Networking Academy
“Mind Wide Open”
Presentation of a Rich Learning Environment

Interactive Online Multi-modal Content
   Navigation & Search
   Activities & Tasks
Simulations & Hands-on Labs
Online Assessments & Tests
   Case Studies
Feedback & Coaching
Self Organisation
   Teamwork
Organisation & Communication
Learning Management System

Yvan Rooseleer – BiASC – MAY 2013
Networking Academy

The growth of computer networks has led to a shortage of people who are qualified to design, build, manage, and secure the infrastructure needed to communicate and do business.

The **growth of computer networks** has led to a shortage of people who are qualified to design, build, manage, and secure the infrastructure needed to communicate and do business.

The Networking Academy program combines **classroom instruction with online curricula, interactive tools, and hands-on activities** – a **blended** learning model.

Networking Academy embraces the latest advances in technology to create a **rich learning environment** and set a standard for using technology in ICT education.

Public-private partnership between Cisco and 10,000 educational institutions in over 160 countries.

Not for profit – self-sustainable
Courses

Provide Employable Skills To Individuals

Alignment With Industry Certifications

Courses & Certifications

Our courses are designed to help students prepare for entry-level career opportunities, continuing education, and globally recognized certifications. Each course is supported by classroom instruction, online assessments, hands-on labs, and interactive learning tools to help students succeed.

<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Description</th>
<th>Certification</th>
</tr>
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<tbody>
<tr>
<td>IT Essentials</td>
<td>IT Essentials covers the fundamentals of computer hardware and software, and advanced concepts such as networking, and the responsibilities of an IT professional.</td>
<td>CompTIA A+</td>
</tr>
<tr>
<td>CCNA Discovery</td>
<td>CCNA Discovery provides an overview of general networking theory and opportunities for practical application, career exploration, and soft-skill development.</td>
<td>Cisco CCENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cisco CCNA</td>
</tr>
<tr>
<td>CCNA Exploration</td>
<td>CCNA Exploration provides a comprehensive overview of foundational to advanced networking concepts, with an emphasis on theory and practical application.</td>
<td>Cisco CCNA</td>
</tr>
<tr>
<td>CCNA Security</td>
<td>CCNA Security introduces the core security concepts and skills needed to install, troubleshoot, and monitor a network to maintain the integrity, confidentiality, and availability of data and devices.</td>
<td>Cisco CCNA Security</td>
</tr>
<tr>
<td>CCNP</td>
<td>CCNP teaches the advanced skills needed to install, configure, monitor, and troubleshoot enterprise-class networks and manage wireless, security, and voice applications.</td>
<td>Cisco CCNP</td>
</tr>
<tr>
<td>Health Information Networking</td>
<td>Health Information Networking helps students prepare for networking careers in the healthcare industry.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Related Resources

CCNA Curriculum Overview – Learn more about CCNA Discovery and CCNA Exploration, view course demos, and use an interactive guide to determine which curriculum is right for you.

Cisco Packet Tracer – This interactive software tool provides network simulation and visualization capabilities and supports collaboration and assessment to help students expand their knowledge of networking concepts.

Industry Certifications

Industry certifications are highly respected by employers around the world and help validate the skills needed to launch successful careers in networking and IT.

To learn about certification exam discounts for qualified students and alumni, log into NetSpace and select Cisco Certifications and Vouchers from the Program menu.

Networking Academy courses are designed to help students prepare for the following certifications and career paths:

<table>
<thead>
<tr>
<th>Certification</th>
<th>Description</th>
<th>Careers</th>
</tr>
</thead>
<tbody>
<tr>
<td>CompTIA A+</td>
<td>The CompTIA A+ certification for computer support technicians demonstrates competence in areas such as installation, preventative maintenance, networking, and troubleshooting.</td>
<td>IT technician</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Field service technician</td>
</tr>
</tbody>
</table>
Course development
Public-private partnership model

1. The content development for courses and assessments is completed primarily by a group of Networking Academy employees together with academy instructors working at universities, colleges, and secondary schools.

2. Content developers are trained by experienced domain specialists.

3. Several academy instructors are engaged to review new content and assessments prior to general release.

4. Mechanisms for instructors are provided to continually submit feedback to the development team.

5. Cisco Networking Academy owns the copyright and is the online publisher of the course materials.
Multi-Modal Content
3 Levels { atomic learning units }

Chapter 8: Mobile Devices

Mobile Operating Systems

Android Touch Interface

Much like a desktop or laptop computer, mobile devices organize icons and widgets on multiple screens for easy access. These are called the home screens. One screen is designated as the main home screen, as shown in Figure 1. Additional home screens are accessed by sliding the main home screen to the left or right. Each home screen contains navigation icons, the main area where icons and widgets are accessed, and notification and system icons. The home screen indicator displays which home screen is currently being used.

Navigation Icons

The Android OS uses the system bar to navigate apps and screens. The system bar is always displayed at the bottom of every screen.

The system bar contains the following buttons, as shown in Figure 2:

- **Back** - Returns focus to the previous screen that was being used. If the on-screen keyboard is displayed, this button closes it. Continuing to press the Back button navigates through each previous screen until the main home screen is displayed.
- **Home** - Returns focus to the last home screen used. If you are viewing a left or right home screen, the Home button opens the main home screen.
- **Recent Apps** - Opens thumbnail images of recently used apps. To open an app, touch its thumbnail. Swipe a thumbnail to remove it from the list.
- **Menu** - Shows additional options for the current screen if available

Google search
Mathematically, a hash function $H$ is a process that takes an input $x$ and returns a fixed-size string, which is called the hash value $h$. The formula for the calculation is $h = H(x)$.

A cryptographic hash function should have the following properties:

- The input can be any length.
- The output has a fixed length.
- $H(x)$ is relatively easy to compute for any given $x$.
- $H(x)$ is one way and not reversible.
- $H(x)$ is collision free, meaning that two different input values will result in different hash values.

If a hash function is hard to invert, it is considered a one-way hash. Hard to invert means that given a hash value of $h$, it is computationally infeasible to find some input $x$, such that $H(x) = h$.
IPsec Framework

- **IPsec Protocol**
  - AH
  - ESP
  - ESP + AH

- **Confidentiality**
  - DES
  - 3DES
  - AES
  - SEAL

- **Integrity**
  - MD5
  - SHA

- **Authentication**
  - PSK
  - RSA

- **Diffie-Hellman**
  - DH1
  - DH2
  - DH5
  - DH...

- **Choices**

- **Click through the buttons for summary information.**

---

- IPsec is a framework of open standards that establishes the rules for secure communications.

- IPsec relies on existing algorithms to achieve encryption, authentication, and key exchange.

- IPsec can encapsulate a packet using either Authentication Header (AH) or the more secure Encapsulating Security Payload (ESP).

- IPsec uses the Internet Key Exchange (IKE) protocol to establish the key exchange process.
Interactive Online Curriculum
Multi-Modal Content

VIDEO

VLAN Status down
- Problem: you have configured a VLAN but the status is down

Possible reasons
- The VLAN interface hasn’t been issued the “no shutdown” command
- No physical interface has been assigned to a specific VLAN
- You are on a Layer 2 switch that can have only one VLAN Interface active and you have configured more than one

Solutions:
- Issue the no shutdown command
- Assign a physical port to the VLAN
- Decide on the VLAN you want to use for management

CCNA Routing & Switching
CCNA v5.0

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Technical Manager
Europe North & South, Europe Central
Cisco Networking Academy
Interactive Online Curriculum
Multi-Modal Content
NAVIGATION

Course Index

Course Menu
Course Tour

0 Course Introduction
1 Introduction to Routing and Packet Forwarding
2 Static Routing
3 Introduction to Dynamic Routing Protocols
4 Distance Vector Routing Protocols
5 RIP version 1
6 VLSM and CIDR
7 RIPv2
8 The Routing Table: A Closer Look
9 EIGRP
10 Link-State Routing Protocols
11 OSPF

Outline
Activities
Labs

11 OSPF
11.0 Chapter Introduction
   11.0.1 Chapter Introduction
       Page 1
11.1 Introduction to OSPF
   11.1.1 Background of OSPF
       Page 1
   11.1.2 OSPF Message Encapsulation
       Page 1
   11.1.3 OSPF Packet Types
       Page 1
   11.1.4 Hello Protocol
       Page 1
       Page 2
   11.1.5 OSPF Link-state Updates
       Page 1
Interactive Online Curriculum
Multi-Modal Content
SEARCH

Search

OSPF

1 Introduction to Routing and Packet Forwarding
  1.1 Inside the Router
    1.1.3 Internetwork Operating System
      Page 1
  1.3 Building the Routing Table
    1.3.4 Dynamic Routing
      Page 1
  1.4 Path Determination and Switching Functions
    1.4.2 Best Path and Metric
      Page 1
3 Introduction to Dynamic Routing Protocols
  3.1 Introduction and Advantages
    3.1.1 Perspective and Background
      Page 1
  3.2 Classifying Dynamic Routing Protocols
    3.2.1 Overview
Interactive Online Curriculum Matching

Chapter 4: Overview of Preventive Maintenance

Troubleshooting Process

Troubleshooting Process Steps

- Ask direct questions to gather information.
- Do not use industry jargon.
- Do not talk down to the customer.
- Do not insult the customer.
- Do not accuse the customer of causing the problem.

By communicating effectively, you can elicit the most relevant information about the problem from the customer. Figure 1 lists some of the important information to gather from the customer.

Open-Ended and Closed-Ended Questions

Open-ended questions allow customers to explain the details of the problem in their own words. Use open-ended questions to obtain general information.

Based on the information from the customer, you can proceed with closed-ended questions. Closed-ended questions generally require a yes or no answer. These questions are intended to get the most relevant information in the shortest time possible. Figure 2 is an activity designed to test your understanding of open and closed-ended questions.
A user on a LAN network wants to access a web page stored on a server that is located on a remote network. The user starts by activating a link on a web page.

A client requests data from a server.
Interactive Online Curriculum
Step-by-Step activities

8 Implementing Virtual Private Networks
8.5 Implementing Site-to-Site IPsec VPNs with CCP

8.5.1 Configuring IPsec Using CCP

In addition to configuring IPsec VPNs via CLI, it is possible to configure them using a CCP wizard.

To select and start a VPN wizard, follow these steps:

Step 1. Click Configure in the main toolbar.
Step 2. Click the Security folder and then click the VPN subfolder.
Step 3. Choose a wizard from the VPN list.
Step 4. Click the VPN implementation subtype.
Step 5. Click the Launch the selected task button to start the wizard.

Wizards for VPNs include type of VPNs and sub-components.

VPN implementation subtypes vary based on VPN wizard chosen.
Interactive Online Curriculum
Step-by-Step activities

8 Implementing Virtual Private Networks
8.5 Implementing Site-to-Site IPsec VPNs with CCP

8.5.3 VPN Wizard – Step by Step Setup

The Step by Step wizard requires multiple steps to configure the VPN connection and includes the following parameters:

- Connection settings, including outside interface, peer identity, and authentication credentials
- IKE proposals, such as priority, encryption, the Hashed Message Authentication Code (HMAC) algorithm, IKE authentication method, Diffie-Hellman (DH) group, and IKE lifetime
- IPsec transform set information, including name, Integrity algorithm, encryption algorithm, mode of operation (tunnel or transport), and compression
- Traffic to protect by identifying the single source and destination subnets or defining an ACL to use for more complex VPNs

The first task in the Step by Step wizard is to configure the connection settings.

Step 1. Choose the outside interface to connect to the IPsec peer over the untrusted network.

Step 2. Specify the IP address of the peer.

Step 3. Choose the authentication method and specify the credentials. Use long, random PSKs to prevent brute-force and dictionary attacks against IKE.

Step 4. Click Next.
## Hands-On Labs

### 11.6 OSPF Configuration Labs

#### 11.6.1 Basic OSPF Configuration Lab

Use this Packet Tracer Activity to repeat a simulation of Lab 11.6.1. Remember, however, that Packet Tracer is not a substitute for a hands-on lab experience with real equipment.

A summary of the instructions is provided within the activity. Use the Lab PDF for more details.

Clicking the Packet Tracer icon will launch Scenario A. All scenarios for this simulation of the hands-on lab can be launched from the links below.

**Scenario A**

**Scenario B**

#### 11.6.2 Challenge OSPF Configuration Lab

In this lab activity, you will be given a network address that must be subnetted using VLSM to complete the addressing of the network shown in the Topology Diagram. A combination of OSPF routing and static routing will be required so that hosts on networks that are not directly connected will be able to communicate with each other. OSPF area ID of 0 and process ID of 1 will be used in all OSPF configurations.

**Hands-on Lab:**

**Challenge OSPF Configuration Lab**

---

**Hands-on Lab:**

**OSPF Troubleshooting Lab**

---
Lab 11.6.1: Basic OSPF Configuration Lab

Learning Objectives

Upon completion of this lab, you will be able to:

- Cable a network according to the Topology Diagram
- Erase the startup configuration and reload a router to the default state
- Perform basic configuration tasks on a router
- Configure and activate interfaces
- Configure OSPF routing on all routers
- Configure OSPF router IDs
- Verify OSPF routing using show commands
- Configure a static default route
- Propagate default route to OSPF neighbors
- Configure OSPF Hello and Dead Timers
- Configure OSPF on a Multi-access network
- Configure OSPF priority
- Understand the OSPF election process
- Document the OSPF configuration

Scenarios

In this lab activity, there are two separate scenarios. In the first scenario, you will learn how to configure the routing protocol OSPF using the network shown in the Topology Diagram in Scenario A. The segments of the network have been subnetted using VLSM. OSPF is a classless routing protocol that can be used to provide subnet mask information in the routing updates. This will allow VLSM subnet information to be propagated throughout the network.

Addressing Table

<table>
<thead>
<tr>
<th>Device</th>
<th>Interface</th>
<th>IP Address</th>
<th>Subnet Mask</th>
<th>Default Gateway</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Fa0/0</td>
<td>172.16.1.17</td>
<td>255.255.255.240</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>S0/0/0</td>
<td>192.168.10.1</td>
<td>255.255.255.252</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>S0/0/1</td>
<td>192.168.10.5</td>
<td>255.255.255.252</td>
<td>N/A</td>
</tr>
<tr>
<td>R2</td>
<td>Fa0/0</td>
<td>10.10.10.1</td>
<td>255.255.255.255</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>S0/0/0</td>
<td>192.168.10.2</td>
<td>255.255.255.252</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>S0/0/1</td>
<td>192.168.10.9</td>
<td>255.255.255.252</td>
<td>N/A</td>
</tr>
<tr>
<td>R3</td>
<td>Fa0/0</td>
<td>172.16.1.33</td>
<td>255.255.255.248</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>S0/0/0</td>
<td>192.168.10.6</td>
<td>255.255.255.252</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>S0/0/1</td>
<td>192.168.10.10</td>
<td>255.255.255.252</td>
<td>N/A</td>
</tr>
<tr>
<td>PC1</td>
<td>NIC</td>
<td>172.16.1.20</td>
<td>255.255.255.240</td>
<td>172.16.1.17</td>
</tr>
<tr>
<td>PC2</td>
<td>NIC</td>
<td>10.10.10.10</td>
<td>255.255.255.0</td>
<td>10.10.10.1</td>
</tr>
<tr>
<td>PC3</td>
<td>NIC</td>
<td>172.16.1.36</td>
<td>255.255.255.248</td>
<td>172.16.1.33</td>
</tr>
</tbody>
</table>
Simulations
Packet Tracer Tool

Assessment of problem solving using simulations

Network Design
Prototyping
Configuration
Troubleshooting

Also used for
Skills-Based Assessment

Computer-based assessments immerse students in simulated environments that mirror the complexity of the real world.

Students’ varied and creative approaches to complex tasks presented in these simulated environments can be recorded and analyzed in detail.
Software can capture a digital record of learners’ responses to complex prompts, and then integrate that data to provide personalized feedback for both formative (practice and support to help students master critical concepts and skills) and summative (reflection of students’ overall progress in acquiring knowledge and skills) purposes.
Coherent Methodological Approach

2 Gathering Network Requirements
2.1 Introducing Cisco Lifecycle Services

2.1.3 The Network Lifecycle Plan Phase

The Plan Phase

During the Plan Phase, the network designer performs a comprehensive site and operations assessment. This assessment evaluates the current network, operations, and network management infrastructure.

The Network and Company staff identify all physical, environmental, and electrical modifications. They assess the ability of the current operations and network management infrastructure to support the new technology solution. All changes to infrastructure, personnel, processes, and tools must be completed before the implementation of the new technology solution.

Custom applications that add to the feature and functionality requirements for the new network are also identified in this phase. The Network and Company staff creates a document that contains all of the design requirements.

The Project Plan

In this phase, the Network and Company staff and stadium management create a plan to help manage the project. The project plan includes:

- Tasks
- Timelines and critical milestones
- Risks and constraints
- Responsibilities
- Resources required

2 Gathering Network Requirements
2.1 Introducing Cisco Lifecycle Services

2.1.4 The Network Lifecycle Design Phase

The Design Phase

In the Design Phase, the Network and Company staff use the initial requirements determined during the Plan Phase to define the design.

The design requirements document supports the specifications identified in the Prepare and Plan phases for:

- Availability
- Functionality
- Scalability
- Reusability

The design must be flexible enough to allow for changes or additions as new goals or needs emerge. The designs must integrate describe the current operations and network management infrastructure.

Planning the implementation

At the end of the Design Phase, the network designer creates plans that guide the installation and ensure that the end result is what the customer requested. Plans include:

- Configuring and testing connectivity
- Implementing the proposed systems
- Demonstrating the functionality of the network
- Deploying network applications
- Validating network operations
- Training, conversion, and support plans

During the Design Phase of the project network upgrade, the design of the network is completed. The new equipment and technologies are specified and included. A report of the proposed design confirms that the business goals are met. A final proposal is generated with the implementation of the network upgrade.
Troubleshooting Methodology

Bottom-Up - Bottom-up troubleshooting is an effective and efficient approach for suspected physical problems

Top-Down - This approach starts with the assumption that the problem is with the application and not the network infrastructure.

Divide-and-Conquer - The divide-and-conquer approach is generally used by more experienced network technicians.

Polonius:
[Aside] Though this be madness, yet there is method in't.
Shakespeare, Hamlet Act 2, scene 2, 206
Online Assessments

Formative and summative assessments are offered to enhance the learning process by providing multiple types of feedback, from immediate and focused evaluations of learning progress in a chapter to broad overviews at the end of a course.

In some cases, assessment activities are provided solely to help students review their progress. Other assessments allow students to practice for hands-on summative course exams and industry certification exams.
Online Assessments

Range of assessments

1) chapter quizzes, interactive tasks, and simulations embedded throughout the curricula
2) skills review exams, chapter and final exams, practice final exams
3) practice certification exams

Refer to the exhibit. An administrator has configured a standard ACL on R1 and applied it to interface serial 0/0/0 in the outbound direction. What happens to traffic leaving interface serial 0/0/0 that does not match the configured ACL statements?

- The resulting action is determined by the destination IP address.
- The resulting action is determined by the destination IP address and port number.
- The source IP address is checked and, if a match is not found, traffic is routed out interface serial 0/0/1.
- The traffic is dropped.

<table>
<thead>
<tr>
<th>Observable</th>
<th>Description</th>
<th>Max Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>correctness of response</td>
<td>2 points for Option 4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0 points for any other option</td>
<td></td>
</tr>
</tbody>
</table>

This item references content from the following areas:

CCNA Security: Implementing Network Security
- 4.1.1 Configuring Standard and Extended IP ACLs with CLI
Refer to the exhibit. A network technician enters the static route in R1 needed to reach network 10.1.1.0/24. A ping from R1 to Host B fails. The technician begins testing the network and has the following results:

1. pings from R1 to the S0/0/0 interface on R2...successful
2. pings from R1 to the Fa0/0 interface on R2...successful
3. pings from Host B to hosts on the 10.1.1.0/24 network...successful
4. pings from Host B to the Fa0/0 interface on R2...successful
5. pings from R2 to Host B...successful

What is the likely cause of the failure of the ping from R1 to Host B?

- Host B has a defective Ethernet card.
- The default gateway on Host B is not correctly set.
- There is a Layer 2 problem between R2 and Host B.
- R2 does not have routes back to networks connected to R1.

A Class C address has been assigned for use in the network shown in the graphic. Using VLSM, which bit mask should be used to provide for the number of host addresses required on Router A, while wasting the fewest addresses?

<table>
<thead>
<tr>
<th>Observable</th>
<th>Description</th>
<th>Max Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>correctness of response</td>
<td>2 points for Option 5 0 points for any other option</td>
<td>2</td>
</tr>
</tbody>
</table>

This item references content from the following areas:

- CCNA Exploration: Routing Protocols and Concepts
- 6.4.1 Basic VLSM Calculation and Addressing Design Activity
Full Assessment Circle

Every course module has 10 parts (chapters)
online multimodal content - in print 600 p.

Every chapter has the following assessment opportunities
Interactive activities (self-assessment): matching, sequencing
Research tasks (with instructor feedback), Hands-on labs (with instructor feedback), Informal chapter quizzes (self-assessment), Informal chapter test (MC, MA), Formal chapter test

Every module has the following assessments
Informal practice final test
Formal final test (MC, MA)
Skills-Based Assessment (SBA with simulation tool Packet Tracer)
Skills Test (with real networking equipment)
Case Study (requirements analysis, network design, written proposal prototype, oral presentation & discussion)
A cloud-based, multilingual assessment infrastructure provides immediate, rich feedback; enabling students to monitor their progress and learn from their mistakes, while generating automated data to help teachers evaluate students’ knowledge and skills.

Results help instructors address individual learning needs in a timely manner and help course designers improve the effectiveness of the curricula.
LMS & Communication
LMS & Communication

NAB03 Security 1213

International Networking Academy HUB Brussels

NAB03 CCNA Security: Implementing Network Security v1.1

Launch Course

Before launching course see Getting Ready.
Communication & Communities

NEW Cisco NetSpace Webinars
Don't miss the opportunity to learn more about NetSpace, see live demos, and get your questions answered by the NetAcad team. Our new Inside Cisco NetSpace webinar series will focus on one key topic per 30 minute session.

Welcome to Club Net Acad, a space for you to discuss the new home experience, meet new neighbors and visit interesting places. Collaborate and innovate with fellow educators on technology direction, Academy Evolution, classroom quality and other locally relevant topics. The collective intelligence of club members will make a difference in the success of fellowship instructors, administrators and ultimately our students.

Club NetAcad Community Activities

<table>
<thead>
<tr>
<th>Posted on</th>
<th>Title</th>
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<tbody>
<tr>
<td>5/9/13 11:17AM</td>
<td>Weź udział w konkursie dla Instruktorsów Nagrody czekają! Poland discussion area</td>
</tr>
<tr>
<td>5/7/13 12:09PM</td>
<td>NetAcad Contact Değişimi Nasıl Yapılır? BGH</td>
</tr>
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Communication & Communities
Course Organization
Choose Your Own Path

Which context is more meaningful to your students?
- Everyday Experiences
- Business Applications

Which approach is more appropriate for your students?
- OSI Bottom Up
- OSI Top Down

Which instructional flow is the best fit for you and your students?
- Teaching Routing & Switching Technologies together
- Multiple certifications

OR
- Teaching Routing & Switching Technologies separately
- Traditional Instructional Flow
Choose your own path

<table>
<thead>
<tr>
<th>Feature</th>
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<tr>
<td>Instructional flexibility</td>
<td>Flexibility to support diverse learning and teaching styles and take advantage of NetSpace capabilities to add your own content</td>
</tr>
<tr>
<td>Exam validity and security</td>
<td>Use of Packet Tracer Skills Assessments isomorphs to discourage cheating and more performance-based assessments, for richer and earlier feedback in the learning process</td>
</tr>
<tr>
<td>Support for mobile devices</td>
<td>Access content on any mobile device for text and most graphics</td>
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Interactive Online **Multi-modal Content**

- Navigation & Search - Activities & Tasks
- Simulations & Hands-on Labs - Online Assessments & Tests
- Case Studies - Feedback & Coaching - Self Organisation
- Teamwork - Organisation & Communication
- Learning Management System **(New)**
### Courses & Certifications

Our courses are designed to help students prepare for entry-level career opportunities, continuing education, and globally recognized certifications. Each course is supported by classroom instruction, online assessments, hands-on labs, and interactive learning tools to help students succeed.

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<td>CCNA Exploration</td>
<td>CCNA Exploration provides a comprehensive overview of foundational to advanced networking concepts, with an emphasis on theory and practical application.</td>
<td>Cisco CCNA</td>
</tr>
<tr>
<td>CCNA Security</td>
<td>CCNA Security introduces the core security concepts and skills needed to install, troubleshoot, and monitor a network to maintain the integrity, confidentiality, and availability of data and devices.</td>
<td>Cisco CCNA Security</td>
</tr>
<tr>
<td>CCNP</td>
<td>CCNP teaches the advanced skills needed to install, configure, monitor, and troubleshoot enterprise-sized networks and manage wireless, security, and voice applications.</td>
<td>Cisco CCNP</td>
</tr>
<tr>
<td>Health Information Networking</td>
<td>Health Information Networking helps students prepare for networking careers in the healthcare industry.</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Related Resources**

- **CCNA Curricula Overview** – Learn more about CCNA Discovery and CCNA Exploration, view course demos, and use an interactive guide to determine which curriculum is right for you.

- **Cisco Packet Tracer** – This interactive software tool provides network simulation and visualization capabilities and supports collaboration and assessment to help students expand their knowledge of networking concepts.

**Industry Certifications**

Industry certifications are highly respected by employers around the world and help validate the skills needed to launch successful careers in networking and ICT.

To learn about certification exam discounts for qualified students and alumni, log into NetSpace and select Cisco Certifications and Vouchers from the Program menu.

Networking Academy courses are designed to help students prepare for the following certifications and career paths:

<table>
<thead>
<tr>
<th>Certification</th>
<th>Description</th>
<th>Careers</th>
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</thead>
<tbody>
<tr>
<td>CompTIA A+</td>
<td>The CompTIA A+ certification for computer support technicians demonstrates competence in areas such as installation, preventative maintenance, networking, security, and troubleshooting.</td>
<td>IT technician, IT administrator, Field service technician</td>
</tr>
</tbody>
</table>