3-1; HS-PS4-1; HS-ETS1-4	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.4.3 Broadcast Domains	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.4.4 Access Layer Communication	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.4.5 Video - Address Resolution Protocol	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.4.6 Animation - ARP	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.4.7 Check Your Understanding - Broadcast Containment	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.4.8 Lab - View Captured Traffic in Wireshark	K0417; K0560	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3	3A-NI-04; 3A-NI-08
6.5 Network Design and Access Layer Summary					
6.5.1 What Did I Learn in this Module?					
6.5.2 Module 6 - Network Design and Access Layer Quiz					
7.0 Introduction					
7.0.1 Why Should I Take this Module?					
7.0.2 What Will I Learn in this Module?					
7.1 The Need for Routing					
7.1.1 Video - Dividing the Local Network	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.1.2 Criteria for Dividing the Local Network	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.1.3 Animation - Now We Need Routing	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1; HS-ETS1-4	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.1.4 Lab - IPv4 Addresses and Network Communication	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2 The Routing Table					
7.2.1 Video - Router Packet Forwarding	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08

Module	NICE	NGSS	ITEA	DODEA	CSTA
7.2.2 Animation - Path Selection	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1; HS-ETS1-4	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2.3 Video - Messages Within and Between Networks - Part 1	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2.4 Video - Messages Within and Between Networks - Part 2	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2.5 Animation - Packet Forwarding	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1; HS-ETS1-4	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2.6 Video - Messages Sent to Remote Networks	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2.7 Routing Table Entries	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2.8 The Default Gateway	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2.9 Check Your Understanding - Select the Default Gateway	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.2.10 Check Your Understanding - The Routing Table	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.3 Create a LAN			ITEA.9.	IT-NET 3; IT-NET 4	
7.3.1 Local Area Networks	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.3.2 Local and Remote Network Segments	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.3.3 Packet Tracer - Observe Data Flow in a LAN	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.3.4 Lab - Connect to a Wireless Router	K0011; K0443; K0471	HS-PS3-1; HS-PS4-1	ITEA.9.	IT-NET 3; IT-NET 4	3A-NI-04; 3A-NI-08
7.4 Routing Between Networks Summary					
7.4.1 What Did I Learn in this Module?					
7.4.2 Module 7 - Routing Between Networks Quiz					
8.0 Introduction					

Module	NICE	NGSS	ITEA	DODEA	CSTA
8.0.1 Why Should I Take this Module?					
8.0.2 What Will I Learn in this Module?					
8.1 Purpose of the IPv4 Address					
8.1.1 Animation - The IPv4 Address	K0254; K0471	HS-PS4-1; HS-ETS1-4	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.1.2 Packet Tracer - Connect to a Web Server	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.2 Binary Conversion of an IPv4 Address					
8.2.1 IPv4 Addressing	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.2.2 Video - Binary to Decimal Conversion	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.2.3 Binary to Decimal	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.2.4 Activity - Binary to Decimal Conversions	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.2.5 Activity - Decimal to Binary Conversions	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.2.6 Activity - Binary Game	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.2.7 Lab - Use a Calculator for Binary Conversions	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3 The IPv4 Address Structure					
8.3.1 Video - The IPv4 Address Structure	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3.2 Networks and Hosts	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3.3 Video - Local or Remote Network - Part 1	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3.4 Video - Local or Remote Network - Part 2	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3.5 Logical AND	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09

Module	NICE	NGSS	ITEA	DODEA	CSTA
8.3.6 Animation - Calculate Whether the Destination is Local or Remote	K0254; K0303; K0471	HS-PS4-1; HS-ETS1-4	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3.7 Calculate the Number of Hosts	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3.8 Video - Network, Host, and Broadcast Addresses	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3.9 Activity - ANDing to Determine the Network Address	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.3.10 Check Your Understanding - IPv4 Address Structure	K0254; K0303; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.4 Classful IPv4 Addressing					
8.4.1 Classful and Classless Addressing	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.4.2 Video - Classful IPv4 Addressing	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.4.3 Check Your Understanding - Classful IPv4 Addressing	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.5 Public and Private IPv4 Addresses					
8.5.1 Private IPv4 Addressing	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.5.2 Assignment of IPv4 Addresses	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.5.3 Activity - Public or Private IPv4 Address	K0254; K0471	HS-PS4-1	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.6 Unicast, Broadcast and Multicast Addresses					
8.6.1 Video - IPv4 Unicast	K0011; K0061; K0274; K0622	HS-PS4-1; HS-ETS1-2	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.6.2 Animation - Unicast Transmission	K0011; K0061; K0274; K0622	HS-PS4-1; HS-ETS1-2; HS-ETS1-4	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09

Module	NICE	NGSS	ITEA	DODEA	CSTA
8.6.3 Video - IPv4 Broadcast	K0011; K0061; K0274; K0622	HS-PS4-1; HS-ETS1-2	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.6.4 Animation - Broadcast Transmission	K0011; K0061; K0274; K0622	HS-PS4-1; HS-ETS1-2; HS-ETS1-4	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.6.5 Video - IPv4 Multicast	K0011; K0061; K0274; K0622	HS-PS4-1; HS-ETS1-2	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.6.6 Animation - Multicast Transmission	K0011; K0061; K0274; K0622	HS-PS4-1; HS-ETS1-2	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.6.7 Activity - Unicast, Broadcast, or Multicast	K0011; K0061; K0274; K0622	HS-PS4-1; HS-ETS1-2	ITEA.17.	IT-NET 3	3A-CS-02; 3A-DA-09
8.7 The Internet Protocol Summary					
8.7.1 What Did I Learn in this Module?					
8.7.2 Module 8 - The Internet Protocol Quiz					
9.0 Introduction					
9.0.1 Why Should I Take this Module?					
9.0.2 What Will I Learn in this Module?					
9.1 Static and Dynamic Addressing					
9.1.1 Static IPv4 Address Assignment	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03
9.1.2 Dynamic IPv4 Address Assignment	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03
9.1.3 DHCP Servers	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03

Module	NICE	NGSS	ITEA	DODEA	CSTA
9.1.4 Check Your Understanding - Static and Dynamic Addressing	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03
9.2 DHCPv4 Configuration					
9.2.1 Video - DHCPv4 Operation	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03
9.2.2 DHCPv4 Operation	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03
9.2.3 Video - DHCP Service Configuration	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03
9.2.4 DHCP Service Configuration	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03
9.2.5 Packet Tracer - Configure DHCP on a Wireless Router	K0332; K0452	HS-PS3-1; HS-PS4-1	ITEA.17.	IT-NET 3	3A-NI-04; 3B-NI-03
9.3 Dynamic Addressing with DHCP Summary					
9.3.1 What Did I Learn in this Module?					
9.3.2 Module 9 - Dynamic Addressing with DHCP Quiz					
10.0 Introduction					
10.0.1 Welcome					
10.0.2 Introduction					
10.1 Network Boundaries					
10.1.1 Video - Gateways to Other Networks	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.1.2 Routers as Gateways	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.1.3 Routers as Boundaries Between Networks	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.1.4 Check Your Understanding - Network Boundaries	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.2 Network Address Translation					
10.2.1 Video - Introduction to NAT	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.2.2 Animation - NAT Operation	K0471	HS-ETS1-2; HS-PS4-3; HS-ETS1-4	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03

Module	NICE	NGSS	ITEA	DODEA	CSTA
10.2.3 Packet Tracer - Examine NAT on a Wireless Router	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.3 IPv4 Issues					
10.3.1 Need for IPv6	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.3.2 IPv6 Address Size	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.3.3 Video - Compare IPv4 and IPv6 Addressing	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.3.4 IPv4 and IPv6 Coexistence	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.3.5 Check Your Understanding - IPv4 Issues	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.4 IPv6 Features					
10.4.1 Video - The Hexadecimal Number System	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.4.2 Video - Differences Between IPV4 and IPv6	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.4.3 IPv6 Autoconfiguration and Link-Local Addresses	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.4.4 Video - IPv6 Address Representation	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.4.5 IPv6 Address Representation	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.4.6 Activity - IPv6 Address Representation	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.4.7 Lab - Identify IPv6 Addresses	K0471	HS-ETS1-2; HS-PS4-3	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
10.5 IPv4 and IPv6 Address Management Summary					
10.5.1 What Did I Learn in this Module?					
10.5.2 Module 10 - IPv4 and IPv6 Address Management Quiz					
11.0 Introduction					
11.0.1 Why Should I Take this Module?					
11.0.2 What Will I Learn in this Module?					

Module	NICE	NGSS	ITEA	DODEA	CSTA
11.1 The Client Server Relationship					
11.1.1 Client and Server Interaction	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.1.2 Video - Web Traffic in Packet Tracer	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.1.3 Animation - Client Requests a Web Page	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2; HS-ETS1-4	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.1.4 URI, URN, and URL	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.1.5 Video - Web Server and Client IP Interactions	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.1.6 Packet Tracer - The Client Interaction	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.2 TCP and UDP					
11.2.1 Protocol Operations	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.2.2 Video - TCP and UDP Operation	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.2.3 TCP and UDP	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.2.4 Animation - TCP Reliability	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2; HS-ETS1-4	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03

Module	NICE	NGSS	ITEA	DODEA	CSTA
11.2.5 UDP Best Effort Delivery	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.2.6 Check Your Understanding - TCP and UDP	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.3 Port Numbers					
11.3.1 Video - Transport Layer Port Numbers	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.3.2 TCP and UDP Port Numbers	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.3.3 Destination and Source Port Numbers	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.3.4 Socket Pairs	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.3.5 The netstat Command	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.3.6 Check Your Understanding - Port Numbers	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.3.7 Check Your Understanding - Identify the Application Port Number	K0061; K0565; S0184; S0207	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-NI-04; 3B-NI-03
11.4 Transport Layer Services Summary					
11.4.1 What Did I Learn in this Module?					
11.4.11 Module 11 - Transport Layer Services Quiz					
12.0 Introduction					
12.0.1 Why Should I Take this Module?					
12.0.2 What Will I Learn in this Module?					

Module	NICE	NGSS	ITEA	DODEA	CSTA
12.1 Network Application Services					
12.1.1 Common Network Application Services	K0332; K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.1.2 Check Your Understanding - Common Network Applications	K0332; K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.2 Domain Name System					
12.2.1 Domain Name Translation	K0332; K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.2.2 Video - DNS Servers	K0332; K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.2.3 Animation - DNS Servers	K0332; K0452	HS-ETS1-2; HS-PS4-2; HS-ETS1-4	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.2.4 Lab - Observe DNS Name Resolution	K0332; K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.3 Web Clients and Servers					
12.3.1 Video - HTTP and HTML	K0447; K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.3.2 Animation - HTTP and HTML	K0447; K0452	HS-ETS1-2; HS-PS4-2; HS-ETS1-4	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.3.3 Packet Tracer - Observe Web Requests	K0447; K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.4 FTP Clients and Servers					
12.4.1 File Transfer Protocol	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.4.2 Video - FTP Client Software	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.4.3 FTP Client Software	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.4.4 Packet Tracer - Use FTP Services	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.5 Virtual Terminals					

Module	NICE	NGSS	ITEA	DODEA	CSTA
12.5.1 Video - Remote Access with Telnet or SSH	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.5.2 Telnet	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.5.3 Security Issues with Telnet	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.5.4 Packet Tracer - Use Telnet and SSH	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.6 Email and Messaging					
12.6.1 Email Clients and Servers	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.6.2 Animation - Email Protocols	K0452	HS-ETS1-2; HS-PS4-2; HS- ETS1-4	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.6.3 Text Messaging	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.6.4 Internet Phone Calls	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.6.5 Check Your Understanding - Email and Messaging	K0452	HS-ETS1-2; HS-PS4-2	ITEA.2.; ITEA.9.	IT-NET 3	3A-CS-02; 3B-CS-02
12.7 Application Layer Services Summary					
12.7.1 What Did I Learn in this Module?					
12.7.2 Module 12 - Application Layer Services Quiz					
13.0 Introduction					
13.0.1 Why Should I Take this Module?					
13.0.2 What Will I Learn in this Module?					
13.1 Home Network Basics					
13.1.1 Connecting Home Devices	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B- NI-03
13.1.2 Components of a Home Network	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B- NI-03

Module	NICE	NGSS	ITEA	DODEA	CSTA
13.1.3 Typical Home Network Routers	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.1.4 Check Your Understanding - Home Network Basics	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.2 Network Technologies in the Home					
13.2.1 The Electromagnetic Spectrum	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.2.2 LAN Wireless Frequencies	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.2.3 Wired Network Technologies	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.2.4 Check Your Understanding - Network Technologies in the Home	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.3 Wireless Standards					
13.3.1 Wi-Fi Networks	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.3.2 Wireless Settings	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.3.3 Check Your Understanding - Wireless Standards	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.4 Wireless Traffic Controls					
13.4.1 Wireless Channels	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03

Module	NICE	NGSS	ITEA	DODEA	CSTA
13.4.2 Animation - Wireless as a Shared Media	K0113	HS-ETS1-2; HS-PS4-5; HS-ETS1-4	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.4.3 Check Your Understanding - Wireless Traffic Controls	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.5 Set Up a Home Router					
13.5.1 First Time Setup	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.5.2 Design Considerations	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.5.3 MAC Address Filtering	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.5.4 Video - Typical Home Network Setup	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.5.5 Lab - Configure a Wireless Router and Client	K0113	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-01; 3A-NI-04; 3B-NI-03
13.6 Build a Home Network Summary					
13.6.1 What Did I Learn in this Module?					
13.6.2 Module 13 - Build a Home Network Quiz					
14.0 Introduction					
14.0.1 Why Should I Take this Module?					
14.0.2 What Will I Learn in this Module?					
14.1 ISP Connectivity Options					
14.1.1 ISP Services	K0061; K0444	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT-NET 4	3A-NI-06
14.1.2 ISP Connections	K0061; K0444	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT-NET 4	3A-NI-06

Module	NICE	NGSS	ITEA	DODEA	CSTA
14.1.3 Cable and DSL Connections	K0061; K0444	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-06
14.1.4 Additional Connectivity Options	K0061; K0444	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-06
14.1.5 Check Your Understanding - ISP Connectivity Options	K0061; K0444	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-06
14.2 Network Virtualization					
14.2.1 Video - Cloud and Virtualization	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-DA-10
14.2.2 Cloud Computing	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-DA-10
14.2.3 Types of Clouds	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-DA-10
14.2.4 Cloud Services	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-DA-10
14.2.5 Cloud Computing and Virtualization	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-DA-10
14.2.6 Advantages of Virtualization	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-DA-10
14.2.7 Hypervisors	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-DA-10
14.2.8 Video - Software-Defined Networking	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-04
14.2.9 Network Virtualization	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-04
14.2.10 Control Plane and Data Plane	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-04
14.2.11 Network Virtualization and SDN	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-04
14.2.12 SDN Architecture	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-04
14.2.13 Lab - Install Linux in a Virtual Machine and Explore the GUI	S0073;	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-NI-04
14.3 Mobile Device Connectivity					

Module	NICE	NGSS	ITEA	DODEA	CSTA
14.3.1 Mobile Devices and Wi-Fi	K0274	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-CS-02
14.3.2 Wi-Fi Settings	K0274	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-CS-02
14.3.3 Configure Mobile Wi-Fi Connectivity	K0274	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-CS-02
14.3.4 Configure Cellular Data Settings	K0274	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-CS-02
14.3.5 Video - Bluetooth Configuration	K0274	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-CS-02
14.3.6 Simple Connectivity with Bluetooth	K0274	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-CS-02
14.3.7 Bluetooth Pairing	K0274	HS-ETS1-2; HS-PS4-2	ITEA.11.; ITEA.17.	IT-NET 3; IT- NET 4	3A-CS-02
14.3.8 Lab - Configure a Mobile Device for Wi-Fi Connectivity					3A-CS-02
14.4 Connect to the Internet Summary					
14.4.1 What Did I Learn in this Module?					
14.4.2 Module 14 - Connect to the Internet Quiz					
15.0 Introduction					
15.0.1 Why Should I Take this Module?					
15.0.2 What Will I Learn in this Module?					
15.1 Security Threats					
15.1.1 Types of Threats	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.1.2 Internal and External Threats	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.1.3 Check Your Understanding - Security Threats	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.2 Social Engineering Attacks					

Module	NICE	NGSS	ITEA	DODEA	CSTA
15.2.1 Overview of Social Engineering	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.2.2 Types of Social Engineering Attacks	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.2.3 Lab - Social Engineering	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.3 Malware					
15.3.1 Malicious Software	K0005; K0070; K0162; K0188	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.3.2 Animation - Types of Malware	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3; HS-ETS1-4	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.3.3 Spyware	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.3.4 Adware and Popups	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.3.5 Animation - Botnets and Zombies	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3; HS-ETS1-4	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.3.6 Check Your Understanding - Malware	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.4 Denial of Service Attacks					
15.4.1 Animation - Denial of Service	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3; HS-ETS1-4	ITEA.12.	IT-NET 2; IT- NET 3	3B-NI-04

Module	NICE	NGSS	ITEA	DODEA	CSTA
15.4.2 Animation - Distributed Denial of Service	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3; HS-ETS1-4	ITEA.12.	IT-NET 2; IT- NET 3	3B-NI-04
15.4.3 Check Your Understanding - Denial of Service Attacks	K0005; K0070; K0162	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3B-NI-04
15.5 Security Tools					
15.5.1 Security Practices and Procedures	K0108; K0536	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-07; 3B- NI-04
15.5.2 Security Tools and Applications	K0108; K0536	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-07; 3B- NI-04
15.5.3 Patches and Updates	K0108; K0536	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-07; 3B- NI-04
15.5.4 Check Your Understanding - Security Tools	K0108; K0536	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-07; 3B- NI-04
15.6 Antimalware Software					
15.6.1 Signs of Infections	K0604	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.6.2 Animation - Antivirus Software	K0604	HS-ETS1-1; HS-ETS1-3; HS-ETS1-4	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.6.3 Antispam Software	K0604	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.6.4 Antispyware Software	K0604	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.6.5 Additional Safeguards	K0604	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.6.6 Check Your Understanding - Antimalware Software	K0604	HS-ETS1-1; HS-ETS1-3	ITEA.12.	IT-NET 2; IT- NET 3	3A-NI-05; 3A- NI-06; 3A-NI- 08
15.7 Security Considerations Summary					

Module	NICE	NGSS	ITEA	DODEA	CSTA
15.7.1 What Did I Learn in this Module?					
15.7.2 Check Your Understanding - Identify the Security Term					
15.7.3 Module 15 - Security Considerations Quiz					
16.0 Introduction					
16.0.1 Why Should I Take this Module?					
16.0.2 What Will I Learn in this Module?					
16.1 Wireless Security Measures					
16.1.1 Wireless Vulnerabilities	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-05; 3A-NI-06; 3A-NI-08
16.1.2 A Comprehensive Security Plan	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-05; 3A-NI-06; 3A-NI-08
16.1.3 Video - Secure a Wireless Home Network	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-05; 3A-NI-06; 3A-NI-08
16.1.4 SSID Broadcasts	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-05; 3A-NI-06; 3A-NI-08
16.1.5 Animation - Changing Default Settings	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2; HS-ETS1-4	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-05; 3A-NI-06; 3A-NI-08
16.1.6 MAC Address Filtering	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-05; 3A-NI-06; 3A-NI-08
16.1.7 Check Your Understanding - Wireless Security Measures	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-05; 3A-NI-06; 3A-NI-08
16.2 Implement Wireless Security					
16.2.1 Open Authentication	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3B-NI-04
16.2.2 Animation - Authentication and Association	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2; HS-ETS1-4	ITEA.12.	IT-NET 2; IT-NET 3	3B-NI-04

Module	NICE	NGSS	ITEA	DODEA	CSTA
16.2.3 Animation - Authentication Protocols	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2; HS-ETS1-4	ITEA.12.	IT-NET 2; IT-NET 3	3B-NI-04
16.2.4 Packet Tracer - Configure Basic Wireless Security	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3B-NI-04
16.3 Configure a Firewall					
16.3.1 Firewall Overview	K0049; K0487; K0516; K0561	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-06; 3B-NI-03
16.3.2 Animation - Firewall Operation	K0049; K0487; K0516; K0561	HS-ETS1-1; HS-ETS1-2; HS-ETS1-4	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-06; 3B-NI-03
16.3.3 The DMZ	K0049; K0487; K0516; K0561	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-06; 3B-NI-03
16.3.4 Port Forwarding	K0049; K0487; K0516; K0561	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-06; 3B-NI-03
16.3.5 Port Triggering	K0049; K0487; K0516; K0561	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-06; 3B-NI-03
16.3.6 Video - Firewall Settings on a Wireless Router	K0049; K0487; K0516; K0561	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-06; 3B-NI-03
16.3.7 Video - Firewall Settings on a Windows PC	K0049; K0487; K0516; K0561	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-06; 3B-NI-03
16.3.8 Lab - Configure Windows Firewall Settings	K0049; K0487; K0516; K0561	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3A-NI-06; 3B-NI-03
16.4 Configure Network and Device Security Summary					
16.4.1 What Did I Learn in this Module?					
16.4.2 Module 16 - Configure Network and Device Security Quiz					

Module	NICE	NGSS	ITEA	DODEA	CSTA
17.0 Introduction					
17.0.1 Why Should I Take this Module?					
17.0.2 What Will I Learn in this Module?					
17.1 Cisco Switches					
17.1.1 Connect More Devices	K0113	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.1.2 Cisco LAN Switches	K0113	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.1.3 Video - Components of a LAN Switch - Part 1	K0113	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.1.4 Video - Components of a LAN Switch - Part 2	K0113	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.1.5 LAN Switch Components	K0113	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.1.6 Check Your Understanding - Cisco Switches	K0113	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.2 Switch Boot Process					
17.2.1 Power Up the Switch	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.2.2 Video - In-Band and Out-of-Band Device Management	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.2.3 In-Band and Out-of-Band Management	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.2.4 IOS Startup Files	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.2.5 Video - Establish a Console Connection	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.2.6 Check Your Understanding - Switch Boot Process	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.3 Network Documentation					
17.3.1 Video - Cisco Router Components	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.3.2 Router Components	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04

Module	NICE	NGSS	ITEA	DODEA	CSTA
17.3.3 Router Interface Ports	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.3.4 Check Your Understanding - Cisco Routers	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.4 Router Boot Process					
17.4.1 Power Up the Router	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.4.2 Management Ports	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.4.3 Video - The Cisco Router Boot Process	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.4.4 Check Your Understanding - Router Boot Process	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.13.	IT-NET 3	3A-NI-04
17.5 Cisco Switches and Routers Summary					
17.5.1 Packet Tracer - Compare In-Band and Out-of-Band Management Access	K0050; K0274; K0614	HS-ETS1-1; HS-ETS1-2	ITEA.12.	IT-NET 2; IT-NET 3	3B-NI-04
17.5.2 What Did I Learn in this Module?					
17.5.3 Module 17 - Cisco Switches and Routers Quiz					
18.0 Introduction					
18.0.1 Why Should I Take this Module?					
18.0.2 What Will I Learn in this Module?					
18.1 Navigate the IOS					
18.1.1 The Cisco IOS Command Line Interface	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.1.2 Primary Command Modes	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.1.3 Video - IOS CLI Primary Command Modes	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.1.4 Video - Navigate Between IOS Modes	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15

Module	NICE	NGSS	ITEA	DODEA	CSTA
18.1.5 A Note About Syntax Checker Activities	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.1.6 Syntax Checker - Navigate Between IOS Modes	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.1.7 Check Your Understanding - IOS Navigation	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.2 The Command Structure					
18.2.1 Basic IOS Command Structure	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.2.2 IOS Command Syntax	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.2.3 Video - Context Sensitive Help and Command Syntax Check	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.2.4 Hotkeys and Shortcuts	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.2.5 Video - Hot Keys and Shortcuts	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.2.6 Packet Tracer - Navigate the IOS	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.3 View Device Information					
18.3.1 Video - Cisco IOS Show Commands	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15

Module	NICE	NGSS	ITEA	DODEA	CSTA
18.3.2 Show Commands	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.3.3 Packet Tracer - Use Cisco IOS Show Commands	K0318	HS-ETS1-2; HS-PS4-5	ITEA.2.; ITEA.17.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
18.4 The Cisco IOS Command Line Summary					
18.4.1 What Did I Learn in this Module?					
18.4.18 Module 18 - The Cisco IOS Command Line Quiz					
19.0 Introduction					
19.0.1 Why Should I Take this Module?					
19.0.2 What Will I Learn in this Module?					
19.1 Wireless Networks					
19.1.1 Basic Switch Configuration Steps	K0050; K0274; K0614	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-NI-04
19.1.2 Switch Virtual Interface Configuration	K0050; K0274; K0614	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-NI-04
19.1.3 Syntax Checker - Configure a Switch Virtual Interface	K0050; K0274; K0614	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-NI-04
19.1.4 Packet Tracer - Implement Basic Connectivity	K0050; K0274; K0614	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-NI-04
19.2 Configure Initial Router Settings					
19.2.1 Basic Router Configuration Steps	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-NI-04
19.2.2 Basic Router Configuration Example	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-NI-04
19.2.3 Syntax Checker - Configure Initial Router Settings	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-NI-04
19.2.4 Packet Tracer - Configure Initial Router Settings	K0011; K0443; K0516	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-NI-04
19.3 Secure the Devices					
19.3.1 Password Recommendations	K0332	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15

Module	NICE	NGSS	ITEA	DODEA	CSTA
19.3.2 Secure Remote Access	K0332	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.3.3 Configure SSH	K0332	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.3.4 Syntax Checker - Configure SSH	K0332	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.3.5 Verify SSH	K0332	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.3.6 Packet Tracer - Configure SSH	K0332	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.4 Connecting the Switch to the Router					
19.4.1 Default Gateway for a Host	K0033; K0440	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.4.2 Default Gateway on a Switch	K0033; K0440	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.4.3 Syntax Checker - Configure the Default Gateway	K0033; K0440	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.4.4 Packet Tracer - Build a Switch and Router Network	K0033; K0440	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.4.5 Check Your Understanding - Identify the Default Gateway	K0033; K0440	HS-ETS1-2; HS-PS4-5	ITEA.8.; ITEA.11.	IT-NET 3	3A-CS-02; 3B-CS-01; 3A-AP-15
19.5 Build a Small Cisco Network Summary					
19.5.1 What Did I Learn in this Module?					
19.5.2 Module 19 - Build a Small Cisco Network Quiz					

Module	NICE	NGSS	ITEA	DODEA	CSTA
20.0 Introduction					
20.0.1 Why Should I Take this Module?					
20.0.2 What Will I Learn in this Module?					
20.1 The Troubleshooting Process					
20.1.1 Network Troubleshooting Overview	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.1.2 Gather Information	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.1.3 Structured Troubleshooting Methods	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.1.4 Guidelines for Selecting a Troubleshooting Method	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.1.5 Check Your Understanding - The Troubleshooting Process	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.2 Physical Layer Problems	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	
20.2.1 Common Layer 1 Problems	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.2.2 Wireless Router LEDs	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.2.3 Cabling Problems	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.2.4 Check Your Understanding - Physical Layer Problems	S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3 Troubleshooting Commands					
20.3.1 Overview of Troubleshooting Commands	K0111; S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.2 The ipconfig Command	K0111; S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.3 Packet Tracer - Use the ipconfig Command	K0111; S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.4 The ping Command	K0111; S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02

Module	NICE	NGSS	ITEA	DODEA	CSTA
20.3.5 Ping Results	K0111; S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.6 Packet Tracer - Use the ping Command	K0111; S0041	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.7 Divide and Conquer with ping	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.8 The tracert Command	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.9 The netstat Command	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.10 The nslookup Command	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.11 Syntax Checker - The nslookup Command	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.3.12 Lab - Troubleshoot Using Network Utilities	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.4 Troubleshoot Wireless Issues					
20.4.1 Causes of Wireless Issues	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.4.2 Authentication and Association Errors	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.4.3 Packet Tracer - Troubleshoot a Wireless Connection	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.5 Common Internet Connectivity Issues					
20.5.1 DHCP Server Configuration Errors	K0332; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.5.2 Check Internet Configuration	K0332; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.5.3 Check Firewall Settings	K0332; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.5.4 Check Your Understanding - Common Internet Connectivity Issues	K0332; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.6 Customer Support					

Module	NICE	NGSS	ITEA	DODEA	CSTA
20.6.1 Sources of Help	S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.6.2 When to Call for Help	S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.6.3 Support Desk Interaction	S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.6.4 Issue Resolution	S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.6.5 Support Desk Tickets and Work Orders	S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.6.6 Check Your Understanding - Customer Support	S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.7 Troubleshoot Common Network Problems Summary					
20.7.1 Packet Tracer - Skills Integration Challenge	K0111; S0041; S0151	HS-ETS1-2; HS-ETS1-3	ITEA.10.	IT-NET 5	3A-CS-03; 3B-CS-02
20.7.2 What Did I Learn in this Module?					
20.7.3 Module 20 - Troubleshoot Common Network Problems Quiz					