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# The Learning Experience @ Cisco Networking Academy

September 2017

# **Digitale Versnelling Nederland**



# **Digitale Versnelling NL**

"Cisco's Country Digitization Acceleration Strategy is a long-term partnership with national leadership, industry & academia. By accelerating the national digitization agenda, the country will grow GDP, create new jobs and provide innovation and education across public & private sectors."







Studiegroep Informatiesamenleving en Overheid

# Prioriteiten & Focus

- Flexibel
- Focus
- Impact
- Relevantie
- 4 Jaar Horizon

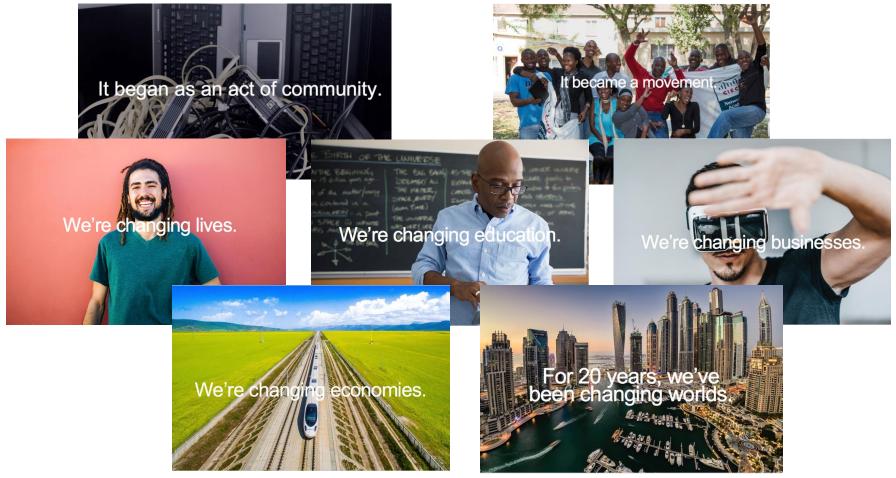


# **CISCO NETWORKING ACADEMY.** 20 Years of Changing Worlds.

#### Since it's founding 20 years ago, Cisco Networking Academy has had a world-changing impact.

On the lives and career prospects of its students. On the Cisco employees, educators and academies who support it. On the businesses who hire and promote our students. On the local communities and economies they drive with their innovations and ambition. On the world at large.





# The Skills-to-Jobs Learning Experience

#### What Students Learn

- Networking
- Security and Cybersecurity
- IoT
- Programming
- · Linux and General IT

#### How Students Learn

- · Learning by doing
- Problem-solving
- Project-based learning
- Initiative and leadership
- Real-world experiences

#### How Students Think

- Customer-centric mindset
- Critical thinking
- · Personal and social responsibility
- Business context



Courses in 20+ Languages

Hands-On

Flexible Delivery

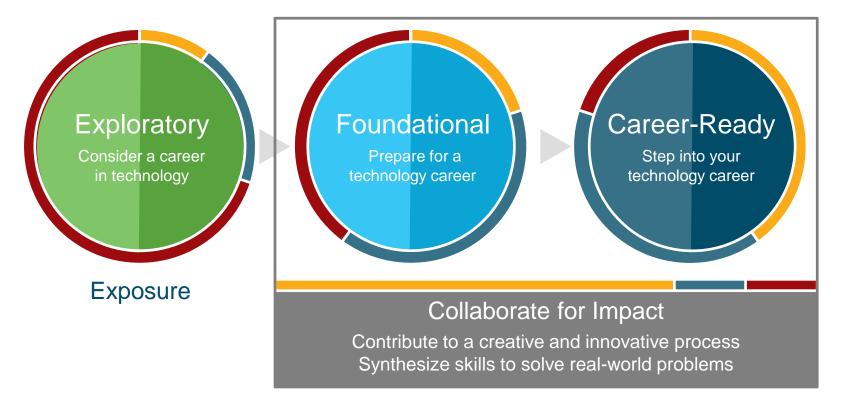
Supports Personalized Instruction

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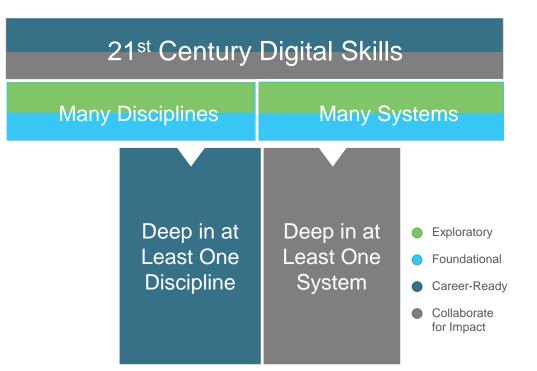
Hackathons



### **Our Portfolio Builds Interest and Competency**



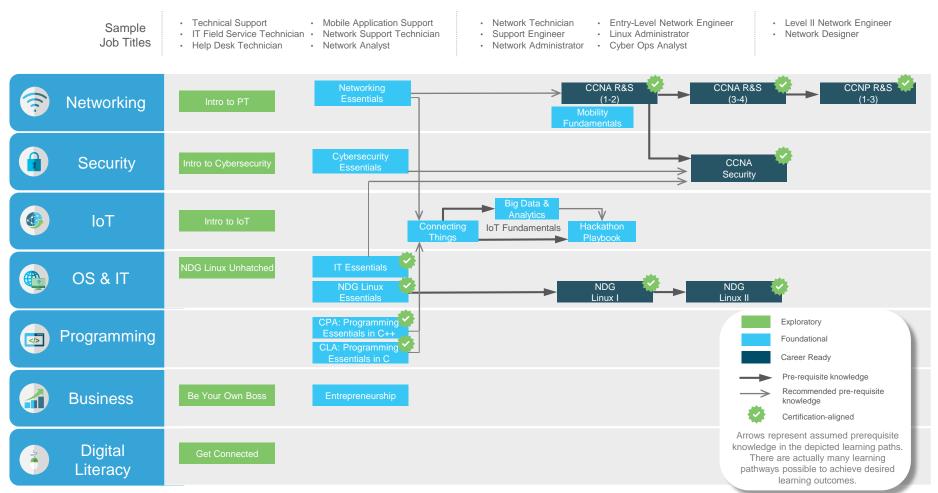
The Networking Academy Learning Portfolio Approach



### The Networking Academy Learning Portfolio Current & Planned

		Collaborate for Impact	
Aligns to Certification	* Available within 12 months	☆ Introduction to Packet Packet Tracer Tracer Hackathons	Prototyping Lab NetRiders Internships
🔆 Self-paced	Exploratory	Foundational	Career-Ready
Retworking		<ul> <li>✔ Networking Essentials</li> <li>★ Mobility Fundamentals</li> </ul>	<ul> <li>CCNA R&amp;S: Introduction to Networks, R&amp;S Essentials, Scaling Networks, Connecting Networks</li> <li>CCNP R&amp;S: Switch, Route, TShoot Emerging Tech Workshop: Network Programmability*</li> </ul>
Security	🔨 Introduction to Cybersecurity	Cybersecurity Essentials IoT Security*	å∕ ⊚ CCNA Security å∕ ⊗ CCNA Cyber Ops*
🚯 loT	💉 Introduction to IoT	IoT Fundamentals: ▲ Connecting Things, Big Data & Analytics Hackathon Playbook	
🚳 OS & IT	🔨 NDG Linux Unhatched	<ul> <li>NDG Linux Essentials</li> <li>IT Essentials</li> </ul>	<ul> <li>NDG Linux I</li> <li>NDG Linux II</li> </ul>
Programming		<ul> <li>CLA: Programming Essentials in C</li> <li>CPA: Programming Essentials in C++ PCA: Programming Essentials in Python* Emerging Tech Workshop: Collaboration / Spark API*</li> </ul>	<ul> <li>CLP: Advanced Programming in C*</li> <li>CPP: Advanced Programming in C++*</li> </ul>
Business	📌 Be Your Own Boss	🔆 Entrepreneurship	
Digital Literacy	🔆 Get Connected		





# **Networking Professional**

As major industries migrate their infrastructure to take full advantage of IoT, the role and skills required of a networking professional are evolving and more vital than ever because the network connects everything.

Sample Titles: Networking Technician, Network Analyst, Network Administrator, Network Engineer

#### Typical Workplace

- Office
- Customer site
- Home

#### Company Size and Type

- Medium to large enterprises
- Network service providers
- Tech support centers

#### Personality Type

- Problem-solver
- Always learning
- Like working with others

#### Strengths

 Strong balance of technical, teamwork and communication skills

#### **Education Level**

2-year college to 4-year college

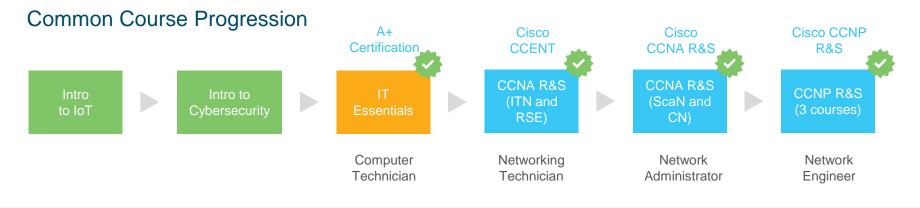
#### Certifications

CCENT, CCNA R&S, CCNP R&S



#### Learn more at: <u>NetAcad.com</u> <u>NetAcad Group LinkedIn</u> <u>NetAcadAdvantage</u>

# **Networking Professional**



#### **Complementary Learning Activities**

#### Expand Your Knowledge

- Networking Essentials (possible alternate to IT Essentials)
- Cybersecurity Essentials
- NDG Linux Essentials
- CPA: Programming Essentials in C++
- Career and Networking Technology Webinars



- IoT Fundamentals
- Connecting Things
- Big Data and Analytics
- Hackathon Playbook

#### Collaborate for Impact

- <u>Cisco NetRiders Competition</u>
- Cisco Prototyping Lab
- <u>NetAcad Advantage</u>Hackathons

• Internships

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# **Security Professional**

As more people and things are connected to the network, security professionals are in high demand to develop and implement security infrastructure, recognize threats and vulnerabilities to networks, and mitigate security threats.

Sample Titles: Security Administrator, Security Engineer, Cyber Operations Specialist

#### **Typical Workplace**

Office working in teams

#### Company Size and Type

- Enterprise
- Service Provider (Medium Business if also have CCNA R&S cert)

#### Personality Type

- Creative investigator
- Always learning
- Likes working with others

#### Strengths

 Strong balance of technical, teamwork and communication skills

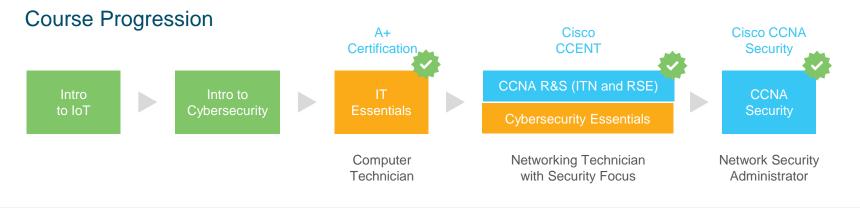
#### **Education Level**

- 2-year college to 4-year college
- Certifications
- CCNA Security



Learn more at: <u>NetAcad.com</u> <u>NetAcad Group LinkedIn</u> <u>NetAcadAdvantage</u>

# **Network Security Administrator**



#### **Complementary Learning Activities**

#### Expand Your Knowledge

- Networking Essentials (possible alternate to IT Essentials)
- CPA: Programming Essentials in C++
- NDG Linux Essentials
- Networking and Security Technology Webinars

IoT Fundamentals

- Connecting Things\*
- Big Data and Analytics\*
- Hackathon Playbook\*

CCNA R&S: (CCNA R&S Certification)

- Scaling Networks
- Connecting Networks

#### Collaborate for Impact

- <u>Cisco NetRiders Competition</u>
- Cisco Prototyping Lab
- NetAcad Advantage
- Hackathons

Internships



# Exploratory



*"Exploring the world by discovering the Internet of Everything"* 

# CISCO

# Introduction to IoT

#### Course Overview

The Introduction to IoT (Internet of Things) course introduces learners to the technologies that support IoT, and the career and social opportunities created by the growing number of networked connections between people, processes, data, and things.

#### **Benefits**

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For students seeking an overview of trends, technologies, and career opportunities in the Internet of Things.

#### Learning Components

- · 5 modules of interactive content featuring IoT experts
- Activities, videos, and simulations to enhance the learning experience
- · Pre-test, module quizzes, and a final exam

#### Features

Target Audience: General audience Prerequisites: None

Instructor Training Required: No

Languages: Arabic, Chinese-S, Chinese-T, English, French, German, Hebrew, Italian, Japanese, Korean, Portuguese-BR, Russian, Spanish

Course Delivery: Instructor-led or Self-paced

Estimated Time to Complete: 20 hours

**Recommended Next Course**: IT Essentials or IoT Fundamentals: Connecting Things

### Introduction to Cybersecurity

#### **Course Overview**

The Introduction to Cybersecurity course explores cyber trends, threats and staying safe in cyberspace, and protecting personal and company data.

#### **Benefits**

Learn how to protect your personal data and privacy online and in social media, and why more and more IT jobs require cybersecurity awareness and understanding.

#### Learning Components

- 5 modules
- · Interactive and instructional content
- · 8 Activities and 7 lab exercises that reinforce learning
- · 4 quizzes and 1 final exam
- · Links to related resources

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#### Features

**Target Audience**: Secondary and 2-Year college students, general audience

Prerequisites: None

#### Instructor Training Required: No

Languages: Chinese-S, English, French, German, Hebrew, Italian, Japanese, Spanish

Course Delivery: Instructor-led or Self-paced

Estimated Time to Complete: 15 hours

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# **Get Connected**

#### **Course Overview**

Get Connected students are introduced to the Internet and experiment with various social networking sites. Talking characters and devices make this course a user-friendly environment for an audience new to IT.

#### **Benefits**

Get Connected teaches basic communication and collaboration technologies, essential skills for career advancement in today's global workforce.

#### Learning Components

- 5 chapters
- · Illustrations and narrations guide students through topics
- · Videos and activities
- Quizzes

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#### Features

Target Audience: Secondary and general audience new to IT Prerequisites: None

#### Instructor Training Required: No

Languages: Chinese-S, Chinese-T, English, French, German, Hindi, Italian, Portuguese-BR, Spanish Course Delivery: Instructor-led or Self-paced

Course Derivery. Instructor-led or Sen-pac

Estimated Time to Complete: 30 hours

Recommended Next Course: IT Essentials

### Packet Tracer Know How

#### **Course Overview**

The Packet Tracer Know How series is designed for new users of Packet Tracer for self-study and familiarization with the tool used in many Networking Academy courses. Packet Tracer courses are available for the desktop and for mobile (Android and iOS).

#### **Benefits**

The Packet Tracer Know How series introduces tips and best practices to help instructors and students use Cisco Packet Tracer as an effective and engaging learning and assessment tool.

#### Learning Components

· Files and demos

- Video Recordings
- Hands-on learning activity
- Quiz

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Target Audience: General audience Prerequisites: None Instructor Training Required: No Languages: English, French Course Delivery: Instructor-led or Self-paced

Estimated Time to Complete: 1 hour

# Be Your Own Boss

#### **Course Overview**

The Be Your Own Boss or Technopreneur series provides the guidelines, insights, and advice needed to launch successful tech ventures.

The series features video presentations by entrepreneurs from around the world who share lessons learned along their journeys to success.

#### Benefits

Technology students interested in developing the entrepreneurial skills and habits needed to launch and grow a successful technology business.

#### Learning Components

8 modules

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- Technopreneurs sharing personal success stories in video format
- Quizzes and surveys
   for each module





#### Features

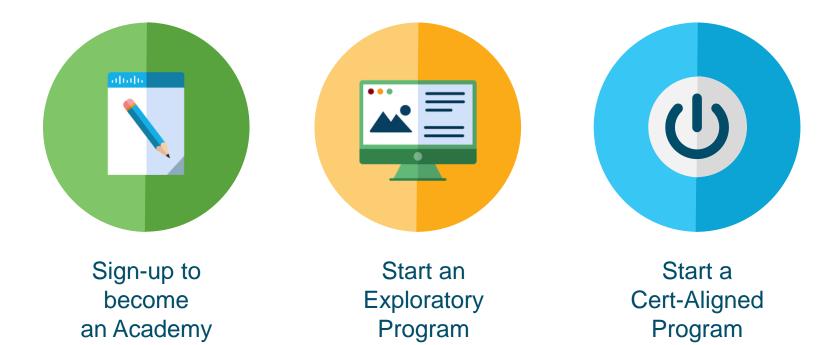
Target Audience: General audience Prerequisites: None Instructor Training Required: No Languages: English Course Delivery: Instructor-led or Self-paced Estimated Time to Complete: 8 hours Recommended Next Course: Entrepreneurship



"If I didn't have an opportunity for a business challenge with a positive impact for society... I wouldn't be here today."

Chuck Robbins CEO, Cisco

## What Can You Do Next?



Education is the passport to the Future, for tomorrow belongs to those who prepare for it today"

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# Foundational



## **IT Essentials**

#### **Course Overview**

IT Essentials covers fundamental computer and career skills for entry-level IT jobs. Students apply skills and procedures to install, configure, and troubleshoot computers, mobile devices, and software.

#### **Benefits**

For students seeking career-oriented, entry-level hardware and software skills to prepare for technical support roles, this course aligns with the CompTIA A+ certification.

This course also serves as a foundation for CCNA-level courses.

#### Learning Components

• 14 chapters

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- 99 hands-on labs and 29 interactive activities
- Cisco Packet Tracer, virtual laptop, and virtual desktop learning tools

 14 chapter exams, 1 checkpoint exam, 1 skills review exam, 1 practice final exam, 1 final exam, 1 skills-based assessment, and 2 practice exams for CompTIA A+ certification



#### Features

Target Audience: Secondary and 2-year college vocational students Prerequisites: None

Instructor Training Required: Yes

Languages: Arabic, Chinese-S, Chinese-T, Croatian, English, French, German, Georgian, Hebrew, Hungarian, Italian, Japanese, Polish, Portuguese-BR, Romanian, Russian, Spanish, Turkish, Ukrainian

Course Delivery: Instructor-led

Estimated Time to Complete: 70 hours

Recommended Next Course: CCNA R&S Introduction to Networks

# **Networking Essentials**

#### **Course Overview**

Networking Essentials teaches networking based on environments students may encounter in their daily lives including small office and home office (SOHO) networking. This course provides hands-on learning using real equipment and Packet Tracer simulation activities.

#### **Benefits**

This course teaches the skills needed to obtain entry-level SOHO network installer jobs. It also helps students develop some of the skills needed to become network technicians, cable installers, and help desk technicians.

Networking Essentials prepares students for continuing with the CCNA R&S curriculum. Students studying other non-IT fields would also find this course a useful introduction to IT and networking.

#### Learning Components

- 9 chapters
- · 21 hands-on labs
- 17 Cisco Packet Tracer files
- 1 hands on skill assessment
- 9 chapter exams, 1 checkpoint exam, 1 practice final exam, 1 final exam



#### Features

Target Audience: Secondary and 2-year college vocational students, college and university students studying non-IT fields **Prerequisites**: None

#### Instructor Training Required: Yes

Languages: Arabic, Chinese-S, English, French, German, Portuguese-BR, Russian, Spanish

Course Delivery: Instructor-led

Estimated Time to Complete: 70 hours

**Recommended Next Course**: CCNA R&S Introduction to Networks, Introduction to IoT

### Cybersecurity Essentials

#### **Course Overview**

Cybersecurity Essentials covers foundational knowledge and essential skills for all cybersecurity domains including information security, systems security, network security, ethics and laws, and defense and mitigation techniques used in protecting businesses.

#### **Benefits**

This course is recommended for students planning to study any CCNA certification. It provides foundational security skills for entry-level networking and security roles.

#### Learning Components

- 8 chapters
- 34 interactive activities, 10 Cisco Packet Tracer Activities, 12 hands-on labs that reinforce learning
- 8 chapter quizzes, 1 final exam
- · Links to related resources



#### Features

Target Audience: Secondary and 2-year college vocational students Prerequisites: Introduction to Cybersecurity Instructor Training Required: No Languages: Chinese-S, English, French, German, Spanish Course Delivery: Instructor-led and Self-paced Estimated Time to Complete: 30 hours Recommended Next Course: CCNA R&S Introduction to Networks

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# **NDG Linux Essentials**

#### **Course Overview**

The NDG Linux Essentials course, developed by Networking Academy partner NDG, teaches the fundamentals of the Linux operating system and command line and open source concepts.

The Linux virtual machine is embedded in the course; allowing students to experiment with Linux commands.

#### **Benefits**

Learn Linux OS, open source programming, and IoE skills to expand IT knowledge beyond networking. Aligns with the Linux Professional Institute (LPI) Linux Essentials Professional Development Certificate.

#### Learning Components

· 16 chapters

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- Built-in virtual machine to experiment with Linux commands
- 13 lab exercises
- · Learner-directed activities
- Chapter exams, mid-term, and final exam

# NDG

Network Development Group www.netdevgroup.com October 1, 2014

Linux Essentials Course

Overview

Certifica Align

#### Features

Target Audience: Secondary and 2-year college students Prerequisites: None Instructor Training Required: No Languages: English Course Delivery: Instructor-led or Self-paced Estimated Time to Complete: 70 hours Recommended Next Course: CCNA R&S Introduction to Networks

# CPA: Programming Essentials in C++

#### **Course Overview**

Prepares student to accomplish coding tasks related to the basics of programming in the C++ language and the fundamental notions and techniques used in object-oriented programming.

#### **Benefits**

Builds the skills you need for entry-level programming career opportunities and to succeed in jobs related to software development, network engineering and system administration. Aligns with CPA – C++ Certified Associate Programmer Certification

#### Learning Components

- 8 modules of interactive instructional content
- More than 100 practice labs
- · Chapter and Final exams

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Target Audience: Secondary, 2-year and 4-year college students Prerequisites: None Instructor Training Required: No Languages: English Course Delivery: Instructor-led Estimated Time to Complete: 70 hours Recommended Next Course: IoT Fundamentals, CCNA R&S, NDG Linux Essentials

# CLA: Programming Essentials in C

#### **Course Overview**

The CLA: Programming Essentials in C curriculum is designed for students who want to learn the fundamentals of programming through the C language.

#### **Benefits**

Learn the universal concepts of computer programming, as well as the syntax, semantics and data types of the C language needed for for entry-level programming career opportunities. Aligns with CLA – C Programming Language Certified Associate Certification.

#### Learning Components

- · 9 modules of interactive instructional content
- More than 80 practice labs
- Chapter and Final exams



#### Features

Target Audience: Secondary, 2-year and 4-year college students Prerequisites: None Instructor Training Required: No Languages: English Course Delivery: Instructor-led Estimated Time to Complete: 70 hours Recommended Next Course: IoT Fundamentals, CCNA R&S, NDG Linux Essentials

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## IoT Fundamentals: Connecting Things

#### **Course Overview**

In Connecting Things, students learn how to securely interconnect sensors, actuators, microcontrollers, single-board computers, and cloud services over IP networks to create an end-to-end IoT system.

#### Benefits

Students will develop the interdisciplinary skillsets required to prototype an IoT solution for a specific business case with a strong focus on the security considerations for emerging technologies.

#### Learning Components

- Understand and explain the concepts, opportunities and challenges of digital transformation using IoT.
- Interconnect sensors/actuators, microcontrollers (Arduino), Single Board Computers (Raspberry Pi) and cloud services (Cisco Spark restful API) to create an end-toend IoT system.
- Understand the relevant aspects of cybersecurity and privacy for an IoT solution.
- Understand how digitalization is changing vertical markets such as manufacturing, energy, and smart cars.
  - Use simulation tools (Packet Tracer) to create end-to-end IoT system.



#### Features

Target Audience: Secondary, Vocational, 2-year and 4-year College, 4-Year University students

Prerequisites: Basic programming, networking and electronics

Instructor Training Required: Yes

Languages: English

Course Delivery: Instructor-led

Estimated Time to Complete: 40-50 hours

Recommended Next Course: IoT Fundamentals: Big Data & Analytics or Hackathon Playbook

## IoT Fundamentals: Big Data & Analytics

#### **Course Overview**

Students will learn how to use Python data libraries to create a pipeline to acquire, transform and visualize data collected from IoT sensors and machines.

#### Benefits

The transformative element of any IoT system is the data that can be collected from it. Thus the ability to extract data and using data analytics techniques to gain insights increases employability.

#### Learning Components

- Use Python to read data from sensors and store data in a SQL data base.
- Use Python Data Analysis library to clean, manipulate, integrate data sets.
- Use Python Visualization Libraries to visualize real-time data end explore acquired data sets.

- Explain the fundamental principles of a modern scalable Big Data platforms like Hadoop.
- Use storytelling to present the insights gained from extracted data.

#### **Features**

Target Audience: 2-year and 4-year College, 4-Year University students Prerequisites: IoT Fundamentals: Connecting Things Instructor Training Required: Yes Languages: English Course Delivery: Instructor-led Estimated Time to Complete: 40-50 hours Recommended Next Course: IoT Fundamentals: Hackathon Playbook

### IoT Fundamentals: Hackathon Playbook

#### **Course Overview**

The Hackathon Playbook is a comprehensive framework of tools and templates to prepare and run a Hackathon as a result of best practices and lessons-learned collected from the global execution of IoT Hackathons within Networking Academy and by other organizers.

#### Benefits

Student reinforce and deepen their multidisciplinary IoT and data skills by defining, designing, prototyping and presenting an IoT solution to a panel of industry experts and peers.

#### Learning Components

- Inspiration: understand, select and present the problem to be solved to recruit fellow partners.
- Ideation: invent a concept that doesn't already exist to solve a social issue. Learn how to present the solution to experts who will mentor students.
- Prototyping: create a prototyping action plan, including objects and visuals to illustrate their plan and will

help an expert understand the concept and prototyping needs.

- Testing: present the concept and validate the prototype with a second expert, including user experience and enhancements.
- Presentation: present the solution and demo the prototypes to an expert panel.



#### Features

Target Audience: Secondary, Vocational, 2-year and 4-year College, 4-Year University students

Prerequisites: IoT Fundamentals: Connecting Things and/or Big Data and Analytics

- Instructor Training Required: No
- Languages: English
- Course Delivery: Instructor-led
- Estimated Time to Complete: 20-30 hours
- Recommended Next Course: any Career-Ready offering from Cisco or an industry IoT training program

# **Mobility Fundamentals**

## **Course Overview**

Starting with Wireless Technology Standards, the Mobility Fundamentals series teaches students about wireless and mobility technologies in the Digital Transformation Age.

Topics covered in these instructor-developed courses include wireless LAN design and mobility applications.

### Benefits

Builds foundational wireless and mobility technology career skills for current IT Essentials or CCNA R&S students interested in expanding their skills.

### Learning Components

- Six modules of multimedia content
- Video recordings featuring Networking Academy instructors
- · Activities that reinforce

learning, including Cisco Packet Tracer activities

- Assessments, including module quizzes
- Certificates of completion for each module



#### Features

Target Audience: Secondary, 2-year and 4-year college students
Prerequisites: CCENT knowledge
Instructor Training Required: No
Languages: English
Course Delivery: Instructor-led or Self-paced
Estimated Time to Complete: 1.5 hours per module, total 9 hours
Complementary Courses: CCNA R&S Introduction to Networks, CCNA R&S Routing and Switching Essentials

# Entrepreneurship

#### Course Overview

Entrepreneurship supplements the IT skills gained in CCNA R&S curriculum by teaching business and financial skills, behaviors, and attitudes, to help students develop an entrepreneurial mindset.

Students learn by completing a series of interactive case studies.

#### **Benefits**

Students seeking to supplement IT expertise with entrepreneurial thinking, business development, and financial management skills.

#### Learning Components

- 7 modules
- Modules feature interactive case studies and videos that reinforce business management skills
- Quizzes for each module
- Discussion board



#### Features

Target Audience: General audience Prerequisites: None, recommend CCNA R&S RSE for labs Instructor Training Required: No

Languages: Arabic, Chinese-S, Chinese-T, English, French, Hebrew, Italian, Portuguese-BR and Spanish

Course Delivery: Instructor-led or Self-paced

Estimated Time to Complete: 15 hours

Complementary Course: Be Your Own Boss

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# Career-Ready



# **CCNA Routing and Switching Curriculum**

## **Curriculum Overview**

The 4 courses in the CCNA R&S curriculum help students develop a comprehensive understanding of how networks operate, from protocols and services to network management, with an emphasis on hands-on learning and essential career skills like problem solving and collaboration.

#### Career Prep

Courses 1-2 align with the Cisco CCENT certification and courses 3-4 align with the Cisco CCNA R&S certification. Students gain the skills needed to become network administrators, technicians, or managers.

#### Learning Components

- 4 courses: Introduction to Networks, Routing and Switching Essentials, Scaling Networks, Connecting Networks
- Hands-on labs and Cisco Packet Tracer network simulation activities
- · Videos and activities to reinforce learning
- Quizzes and exams to measure learning outcomes



#### Features



Target Audience: Students interested in pursuing an IT-related career Prerequisites: None, vocational students often take IT Essentials or equivalent knowledge prior to CCNA R&S Languages: Arabic, Chinese-S, English, French, Japanese, Portuguese-BR, Russian, Spanish (courses 1 and 2 also available in German, Hungarian, and Turkish; course 1 available in Romanian) Course Delivery: Instructor-led Estimated Time to Complete: 280 hours Recommended Next Course: CCNA Security or CCNP R&S

# CCNA R&S: Introduction to Networks

### **Course Overview**

The first course in the Cisco CCNA Routing and Switching curriculum teaches students about the architecture, structure, functions and components of the Internet and other computer networks.

Students achieve a basic understanding of how networks operate.

#### **Benefits**

By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP

#### Learning Components

- 11 chapters
- 36 hands-on labs and 1 hands-on skills assessment
- Pre-test, 11 chapter quizzes, 1 sectional

quizzes, 11 chapter exams, and 1 final exam

 2 Cisco Packet Tracer skills-based assessments



#### Features

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

Prerequisites: None

Instructor Training Required: Yes

Languages: Arabic, Chinese-S, Chinese-T, Croatian, English, French, German, Hungarian, Japanese, Polish, Portuguese-BR, Romanian, Russian, Spanish, Turkish

Course Delivery: Instructor-led

Estimated Time to Complete: 70 hours

**Recommended Next Course**: CCNA R&S Routing and Switching Essentials

# CCNA R&S: Routing and Switching Essentials

### **Course Overview**

The second course in the CCNA Routing and Switching curriculum describes the architecture, components, and operations of routers and switches in a small network.

Students learn how to configure a router and a switch for basic functionality

#### **Benefits**

Students are ready to prepare for CCENT certification, skilled to apply for entry-level network technician jobs and able to move on to advanced certifications.

### Learning Components

- 10 chapters
- 29 hands-on labs and 1 hands-on skills assessment
- Pre-test, 10 chapter quizzes, 10 chapter exams, and 1 final exam
- 2 Cisco Packet Tracer skillsbased assessments

#### Features

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering Prerequisites: CCNA R&S: Introduction to Networks

Certification

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#### Instructor Training Required: Yes

**Languages**: Arabic, Chinese-S, Chinese-T, Croatian, English, French, German, Hungarian, Japanese, Polish, Portuguese-BR, Russian, Spanish, Turkish

Course Delivery: Instructor-led

Estimated Time to Complete: 70 hours

Recommended Next Course: CCNA R&S Scaling Networks or CCNA Security

# CCNA R&S: Scaling Networks

### **Course Overview**

The third course in the CCNA Routing and Switching curriculum describes the architecture, components, and operations of routers and switches in large, complex networks.

#### **Benefits**

Students learn how to configure and troubleshoot routers and switches for advanced functionality and resolve common issues with protocols in both IPv4 and IPv6 networks.

#### Learning Components

· 11 chapters

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- 33 hands-on labs and 1 hands-on skills assessment
- Pre-test, 11 chapter quizzes, 2 sectional quizzes, 11 chapter exams, and 1 final exam
- 2 Cisco Packet Tracer skills-based assessments



Features

Target Audience: 2-year and 4-year college students in Networking or Engineering programs Prerequisites: None Instructor Training Required: Yes Languages: Arabic, Chinese-S, English, French, Hungarian, Japanese, Portuguese-BR, Russian, Spanish Course Delivery: Instructor-led Estimated Time to Complete: 70 hours Recommended Next Course: CCNA R&S Connecting Networks

Certification

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# CCNA R&S: Connecting Networks

### **Course Overview**

The fourth and final course in the CCNA Routing and Switching curriculum covers the WAN technologies and network services employed by converged applications in a complex network

#### Benefits

By the end of the course, students learn how to configure and troubleshoot network devices and implement virtual private networks and are ready to prepare for the CCNA R&S certification.

### Learning Components

- 9 chapters
- 12 hands-on labs and 1 hands-on skills assessment
- Pre-test, 9 chapter quizzes, 2 sectional quizzes, 9 chapter exams, and 1 final exam
- 2 Cisco Packet Tracer skills-based assessments



Target Audience: 2-year and 4-year college students in Networking or Engineering Prerequisites: CCNA R&S: Scaling Networks Instructor Training Required: Yes Languages: Arabic, Chinese-S, English, French, Japanese, Polish, Portuguese-BR, Russian, Spanish Course Delivery: Instructor-led Estimated Time to Complete: 70 hours Recommended Next Course: CCNA Security or CCNP R&S ROUTE

# **CCNP** Routing and Switching Curriculum

## **Curriculum Overview**

The three CCNP Routing and Switching courses provide a comprehensive overview of enterprise-level networking concepts, including advanced routing, switching, and troubleshooting.

The curriculum integrates industryrelevant instructional approaches to help students prepare for career opportunities.

#### Career Prep

College students seeking hands-on practical experience, Cisco CCNP R&S certification, and career skills in advanced routing, switching, and troubleshooting.

#### Learning Components

- 3 courses: CCNP R&S ROUTE: Implementing IP Routing, CCNP R&S SWITCH: Implementing IP Switched Networks, and CCNP R&S TSHOOT: Troubleshooting and Maintaining IP Networks
- · Hands-on labs
- Cisco Press textbooks
- · Chapter exams and final exams

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#### Features

Target Audience: 4-year college students in Networking or Engineering programs Prerequisites: CCNA R&S courses 1-4 Instructor Training Required: Yes Languages: English Course Delivery: Instructor-led, textbook-based Estimated Time to Complete: 210 hours



# **CCNA Security**

## **Course Overview**

CCNA Security introduces the core security concepts and skills needed to troubleshoot and monitor computer networks and help ensure the integrity of devices and data.

It emphasizes the practical application of the skills needed to design, implement, and manage network security systems.

#### **Benefits**

CCNA R&S students interested building security and data protection expertise for the Cisco CCNA Security career certification and jobs as network security specialists.

#### Learning Components

- 11 chapters, quizzes, and chapter exams
- 16 hands-on labs
- 13 Cisco Packet Tracer activities and one Packet Tracer Practice Skills Based Assessment (SBA)
- One each: pre-test, certification practice exam, practice final, final exam and skills-based assessment



#### **Features**

Target Audience: 2-year and 4-year college students in Networking or Engineering programs Prerequisites: CCNA R&S: ITN and RSE (CCENT) Instructor Training Required: Yes Languages: English Course Delivery: Instructor-led Estimated Time to Complete: 70 hours Recommended Next Course: CCNP R&S ROUTE

# NDG Linux

#### **Curriculum Overview**

The NDG Linux curriculum, developed by Networking Academy partner NDG, is a 2-course series for aspiring Linux system administrators.

Students develop proficiency in performing maintenance tasks on the command line, installing and configuring a computer running Linux, and configuring basic networking, using virtual machines running Linux.

#### Career Prep

NDG Linux curriculum prepares you for careers in cloud computing, cybersecurity, information systems, networking, programming, software development, big data, and more.

Aligned with two certifications: Linux Professional Institute LPIC-1 Certification and CompTIA Linux+ powered by LPI Certification.

### Learning Components

- 2 semester -long courses: NDG Linux I, NDG Linux II
- · More rigorous than Linux Essentials
- Built-in virtual machine to experiment with Linux commands
- · Hands-on labs and activities
- · Chapter, midterm and final exams

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#### Features

Target Audience: 2-year and 4-year college students Prerequisites: None, but NDG Linux Essentials or equivalent knowledge recommended Instructor Training Required: No Languages: English Course Delivery: Instructor-led and Self-paced Fee: \$39.95 US per learner, per course Estimated Time to Complete: 140 hours



# Collaborate for Impact

# **Packet Tracer**

### **Curriculum Overview**

Packet Tracer is an innovative simulation and visualization tool used for lectures, labs, games, homework, assessments, and competitions. It is embedded in these courses:

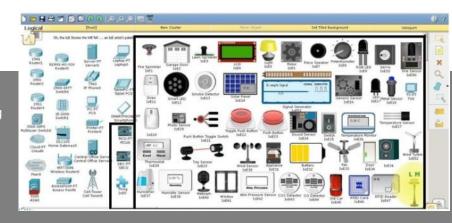
- CCNA Routing
   and Switching
- CCNA Security
- IT Essentials
- Intro to the Internet of Things
- Mobility Fundamentals

#### Career Prep

The Packet Tracer simulation-based learning environment promotes the development of essential career skills ranging from teamwork and critical thinking to creative problem solving.

# Learning Components

- Cisco Packet Tracer (PT)
- PT Mobile Android
- PT Mobile iOS
- PT Games



#### Features



As an integral part of the Networking Academy learning experience, Packet Tracer provides

- Simulation
- Visualization
- Authoring
- Assessment
- Collaboration capabilities and facilitates the teaching and learning of complex technology concepts.

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