

# Network Security 1.0

## Product Overview

April 2021

[NetAcad.com](https://www.netacad.com)



# Security is #1 Concern for CEOs – Here's Why



**58 days** median time from internal data breach to discovery <sup>2</sup>



**186 days** median time from external breach to discovery <sup>2</sup>

**Sophistication, stealth, and frequency of threats will continue to increase**



**\$3.92M** average cost of a breach <sup>3</sup>

2. Source: Mandiant M – Trend Report, 2018

3. Source: Ponemon Institute: Cost of a Data Breach Study, 2019

# Network Security 1.0 Course



# Network Security

## Course Overview

This course introduces the core security concepts and skills needed to configure and troubleshoot computer networks and help ensure the integrity of devices and data.

## Benefits

Gain practical, hands-on skills to design, implement, and manage network security systems and ensure their integrity.

## Prepare for Careers

- ✓ Build expertise in network security and data protection
- ✓ Develop skills for entry-level network security specialist roles
- ✓ Gain industry in-demand skills aligned with the National Institute for Standards and Technology (NIST) Cybersecurity Framework

## Course Details

**Target Audience:** 2-year and 4-year college students in Networking or Engineering programs

**Estimated Time to Completion:** 70 hours

**Recommended Preparation:** Basic understanding of computer networks (CCNA: Introduction to Networks and CCNA: Switching, Routing, and Wireless Essentials, or equivalent)

**Course Delivery:** Instructor-led

### Learning Component Highlights:

- ✓ 22 modules and 23 practice labs
- ✓ 22 Cisco Packet Tracer activities
- ✓ 87+ interactive activities, videos, and quizzes
- ✓ 1 final exam

**Course Recognitions:** Certificate of Completion, Letter of Merit, Digital Badge

**Recommended Next Course:** CyberOps Associate, IoT Security



## Requirements & Resources

- **ASC Alignment Required:** Yes
- **Instructor Training Required:** Yes
- **Physical Equipment Required:** Yes
- **Discount Availability:** Not Applicable

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



Hands-on practice with  
Cisco Packet Tracer

# Interactive & Engaging!

Enhanced course design



Valuable for many types of tech jobs

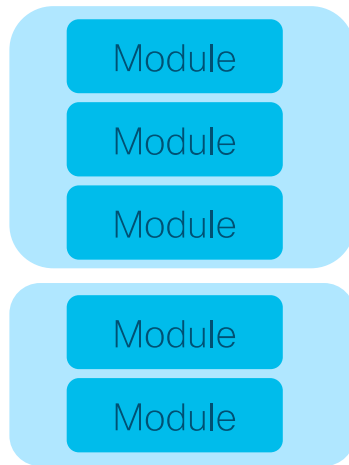


Improved Outcomes



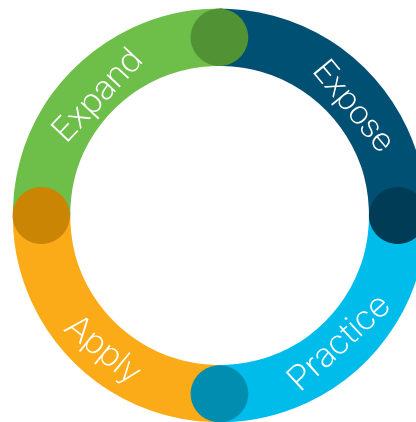


# Enhanced Course Design



## Modular Design

- ✓ Self-contained units
- ✓ Targeted learning of skills



## Learning Effectiveness

- ✓ Better student engagement
- ✓ Designed for skills progression



## User Experience

- ✓ Improved student view and navigation
- ✓ Easier instructor content management



# Enhanced Course Design

## Introducing modules for better organization

- ✓ Topics are grouped together
- ✓ Find content more easily

A **module** is an integrated unit of learning that targets a common set of competencies or skills.

Module size depends on the competency and number of topics.

The screenshot displays the Cisco Network Security course interface. On the left, a dark blue sidebar lists 12 modules, each with a dropdown arrow:

- 1 Securing Networks
- 2 Network Threats
- 3 Mitigating Threats
- 4 Secure Device Access
- 5 Assigning Administrative Roles
- 6 Device Monitoring and Management
- 7 Authentication, Authorization, and Accounting (AAA)
- 8 Access Control Lists
- 9 Firewall Technologies
- 10 Zone-Based Policy Firewalls
- 11 IPS Technologies
- 12 IPS Operation and Implementation

The main content area features a blue header for "Network Security" and a sub-header for "Networking Academy". Below the sub-header, there is introductory text: "Today's organizations are challenged with rapidly responding to emerging network security threats. Security personnel configure and monitor various network security threat mitigation measures, such as device hardening, intrusion prevention systems, and firewalls, to protect data assets and network systems from attack. The purpose of this course is to provide skills and knowledge in the field of network security." This is followed by a smaller line of text: "Network Security v1.0 contains 22 modules of content, labs, activities, videos and quizzes." At the bottom of the main content area, there is a large image collage. The left side shows a hand holding a glowing blue globe with network icons. The right side shows a dark, futuristic interface with various security-related terms like "INVALID", "IDENTITY THEFT", "SHACKER", "SPYWARE", "PASSWORD", and "HACKER" overlaid on a server rack background.



# Enhanced Course Design

## Significant enhancements to make this course highly interactive!

Engage students with videos, practice labs, quizzes, interactive activities, and more.

Including:

- ✓ **20 Videos!**
- ✓ 26 Check Your Understanding
- ✓ 22 Modules Quizzes
- ✓ **25 Labs!**
- ✓ 22 Packet Tracer Activities



**TIP**

Take advantage of the new video content. Students can watch or re-watch at their own pace, and instructors can up-level your interactions with students.



# Enhanced Course Design

## New Assessment Options

Now offering additional features for instructors to deliver a more customized and deeper experience.

### Students take more ownership of their learning

- ✓ Check Your Understanding self-assessments
- ✓ Module Quizzes

### Instructors have more control over exams

- ✓ 8 Instructor-Activated Module Group Exams
- ✓ 1 Instructor-Activated, **Secured, Dynamic Final Exam**
- ✓ 1 Instructor-Activated **Packet Tracer Skills Assessment**
- ✓ 1 **Skills Exams**



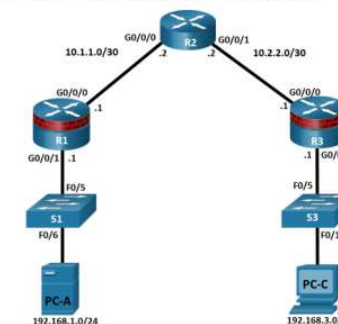
# Enhanced Course Design

## Better Practice Labs

- ✓ Labs feature a mix of Packet Tracer (PT), Virtual Machine, and physical equipment to reinforce learning
- ✓ Long labs are now divided up for better engagement
- ✓ Equipment-specific information is moved into the labs for just-in-time learning
- ✓ Added more PT activities
- ✓ Refreshed lab content to address out-of-date products and processes (removed AnyConnect lab and made ASDM optional)

Networking  
CISCO Academy

Lab - Configure Local AAA Authentication Topology



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway	Switch Port
R1	G0/0/0	10.1.1.1	255.255.255.0	N/A	N/A
	G0/0/1	192.168.1.1	255.255.255.0	N/A	S1 F0/5

File Edit Options View Tools Extensions Windows Help

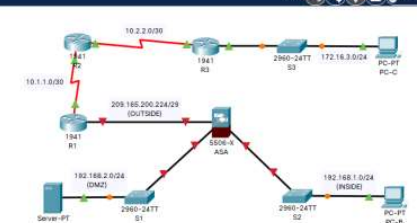
Packet Tracer - Configure ASA Basic Settings and Firewall Using the CLI

Addressing Table

Device	Interface	IP Address	Subnet Mask	Default
R1	G0/0	209.165.200.225	255.255.255.248	N/A
	S0/0/0 (DCE)	10.1.1.1	255.255.255.252	N/A
R2	S0/0/0	10.1.1.2	255.255.255.252	N/A
	S0/0/1 (DCE)	10.2.2.2	255.255.255.252	N/A
R3	G0/1	172.16.3.1	255.255.255.0	N/A
	S0/0/1	10.2.2.1	255.255.255.252	N/A
ASA	G1/1	209.165.200.226	255.255.255.248	N/A
	G1/2	192.168.1.1	255.255.255.0	N/A
	G1/3	192.168.2.1	255.255.255.0	N/A
DMZ Server	NIC	192.168.2.3	255.255.255.0	192.168.2.3
	NIC	192.168.1.3	255.255.255.0	192.168.1.3
PC-B	NIC	192.168.1.3	255.255.255.0	192.168.1.3
	NIC	172.16.3.3	255.255.255.0	172.16.3.3

### Objectives

- Verify connectivity and explore the ASA
- Configure basic ASA settings and interface security levels using CLI
- Configure routing, address translation, and inspection policy using CLI
- Configure DHCP, AAA, and SSH
- Configure a DMZ, Static NAT, and ACLs





# Enhanced Course Design

## Accessibility Enhancements



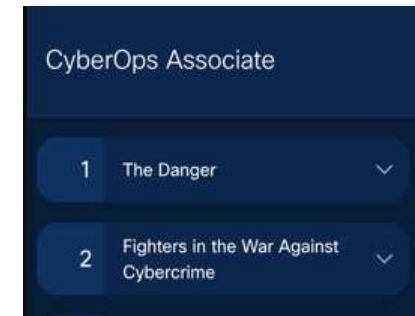
### Redesigned User Interface

- ✓ Developed for Web Content Accessibility Guidelines 2.1
- ✓ New sidebar navigation
- ✓ Mobile-friendly
- ✓ Performance enhancements
- ✓ Improved color contrast



### Enhancements for Screen Readers

- ✓ Media descriptions and transcripts throughout
- ✓ Descriptions & transcripts tied directly to user interface
- ✓ Conversion to HTML- screen reader can read tables, command windows, Syntax Checkers



### Better Keyboard Accessibility

- ✓ ‘Skip to Content’ sidebar navigation
- ✓ All activities are now keyboard accessible
- ✓ New, accessible header with all user functions



## Valuable for many types of tech jobs

### **Gain critical security skills**



- Network security impacts all industries: healthcare, food, transportation, smart cities, water, energy, and many more.
- This course teaches students the methods and tools of modern network security applied to IT and network operations, preparing them for entry-level network security positions.
- The Network Security course complements CCNA, CyberOps Associate, IoT Security, or DevNet Associate courses. Students can pursue a career in security and broaden their networking or software skills.

# NetAcad Career Courses align to NIST Framework

Builds upon introductory courses:  
Introduction to Cybersecurity  
Cybersecurity Essentials



## IoT Security

- Discovering Vulnerabilities
- Modeling Risk
- Suggest mitigations

## Network Security

- Preventing Intrusions
- Hardening systems
- Securing, Implementing security policies

## CyberOps Associate

- Detecting Intrusions
- Monitoring, analyzing
- First response

National Institute of Standards & Technology  
(NIST) Cybersecurity Framework Functions (v1.1)  
[www.nist.gov/cyberframework](http://www.nist.gov/cyberframework)



# Gain a solid network security understanding

Module		Module Group Assessments
Module 1	Securing Networks	Securing Networks
Module 2	Network Threats	
Module 3	Mitigating Threats	
Module 4	Secure Device Access	
Module 5	Assign Administrative Roles	Monitoring and Managing Devices
Module 6	Device Monitoring and Management	
Module 7	Authentication, Authorization, and Accounting (AAA)	
Module 8	Access Control Lists	ACLs and Firewalls
Module 9	Firewall Technologies	
Module 10	Zone-Based Policy Firewalls	
Module 11	IPS Technologies	Intrusion Prevention
Module 12	IPS Operation and Implementation	
Module 13	Endpoint Security	Layer 2 and Endpoint Security
Module 14	Layer 2 Security Considerations	
Module 15	Cryptographic Services	Cryptography
Module 16	Basic Integrity and Authenticity	
Module 17	Public Key Cryptography	
Module 18	VPNs	VPNs
Module 19	Implement Site-to-Site IPsec VPNs with CLI	
Module 20	Introduction to the ASA	ASA
Module 21	ASA Firewall Configuration	
Module 22	Network Security Testing	

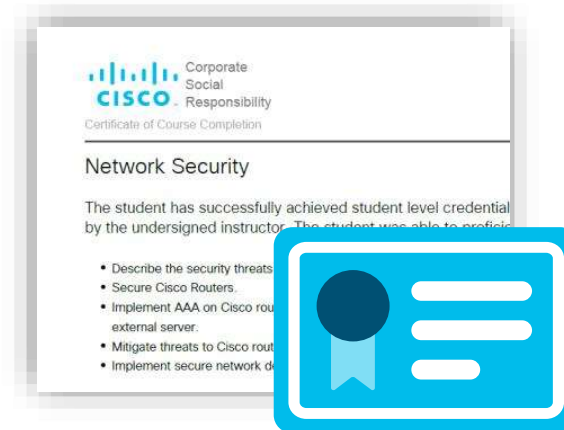


# Achievements



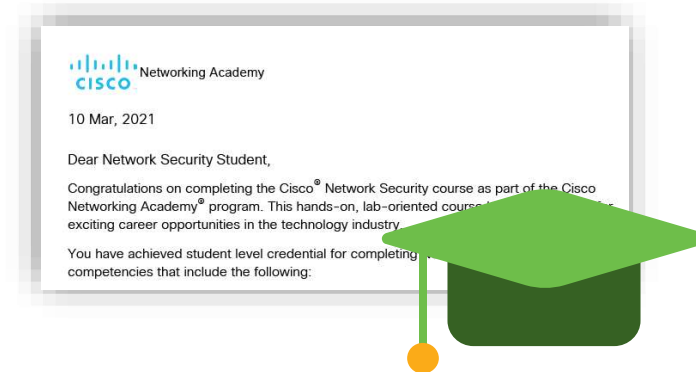
## Digital Badge

- ✓ Verified by Cisco
- ✓ Proudly display on any online platform
- ✓ Demonstrates student skills and enhances their professional brand



## Certificate of Completion

- ✓ Students earn a certificate upon completing the course
- ✓ They can add their coursework to LinkedIn for potential job opportunities



## Letter of Merit

- ✓ Signed by Cisco CEO, Chuck Robbins