



Cisco Networking Academy  
Mind Wide Open

# Das Cisco Networking Academy Programm in Deutschland

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# Agenda

- 1 Das Programm Cisco Networking Academy im Überblick
- 2 Wertschöpfung wird “digital” – ein neuer Bildungsauftrag?
- 3 Das Kursangebot
- 4 Stellen wir uns der Herausforderung!
- 5 Backup: Kursdetails

# Vorstellung Cisco Networking Academy Program

# Die Erfinder des Internets



TCP/IP	OSI Model	Protocols
Application Layer	Application Layer	DNS, DHCP, FTP, HTTPS, IMAP, LDAP, NTP, POP3, RTP, RTSP, SSH, SIP, SMTP, SNMP, Telnet, TFTP
	Presentation Layer	JPEG, MIDI, MPEG, PICT, TIFF
	Session Layer	NetBIOS, NFS, PAP, SCP, SQL, ZIP
Transport Layer	Transport Layer	TCP, UDP
Internet Layer	Network Layer	ICMP, IGMP, IPsec, IPv4, IPv6, IPX, RIP
Link Layer	Data Link Layer	ARP, ATM, CDP, FDDI, Frame Relay, HDLC, MPLS, PPP, STP, Token Ring
	Physical Layer	Bluetooth, Ethernet, DSL, ISDN, 802.11 Wi-Fi

# Cisco – im Überblick

**Firmengründung 1984**

**Sitz San José, USA**

**Mitarbeiter: 71.500**

**Umsatz: 49,2 Mrd. \$**

## **Produktbereiche**

- Netzwerk-Hardware und -Management
- Security
- WLAN und VoIP
- VoIP
- Tele Presence



## Das Cisco Networking Academy Programm ...

- ist ein weltweites **Ausbildungsprogramm**
- besteht aus einer **cloud-basierte Lernplattform**
- unterstützt **Blended Learning**
- nutzbar mit **allen internetfähigen Endgeräten**, auch mobil
- lehrt **allgemeine IT- und berufliche Kompetenzen**
- organisiert über **Public-Private-Partnerships**
- ist für non-profit-Bildungseinrichtungen **kostenfrei**



# NetAcad-Überblick



Cisco Networking Academy  
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## Das Cisco Networking Academy Programm ...

- ist ein weltweites **Ausbildungsprogramm** im Bereich Netzwerktechnologie
- und besteht aus einer cloud-basierte **Lernplattform**: Multimediale E-Learning Einheiten, Simulationssoftware, Kommunikationswerkzeuge, Lernspiele
- unterstützt mit der Lernplattform Blended Learning
- ist auf allen mobilen Endgeräten verfügbar
- lehrt berufliche Kompetenzen
- bereitet auf Industriezertifizierungen vor
- ist im Rahmen von Public-Private-Partnerships zusammen mit Schulen, Berufsschulen und Hochschulen organisiert



# The World's Largest Classroom

Networking Academy Impact Since 1997

COUNTRIES WORLDWIDE

165

INSTRUCTORS WORLDWIDE

20,000

STUDENTS WORLDWIDE

4.2 Million +

ONLINE EXAMS TAKEN

100 Million +

ACADEMIES WORLDWIDE

10,000

LANGUAGES

19

STUDENTS IN CLASSES BY NOW

> 1 Million



# Networking Academy Program in Deutschland

A world map with a blue background. The landmasses are colored in various shades of yellow, green, and blue. Germany is highlighted in a bright red color. A semi-transparent blue rounded rectangle is overlaid on the map, containing white text.

**~35.000 Teilnehmerinnen und Teilnehmer pro Jahr**  
**~ 800 aktive Instruktoren/innen**  
**~ 450 Academies**  
**seit Einführung 1998 ca. 210.000 Teilnehmer/innen**

# Statistik Deutschland

Stand Dezember 2016

- **211.338** Students haben eine NetAcad besucht, davon **18.418** Frauen
- **127.374** haben einen Grad erreicht
- **26.869** haben Cisco Certification Ready abgeschlossen

d.h. aktuell sind im Programm in Deutschland ...

- Students in Kursen gesamt: **32.692 (Class Participants)**
- weibliche Students: **2.468**
- Instructors: **790** aktiv
- Acadmies: **449** aktiv

# Cisco Networking Academy: Wertschöpfung wird “digital” – ein neuer Bildungsauftrag?



# Einflussfaktor 1: Industrie 4.0 - Beispiel Barilla

In each pasta pack there is a long journey. The supply chain is explained with producers identity card in order to provide a full traceability from farm to fork.

**Field**  
This is where the quality of the supply chain starts.

**Durum wheat selection**  
From the farmer to the selection of durum wheat.

**Mill**  
The durum wheat is transformed into quality semolina at Pedrignano mill.

**Packaging and storage**  
The pasta packaging is made by virgin fibre cardboard, sustainable sourced and completely recyclable.

**Pasta factory**  
From semolina to Farfalle. The pasta processing takes place at Pedrignano plant. The only two raw material used for pasta production are semolina and water.

**Delivery and point of sales**  
The package is designed to maximize the logistic saturation, in order to optimize the storage and shipping, reducing the number of transport.

**Table**  
Pasta cooking indications are provided on packaging.

# Welche Kompetenzen brauchen Fachkräfte in der “digitalen Werschöpfungskette”?

1. Hardwarekenntnisse und –kompetenzen Verbindung mit
2. Sensoren und Aktoren – Einbindung von IPV4 und IPV6-Netzgeräten
3. Schnittstellen und (sichere) Verbindungen von Operational Technology (OT) und Informationstechnik (IT), insbesondere TCP/IP
4. Cloudbasierter Umgang mit erhobenen Messdaten (“Big Data”), einschließlich Software-Programmierung (“Algorithmen”)
5. Verständnis von der Entwicklung von technisch-basierten Lösungen
6. Verständnis von datenbasierten Geschäftsprozessen (vom Messdatensatz bis zum Kunden)

Kurz: Das Zusammenspiel von Daten, Prozessen, Geräten (Things) u. Menschen

# Thesen

- **Es gibt keine nicht-IT-Berufe mehr!**

- **Anforderung** an Schulen, die berufliche Bildung, Hochschulen und in der beruflichen **Weiterbildung** wächst, IT basiertes Orientierungs- und Überblickswissen zu vermitteln - Berufliche Handlungskompetenz braucht die Fähigkeit, Zusammenhänge zwischen analoger und digitaler Welt herstellen zu können!
- Aufgrund der **Geschwindigkeit**, mit der Wertschöpfungsketten „digital“ werden, ist eine rasche Reaktion der Bildungsverantwortlichen notwendig, insbesondere für Menschen außerhalb des Arbeitsmarketes
- Betriebe können kaum ausreichend **Ressourcen** in die Ausbildung digitaler Kompetenzen investieren. Meist ist die Industrie 4.0 Produktionstechnik in der Wertschöpfung gebunden

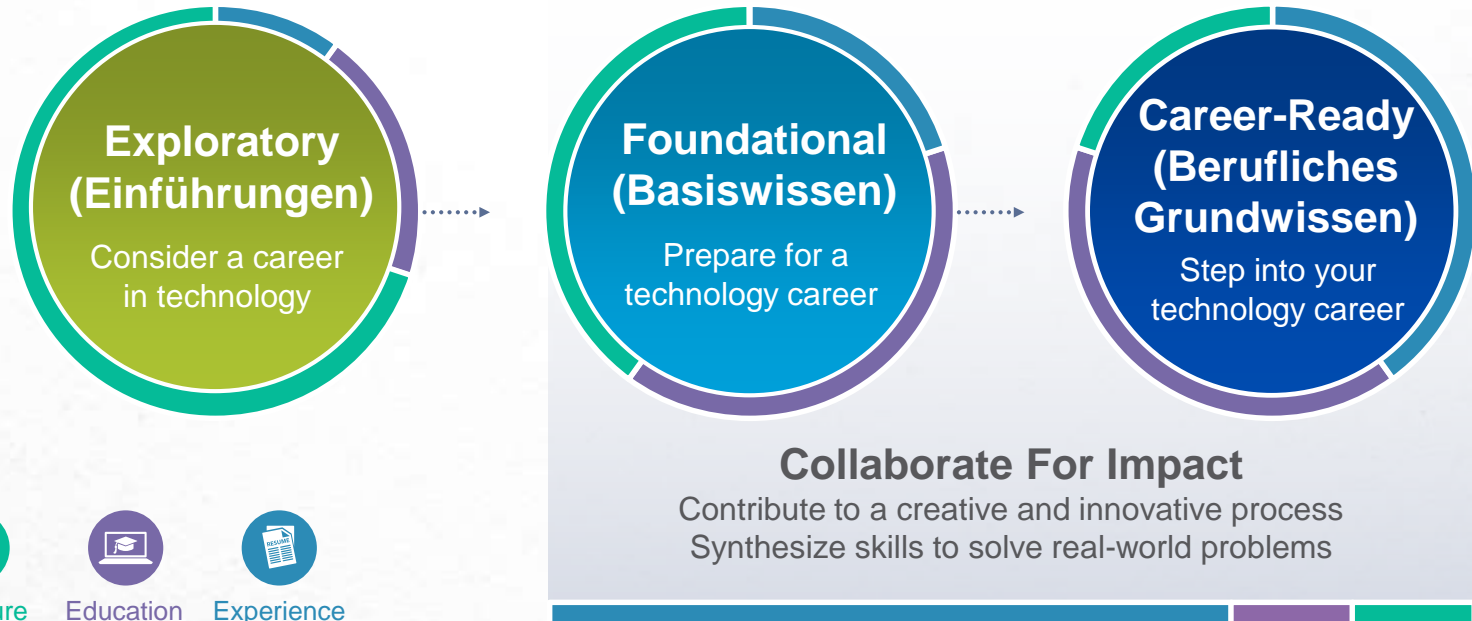
## Lösungsansätze:

- **Praxisorientierte Lernmaterialien** auf digitalen Plattformen können Hochschulen, Betriebe und Berufsschulen unterstützen, Kompetenzlücken zu schließen
- **Neue Lehr- und Lernformen** sollten Schüler/innen in gemischten Gruppen aus IT- und non-IT Berufen zusammen lernen und Digitalisierung erleben lassen – Lernszenario Hackathon

# Das Kursangebot



# Our Portfolio Builds **Interest and Competency**



Exposure



Education



Experience



# Cisco Networking Academy **Learning Portfolio**

## **Exploratory** *Consider a Career in Technology*

- Introduction to IoT
- Introduction to Cybersecurity
- Get Connected

- Tutorials:**
- Packet Tracer Know How
  - **Linux Unhatched**

- Series:**
- Be Your Own Boss
  - Career & Technical Webinars

**Skills to Solve Real-World Problems**

## **Foundational** *Prepare for a Technology Career*

- IT Essentials
- NDG Linux Essentials
- Cybersecurity Essentials\*
- Networking Essentials\*

- **CPA: Programming Essentials in C++**
- **Mobility Fundamentals**
- **Entrepreneurship**

- IoT Fundamentals:**
- Connecting Things\*
  - Big Data and Analytics\*
  - Hackathon Playbook\*

**Collaborate for Impact**  
*Synthesize your skills*

## **Career-Ready** *Step into Your Technology Career*

**CCNA Routing & Switching:**

- Introduction to Networks
- Routing & Switching Essentials
- Scaling Networks
- Connecting Networks

**CCNP Routing & Switching:**

- ROUTE
- SWITCH
- TSHOOT

**CCNA Security  
CCNA Cyber Ops\*\***

**NDG Linux:**

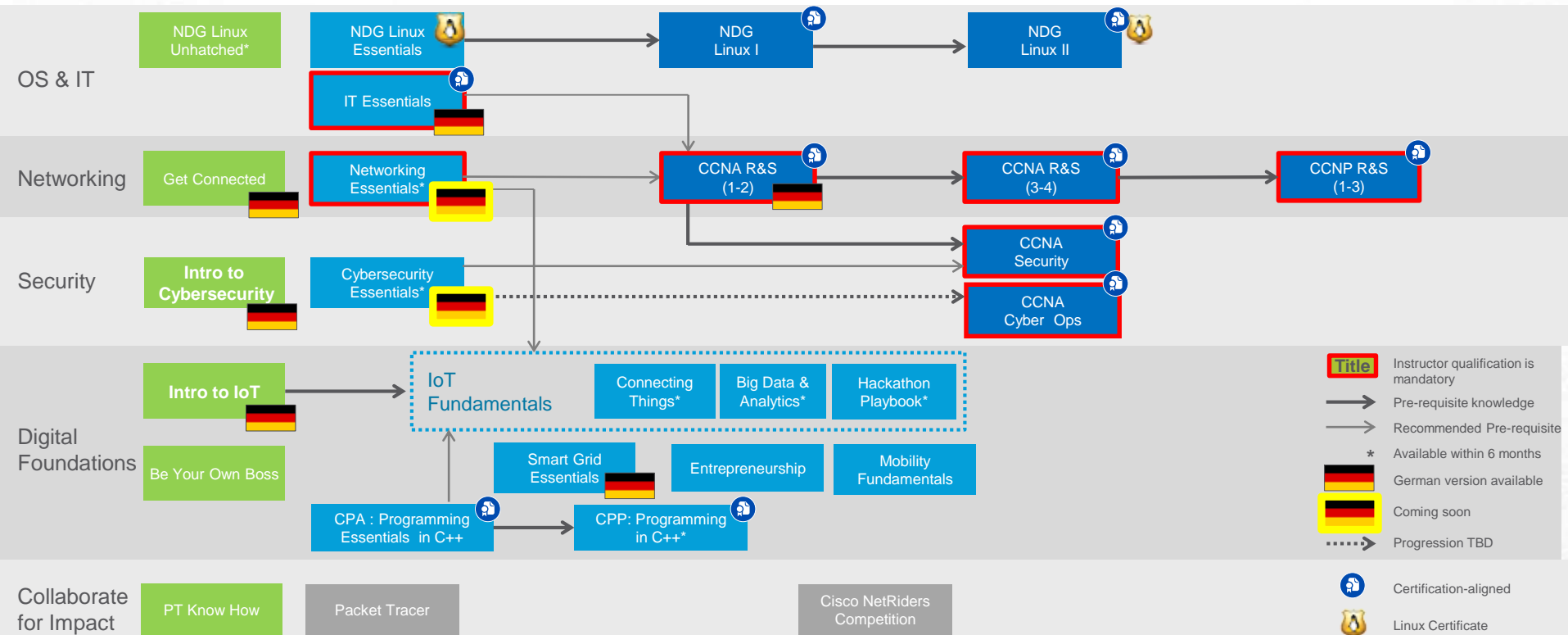
- Linux I
- Linux II

- Packet Tracer
- Cisco NetRiders Competition
- Internships
- Regional IT Competitions
- Regional Hackathons

# Cisco Networking Academy Portfolio, Januar 2017

Sample Job Titles

- Technical Support
- IT Field Service Technician
- Help Desk Technician
- Mobile Application Support
- Network Support Technician
- Network Analyst
- Network Technician
- Support Engineer
- Network Administrator
- Entry-Level Network Engineer
- Linux Administrator
- Cyber Ops Analyst
- Level II Network Engineer
- Network Designer
- Security, Voice or Wireless Engineer



# Finale: Cisco Networking Academy



# Teilnahmebedingungen konkret

- Organisation gründet eine Cisco Networking Academy
- Voraussetzung – non-profit Unterricht für Menschen in der beruflichen Erstausbildung, arbeitsmarktbenachteiligte oder Flüchtlinge (Förderungen durch z.B. Arbeitsagentur, JobCenter oder BAMF)
- Zugriff auf die Lernplattform und auf das Lernmaterial ist kostenfrei
- Cisco Networking Academy muss einem Academy Support Center angeschlossen sein; z.B. Dr. Eckert Akademie (ASC und ITC)
- Für Zertifikatskurse IT-Essentials, Network Essentials und CCNA, CCNAS CCNP müssen Instruktorenqualifizierungen einmalig, personenbezogen bei einem Instructor Training Center (ITC) absolviert werden. Kosten richten sich nach Anbieter
- Akademiegründung kann sofort gestartet werden:  
[https://www.netacad.com/en/web/guest/become-academy?p\\_p\\_id=salesforcelead\\_WAR\\_salesforceleadportlet&p\\_p\\_lifecycle=0&p\\_p\\_state=maximized&p\\_p\\_mode=view](https://www.netacad.com/en/web/guest/become-academy?p_p_id=salesforcelead_WAR_salesforceleadportlet&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view),
- alle Kurse ohne Instruktorenqualifizierung können sofort unterrichtet werden!

Thank you.



Cisco Networking Academy  
Mind Wide Open

# Course Details: Exploratory

# 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

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

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

## 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

**Languages:** Arabic, Chinese-S, Chinese-T, English, French, German, 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 CCNA R&S Introduction to Networks

# 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



## Features

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

**Prerequisites:** None

**Languages:** Chinese-S, English

**Course Delivery:** Instructor -led or Self-paced

**Estimated Time to Complete:** 15 hours

**Recommended Next Course:** Cybersecurity Essentials, releasing Fall 2016



# 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



## Features

**Target Audience:** Secondary and general audience new to IT

**Prerequisites:** None

**Languages:** English, French, German, Italian, Portuguese-BR, Spanish, Chinese-Simplified

**Course Delivery:** Instructor -led or Self-paced

**Estimated Time to Complete:** 30 hours

**Recommended Next Course:** IT Essentials

# Packet Tracer Know How Series

## Course Overview

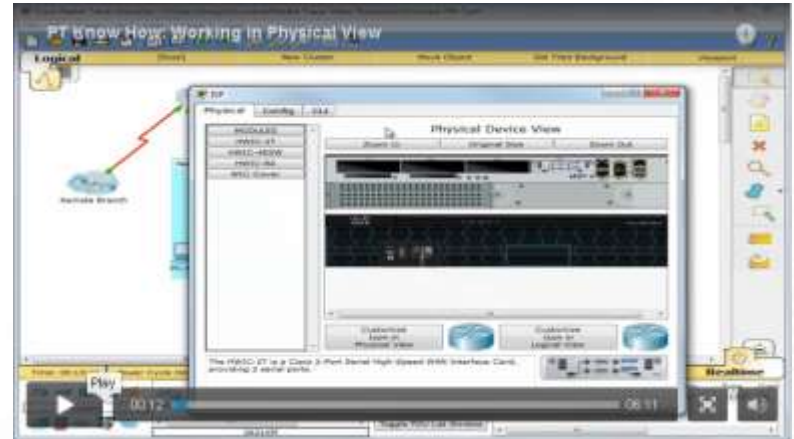
The Packet Tracer Know How Series is designed for new users of Packet Tracer for self-study and familiarization with the tool used in many Networking Academy courses. Packet Tracer courses are available for the desktop and for mobile. (Android and iOS).

## 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
- Hands-on learning activity
- Video Recordings
- Quiz



## Features

**Target Audience:** General audience

**Prerequisites:** None

**Languages:** English, French

**Course Delivery:** Instructor -led or Self-paced

**Estimated Time to Complete:** 1 hour

# Be Your Own Boss Series

## Course Overview

The Be Your Own Boss 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
- Technopreneurs sharing personal success stories in video format
- Quizzes and surveys for each module



## Features

**Target Audience:** General audience

**Prerequisites:** None

**Languages:** English

**Course Delivery:** Instructor -led or Self-paced

**Estimated Time to Complete:** 8 hours

**Recommended Next Course:** Entrepreneurship

# Course Details: 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
- 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

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

**Course Delivery:** Instructor-led

**Estimated Time to Complete:** 70 hours

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

# NDG Linux Essentials

## Course Overview

The 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 IoT skills to expand IT knowledge beyond networking. Aligns with the Linux Professional Institute (LPI) Linux Essentials Professional Development Certificate.

## Learning Components

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



## Features

**Target Audience:** Upper secondary and 2-year college students

**Prerequisites:** None

**Languages:** English

**Course Delivery:** Instructor-led or Self-paced

**Estimated Time to Complete:** 70 hours

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

# Content + Virtuelle Übungsmaschine

Linux Essentials Help

## 1.3.3 Role of Open Source

Linux started out in 1991 as a hobby project by Linus Torvalds. He made the source freely available and others joined in to shape this fledgling operating system. His was not the first system to be developed by a group, but since it was a built-from-scratch project, early adopters had the ability to influence the project's direction and to make sure mistakes from other UNIXes weren't made.

Software projects take the form of *source code*, which is a human readable set of computer instructions. The source code may be written in any of hundreds of different languages, Linux just happens to be written in C, which is a language that shares history with the original UNIX.

Source code is not understood directly by the computer, so it must be compiled into machine instructions by a *compiler*. The compiler gathers all of the source files and generates something that can be run on the computer, such as the Linux kernel.

Historically, most software has been issued under a *closed-source license*, meaning that you get the right to use the machine code, but cannot see the source code. Often the license specifically says that you will not attempt to reverse engineer the machine code back to source code to figure out what it does!

Open source takes a *source-centric* view of software. The open source philosophy is that you have a right to obtain the software, and to modify it for your own use. Linux adopted this philosophy to great success. People took the source, made changes, and shared them back with the rest of the group.

Alongside this, was the *GNU project* (GNU's, not UNIX). While GNU was building their own operating system, they were far more effective at building the tools that go along with a UNIX operating system, such as the compilers and user interfaces. The source was all freely available, so Linux was able to target their tools and provide a complete system.

There are many different variants on open source, and those will be examined in a later chapter. All source material should be credited to the source as per the CC BY-SA license.

[← Previous](#) [Next →](#)

Linux Terminal Show/Hide

```
eyeball@localhost:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
total 32
drwxr-xr-x 2 eyeball eyeball 4096 Jan 27 18:25 Desktop
drwxr-xr-x 2 eyeball eyeball 4096 Jan 27 18:25 Documents
drwxr-xr-x 2 eyeball eyeball 4096 Jan 27 18:25 Downloads
drwxr-xr-x 2 eyeball eyeball 4096 Jan 27 18:25 Music
drwxr-xr-x 2 eyeball eyeball 4096 Jan 27 18:25 Pictures
drwxr-xr-x 2 eyeball eyeball 4096 Jan 27 18:25 Public
drwxr-xr-x 2 eyeball eyeball 4096 Jan 27 18:25 Templates
drwxr-xr-x 2 eyeball eyeball 4096 Jan 27 18:25 Videos
eyeball@localhost:~$
```

[Cancel](#) [Restart](#)

# 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

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



## Features

**Target Audience:** Upper secondary , 2-year and 4-year college students

**Prerequisites:** None

**Languages:** English

**Course Delivery:** Instructor-led

**Estimated Time to Complete:** 70 hours

**Recommended Next Course:** IoT Fundamentals, CCNA R&S, NDG Linux Essentials



# Mobility Fundamentals Series

## Series 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. Five Modules available

## 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

- Several 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

## Explosive Mobile Device Growth



## Features

**Target Audience:** Upper secondary, 2-year and 4-year college students

**Prerequisites:** None

**Languages:** English

**Course Delivery:** Self-paced

**Estimated Time to Complete:** 1.5 hours each

**Recommended Next Course:** Complete the Mobility Fundamentals Series

# Entrepreneurship

## Series 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.

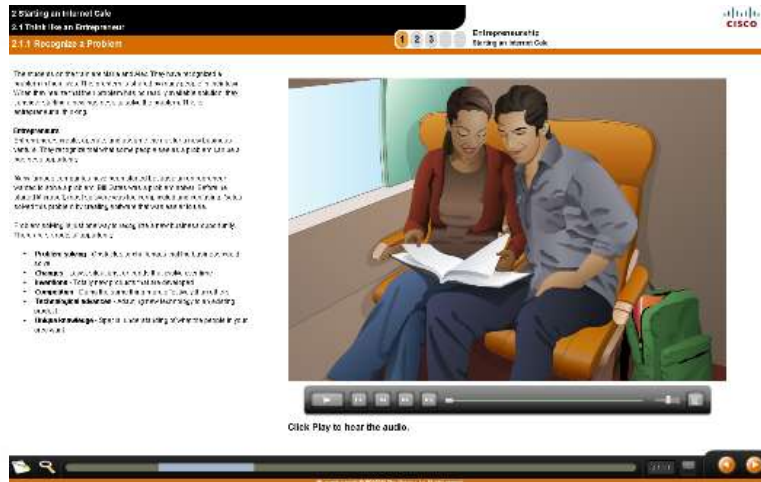
Students learn by completing a series of interactive case studies.

## 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



The screenshot displays the course interface for 'Entrepreneurship: Being an Owner-Gate'. The top navigation bar includes the course title and a '2.1.1 Recognize a Problem' section. The main content area features a video player showing two individuals reviewing documents. Below the video, there is a 'Click Play to hear the audio.' prompt. The interface also includes a search bar and a navigation menu.

## Features

**Target Audience:** Secondary, 2-year and 4-year college students

**Prerequisites:** None, recommend CCNA R&S RSE for labs

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

**Course Delivery:** Instructor -led or Self-paced

**Estimated Time to Complete:** 15 hours

**Complementary Course:** Be Your Own Boss

# Course Details: 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 Network
- 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-Simplified, English, French, Japanese, Portuguese-Brazilian, 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 addressing schemes.

## Learning Components

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

**Prerequisites:** None

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

**Course Delivery:** Instructor-led

**Estimated Time to Complete:** 70 hours

**Recommended Next Course:** CCNA R&S Routing & 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

- 9 chapters
- 19 hands-on labs and 2 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



## Features

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

**Prerequisites:** CCNA R&S: Introduction to Networks

**Languages:** Arabic, Chinese-Simplified and Traditional, English, French, German, Hungarian, Japanese, Portuguese-Brazilian, Polish, 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
- 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

**Languages:** Arabic, Chinese-Simplified, English, French, Japanese, Portuguese-Brazilian, Russian, Spanish

**Course Delivery:** Instructor-led

**Estimated Time to Complete:** 70 hours

**Recommended Next Course:** CCNA R&S Connecting Networks

# 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



## Features

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

**Prerequisites:** CCNA R&S: Scaling Networks

**Languages:** Arabic, Chinese-Simplified, English, French, Japanese, Polish, Portuguese-Brazilian, 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 & Switching courses provide a comprehensive overview of enterprise-level networking concepts, including advanced routing, switching, and troubleshooting.

The curriculum integrates industry-relevant 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

## Features

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

**Prerequisites:** CCNA R&S courses 1 - 4

**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
- 13 Cisco® Packet Tracer activities and one Packet Tracer Practice Skills Based Assessment (SBA)
- 16 hands-on labs
- 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: Scaling Networks

**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.

## Features

**Target Audience:** 2-year and 4-year college students

**Prerequisites:** None, but NDG Linux Essentials or equiv. knowledge recommended

**Languages:** English

**Course Delivery:** Instructor-led and Self-paced

**Fee:** \$39.95 USD per learner, per course

**Estimated Time to Complete:** 140 hours

## 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



# Descriptions: **Impact for Collaboration**

# Packet Tracer

## Overview

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

The curriculum integrates industry-relevant instructional approaches to help students prepare for career opportunities.

## Features

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

- Simulation
- Visualization
- Authoring
- Assessment
- Collaboration capabilities

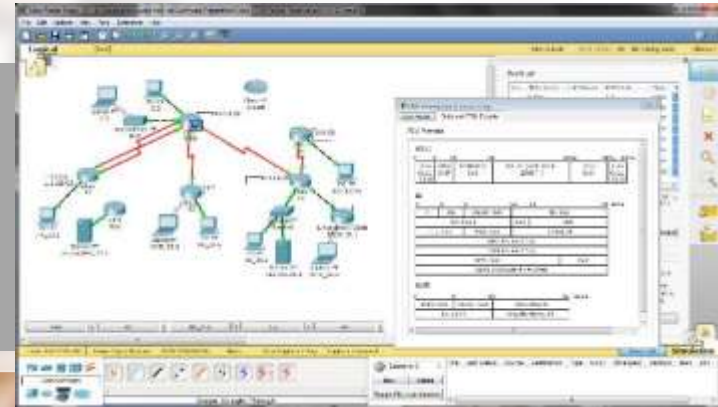
and facilitates the teaching and learning of complex technology concepts.

## 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



# Cisco NetRiders Competition

## Overview

NetRiders competitions provide students with hands-on practice and experience in a competitive environment. It is a chance to test their technical and soft skills and recognize their weaknesses, showcase their knowledge, and deepen their networking and teamwork skills all while they build friendships across the world.

## Benefits

- Recognition for outstanding achievement
- Hands-on practice and experience in a competitive environment
- Career opportunities and internships through increased visibility
- Exposure to career role models
- Opportunities to engage with students around the world
- Top achievers may win prizes, including a week-long trip to Cisco San Jose, California campus with other top achievers from around the world

## Career Prep

The Cisco NetRiders competitions are an amazing opportunity to apply your skills across all you've learned thus far as you work in a team to solve a complex simulated real-world problem. Thus competitions are great way to better understand how your strengths contribute to solutions and better describe your unique strengths with potential employers.

## Competition Levels

- CCNA R&S
- CCENT
- IT Essentials



