



# 2023 Digital Learning Prospectus

Reignite hope and address socio economic transformation through digital empowerment

# About Digital Skills Africa

Digital Skills Africa is a non-profit company (NPC) established to reignite hope and address socio economic transformation through digital empowerment

We focus on 3 pillars of human development, all contributing towards making an impact the in society

Our key mandate is to empower all disadvantaged people with career possibilities through digital skills aligned to digital transformation

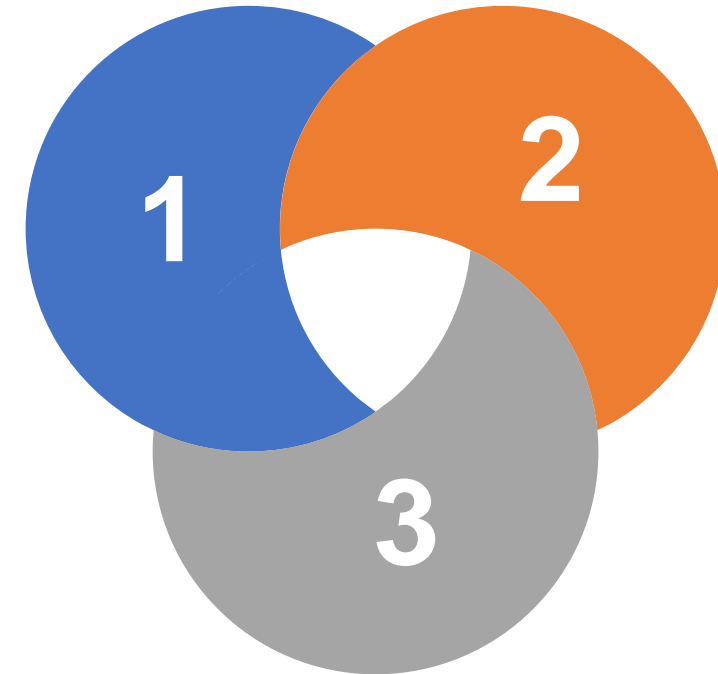
We partner with global industry leading tech companies to bring world class, accredited and certified digital training content to local communities

We align with the United Nations Sustainable Development Goals (SDG) to transform Africa

# Our Key Pillars of Development

## MORAL REASONING (SQ)

a higher dimension of intelligence that activates the qualities and capabilities of the authentic self (or the soul).



## INTELLECTUAL (IQ)

a measure of a person's reasoning ability

## EMOTIONAL (EQ)

the ability to understand, use, and manage your own emotions in positive ways to relieve stress, communicate effectively, empathize with others, overcome challenges and defuse conflict

# Why was Digital Skills Africa established?

Aligned to SDG's and South Africa's Vision 2030 (NDP), Addressing the Triple Challenge of Poverty, Unemployment and Inequality and providing platforms to access digital skills for the previously disadvantaged)

**Reduce  
Poverty**

South Africa's total unemployment is estimated at around 30% +, however if you factor the economically inactive population the number escalates to 40% + The number becomes more alarming when factoring that 50% + of the youth in South Africa are unemployed

**Reduce  
Unemployment**

All DSA founding member grew up with the struggle of inequality, however stayed the course and managed to develop successful careers in the tech industry and decided that its time to give back

**Mentorship**

Digital Skills Africa will focus on partnering with the tech industry to build digital training labs, innovation centres and incubation labs to provide disadvantaged community members with a technical certification that will provide them with an equal opportunity to get a meaningful job

**Industry  
Partnership**

# Our Goals



**01**

**Play an active role in reducing poverty, unemployment and inequality**

**02**

**Empowering all people with career possibilities**

**03**

**Bringing best-in-class, global technology standards locally**

**04**

**Educating for today and tomorrow**

**05**

**Providing critical digital skills irrespective of education background**

**06**

**Ongoing access for students to reskill and upskill for jobs of the future**



# Course Catalog

September 2022



# Skills-to-Jobs Curriculum

A comprehensive portfolio



## Networking

Gain hands-on, relevant networking skills



## Programmable Infrastructure

Learn programming, infrastructure automation, and Internet of Things



## Cybersecurity

Learn to secure and defend networks



## Operating Systems and IT

Essential skills for the digital world



## Programming

Learn to code in languages like Python, C, or C++



## Practice

Interactive tools and experiences build real skills, not just knowledge



# Cisco Networking Academy

17.5M

Students Since Inception with  
24% Female

3.2M

Students in FY22

190

Countries Where We Serve  
Learners

3.6%

Year Over Year  
Growth

29,300

Instructors

11,800

Academies

38%

of NetAcad Students in U.S.  
are underrepresented minorities

20% Black

17% Latino

1% American Indian or Alaska Native

153K

Disabled students (FY19-  
FY22)

# Cisco Networking Academy Curriculum Portfolio



## Explore

Introduction to exciting opportunities in technology.

- ▲ Get Connected
- ▲ NDG Linux Unhatched
- ▲ Introduction to Cybersecurity
- ▲ Introduction to IoT and Digital Transformation
- ▲ Getting Started with Cisco Packet Tracer
- ▲ Exploring Networking with Cisco Packet Tracer
- ▲ Exploring IoT with Cisco Packet Tracer

## Career

Preparation for entry and associate level positions.

### Digital Essentials

- ★ ● IT Essentials
- ▲ NDG Linux Essentials
- ▲ Networking Essentials
- ▲ Cybersecurity Essentials
- ▲ PCAP: Programming Essentials in Python

### Networking

- ▲ Networking Basics
- ▲ Networking Devices and Initial Configuration
- CCNA:
  - ★ ● ■ Introduction to Networks
  - ★ ● ■ Switching, Routing, & Wireless Essentials
  - ★ ● ■ Enterprise Networking, Security & Automation
- CCNP Enterprise:
  - ★ ● ■ Core Networking (ENCOR)
  - ★ ● ■ Advanced Routing (ENARSI)

### Programmable Infrastructure

- ▲ Python Essentials 1
- ★ ● ■ DevNet Associate
- Workshop: Experimenting with REST APIs
- Workshop: Model-Driven Programmability

### Cybersecurity

- ▲ Endpoint Security
- ▲ Network Defense
- ▲ Cyber Threat Management
- ▲ Cybersecurity Pathway
- ★ ● ■ CyberOps Associate
- ★ ■ Network Security
- ▲ Cloud Security

## Practice

Develop skills with interactive tools & experiences

Cisco Packet Tracer

Gaming

Virtual Labs

Assessments

Physical Equipment

## Complementary Offerings

Additional offerings available from Partners.



- ▲ NDG Linux I
- ▲ NDG Linux II
- ▲ NDG NETLAB+
- ▲ NDG CyberOps Lab



- ▲ JavaScript Essentials 1 (JSE)
- CLA: Programming Essentials in C
- CLP: Advanced Programming in C
- CPA: Programming Essentials in C++
- CPP: Advanced Programming in C++

○ Aligns to Certification/Certificate

□ Instructor Training Required

△ Self-paced

★ ASC Alignment Required

Includes courses on NetAcad.com and SkillsForAll.com



# Networking



# Networking Basics

## Course Overview

This course covers the foundation of networking and network devices, media, and protocols. The learner will observe data flowing through a network and basic device configuration to connect to networks.

## Benefits

Teaching your students basic networking concepts is essential for developing IT skills and prepares them for a wide variety of IT career paths.

## Explore Opportunities in Technology

- ✓ Configure a wireless router and wireless host to connect to the internet
- ✓ Teach how protocols, devices, and media enable communication on Ethernet networks
- ✓ Demonstrate how IP addresses enable network communication
- ✓ Create a simple LAN
- ✓ Use application layer services to accomplish real-world tasks.

## Course Details

**Target Audience:** Secondary or vocational school and college/university students, general audience

**Estimated Time to Completion:** 25 hours

**Prerequisites:** None

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

### Learning Component Highlights:

- ✓ 17 modules and 13 practice labs
- ✓ Interactive activities and quizzes
- ✓ 1 final test

**Course Recognitions:** Digital Badge

**Recommended Next Course:**  
Networking Devices and Initial Configuration

[View Course](#)



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

# Networking Devices and Initial Configuration

## Course Overview

This course teaches intermediate knowledge and skills for networking by covering basic concepts and skills needed to build a home office network and a small office network.

## Benefits

By teaching the characteristics and benefits of Cloud and Virtualization technologies, your students develop skills to calculate an IP addressing scheme and configure Cisco devices to create a small network.

## Explore Opportunities in Technology

- ✓ Teach the characteristics of Virtualization and Cloud services.
- ✓ Explain how Ethernet operates in a switched network.
- ✓ Show how routers use network layer protocols and services.
- ✓ Demonstrate how the TCP protocol guarantees data delivery.
- ✓ Configure a simple computer network using Cisco devices.

## Course Details

**Target Audience:** Secondary or vocational school and college/university students, general audience

**Estimated Time to Completion:** 25 hours

**Prerequisites:** Networking Basic or equivalent knowledge

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

### Learning Component Highlights:

- ✓ 12 modules and 17 practice labs
- ✓ Interactive activities and quizzes
- ✓ 1 final test

**Course Recognitions:** Digital Badge

**Recommended Next Course:**  
Network Addressing and Basic Troubleshooting

[View Course](#)



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

# Networking Essentials

## Course Overview

Networking Essentials teaches networking based on environments learners may encounter in daily life, including small office and home office networking. This course provides an engaging, self-paced learning experience using Packet Tracer simulation, interactive activities, and learning everyday devices found at home.

## Benefits

Develops a foundational understanding of the high-level network architecture and how a network operates.

## Prepares for Careers

- ✓ For developers, cybersecurity, business analysts, or other professionals: gain essential networking knowledge
- ✓ For students: a launch point for many career pathways, from cybersecurity to software to business and more

[View Course](#)

## Course Details

**Target Audience:** High school, secondary and 2-year college vocational students, college and university students studying IT and non-IT fields, career changers

**Estimated Time to Completion:** 70 hours

**Prerequisites:** None

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

### Learning Component Highlights:

- ✓ 20 modules and 19 practice labs
- ✓ 24 Cisco Packet Tracer activities
- ✓ 130+ interactive activities, videos, & quizzes
- ✓ 5 module exams
- ✓ 1 final exam

**Course Recognitions:** Digital Badge

**Certification Alignment** of [Cybersecurity Pathway](#): IT Specialist Cybersecurity certification from Certiport

**Recommended Next Course:**  
Endpoint Security



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: Optional
- Physical Equipment Required: No (uses Packet Tracer and devices found at home)

# CCNA: Introduction to Networking (ITN)

## Course Overview

The first course in the CCNA curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the Internet and across modern computer networks - including IP addressing and Ethernet fundamentals.

## Benefits

Learn to build simple local area networks (LAN) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

## Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

## Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 17 modules and 24 practice labs
- ✓ 31 Cisco Packet Tracer activities
- ✓ 120+ interactive activities, videos, & quizzes
- ✓ 1 final exam

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

Recommended Next Course:

CCNA: Switching, Routing, and Wireless Essentials (SRWE)



Networking



## Requirements & Resources

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

\*Includes Distance Learning option with Packet Tracer if lab equipment is not available

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



Certification Aligned

[Cisco Certified Networking Associate](#)



# CCNA: Switching, Routing, and Wireless Essentials (SRWE)

## Course Overview

The second course in the CCNA curriculum focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLAN) and security concepts.

## Benefits

Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate local area network (LAN) security threats, and configure and secure a basic WLAN.

## Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

## Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 16 modules and 14 practice labs
- ✓ 31 Cisco Packet Tracer activities
- ✓ 70+ interactive activities, videos, & quizzes
- ✓ 1 final exam

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

Recommended Next Course:  
CCNA: Enterprise Networking, Security, and Automation (ENSA)



Networking



## Requirements & Resources

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

\*Includes Distance Learning option with Packet Tracer if lab equipment is not available

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



Certification Aligned

[Cisco Certified Networking Associate](#)

# CCNA: Enterprise Networking, Security, and Automation (ENSA)

## Course Overview

The final course in the CCNA series covers the architecture, security, and operation of an enterprise network, along with introducing the new ways in which network engineers interact with programmable infrastructure.

## Benefits

Gain skills to configure and troubleshoot enterprise networks, learn to identify and protect against cybersecurity threats, and discover key concepts of software-defined networking, including controller-based architectures and application programming interfaces (APIs).

## Prepare for Careers

- ✓ Develop skills for entry-level networking jobs
- ✓ Prepare for CCNA certification exam
- ✓ Fulfill prerequisites to pursue more specialized networking skills

## Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 14 modules and 12 practice labs
- ✓ 29 Cisco Packet Tracer activities
- ✓ 100+ interactive activities, videos, & quizzes
- ✓ 1 practice certification exam

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

Recommended Next Course:  
CCNP Enterprise: Core Networking (ENCOR)



Networking



## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: Yes\*
- Discount Availability: Yes

\*Includes Distance Learning option with Packet Tracer if lab equipment is not available

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



Certification Aligned

[Cisco Certified Networking Associate](#)

# CCNP Enterprise: Core Networking (ENCOR)

## Course Overview

This first course in the 2-course CCNP Enterprise series covers switching, routing, wireless, and related security topics, along with the technologies that support software-defined, programmable networks.

## Benefits

Gain practical, hands-on experience and skills needed to configure, operate and troubleshoot large scale enterprise networks.

## Prepare for Careers

- ✓ Develop skills for professional-level networking roles
- ✓ Prepare for the Cisco Enterprise Network Core Technologies exam ([350-401 ENCOR](#)) to earn an Enterprise Core Specialist certification
- ✓ Completion of both CCNP Enterprise courses prepares for CCNP Enterprise certification

## Course Details

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

Estimated Time to Completion: 70 hours

Recommended Preparation: CCNA or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 29 chapters and 41 practice labs
- ✓ 24 Cisco Packet Tracer activities (optional)
- ✓ 35+ interactive activities, videos, & quizzes
- ✓ 1 practice certification exam

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

Recommended Next Course:  
CCNP Enterprise: Advance Routing (ENARSI)



Networking



## Requirements & Resources

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

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



Certification Aligned

[Cisco Certified Networking Professional](#)



# CCNP Enterprise: Advanced Routing (ENARSI)

## Course Overview

This second of the 2-course CCNP Enterprise series focuses on implementation and troubleshooting of advanced routing and redistribution for OSPF, EIGRP and BGP along with VPN technologies, infrastructure security and management tools used in Enterprise networks.

## Benefits

Gain practical, hands-on experience and skills needed to configure, operate and troubleshoot large scale enterprise networks.

## Prepare for Careers

- ✓ Develop skills for professional-level networking roles
- ✓ Prepare for Cisco Enterprise Advanced Routing & Services exam ([300-410 ENARSI](#)) to earn a CCNP Specialist certification
- ✓ Completion of both CCNP Enterprise courses prepares for CCNP Enterprise certification

## Course Details

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

Estimated Time to Completion: 70 hours

Recommended Preparation: ENCOR or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 23 chapters and 40 practice labs
- ✓ 20 Cisco Packet Tracer activities (optional)
- ✓ 25+ videos & quizzes, 2 Skills Assessments
- ✓ 1 practice certification exam

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

Recommended Next Course:

Broaden your skills with DevNet Associate, CyberOps Associate, Python, or Emerging Technologies Workshops



Networking



## Requirements & Resources

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

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



Certification Aligned

[Cisco Certified Networking Professional](#)

# Operating Systems & Information Technology



# 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 Information Technology (IT).

## Benefits

The digital world is upon us both personally and professionally. Gain essential skills like basic computer skills, such as how to use a computer, connect devices, and access search, email, and social media.

## Explore Opportunities in Technology

- ✓ Develop your digital basics
- ✓ Start exploring the many career possibilities these skills can open up for you

## Course Details

Target Audience: Secondary and general audience new to IT

Estimated Time to Completion: 30 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:

- ✓ 5 chapters
- ✓ Illustrations and narrations guide students through topics
- ✓ Interactive activities, videos, & quizzes

Course Recognitions: Certificate of Completion

Recommended Next Course:  
IT Essentials



OS & IT



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)

**Career Advice**

[Tips for getting started in your career](#)

# 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

Learn the fundamentals of connecting computers to networks. Plus, you'll enjoy working with Cisco Networking Academy's advanced simulation tools with hands-on labs to hone your troubleshooting skills and immediately practice what you learn!

## Prepare for Careers

- ✓ Develop skills for entry-level technical support roles
- ✓ Prepare for CompTIA A+ certification exam
- ✓ Build your foundation for CCNA-level courses

## Course Details

Target Audience: Secondary and 2-year college vocational students

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 14 chapters and 99 practice labs
- ✓ Cisco Packet Tracer, virtual laptop, and virtual desktop learning tools
- ✓ 29+ interactive activities
- ✓ 18+ assessments throughout the course
- ✓ 1 final and 2 practice certification exams

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

Recommended Next Course:  
CCNA: Introduction to Networking (ITN)



OS & IT



## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: No
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



**Certification Aligned**  
[CompTIA A+ Certification](#)



# NDG Linux Unhatched

## Course Overview

This course covers introductory back-end operating system knowledge by teaching basic installation and configuration of Linux and introducing the Linux command line.

## Benefits

Learners ease into acquiring Linux knowledge without having to commit to more than 8 total hours of self-paced learning, guided step-by-step with a series of hands-on virtual machine activities.

## Explore Opportunities in Technology

- ✓ Wade into the shallow end of Linux and see whether it's for you or not
- ✓ Develop your digital basics
- ✓ Start exploring the many career possibilities these skills can open up for you

## Course Details

Target Audience: Secondary and general audience new to IT

Estimated Time to Completion: 6-8 hours

Prerequisites: None

Course Delivery: Self-paced

Learning Component Highlights:

- ✓ 1 module
- ✓ 20 pages
- ✓ Built-in Linux machine with activities
- ✓ 1 assessment

Course Recognitions: Letter of Completion

Recommended Next Course:  
NDG Linux Essentials

In partnership with



Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



OS & IT

## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

Career Advice

[Tips for getting started in your career](#)

# NDG Linux Essentials

## Course Overview

This course teaches fundamentals of the Linux operating system, command line, and open source programming concepts.

## Benefits

Nearly every IT job requires some Linux knowledge. Gain hands-on practice with Linux commands through the Linux virtual machine embedded in the course.

## Prepare for Careers

- ✓ Develop fundamental operating system skills for entry-level IT jobs
- ✓ Prepare for LPI certificate exam
- ✓ Fulfill prerequisites to pursue more specialized IT and networking skills

## Course Details

Target Audience: Secondary and 2-year college students

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:

- ✓ 16 chapters and 13 practice labs
- ✓ Built-in virtual machine to experiment with Linux commands
- ✓ Learner-directed activities
- ✓ Chapter, midterm, and final exams

Course Recognitions: Letter of Completion

Recommended Next Course:  
NDG Linux I

In partnership with



Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



OS & IT



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes



**Certification Aligned**

[Linux Professional Institute \(LPI\) Linux Essentials Professional Development Certificate](#)

# NDG Linux I and II

## Course Overview

A 2-course series for aspiring Linux system administrators. Covers performing maintenance tasks on the command line, installing and configuring a computer running Linux, and configuring basic networking, using virtual machines running Linux.

## Benefits

More rigorous and comprehensive than NDG Linux Essentials, this course develops your Linux mastery. Gain hands-on practice with Linux commands through the Linux virtual machine embedded in the course.

## Prepare for Careers

- ✓ Develop skills for careers in cloud computing, cybersecurity, information systems, networking, programming, software development, big data, and more
- ✓ Prepare for LPIC-1 certification exams

## Course Details

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

Estimated Time to Completion: 140 hours

Recommended Preparation: NDG Linux Essentials or equivalent

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:

- ✓ Built-in virtual machine to experiment with Linux commands
- ✓ Practice labs and activities
- ✓ Chapter, midterm, and final exams

Course Recognitions: Letter of Completion

Recommended Next Course:  
DevNet Associate

In partnership with



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes
- Cost: Fee for self-paced classes. Cost for instructor-led classes is determined by the institution.

Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)



**Certification Aligned**

[Linux Professional Institute LPIC-1](#)

# Programming





# Python Essentials 1

## Course Overview

This course teaches in-demand skills including how to design, develop, and improve computer programs using Python.

## Benefits

Used by startups and tech giants like Google, Facebook, Netflix, and more, Python with user-friendly with easy-to-read code offers endless possibilities for creating small and large-scale software projects.

## Explore Opportunities in Technology

- ✓ Explores the world of computer programming and the careers it offers
- ✓ Develops coding skills using Python
- ✓ Teaches about data types, variables, I/O operations, control flow and functions

## Course Details

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

**Estimated Time to Completion:** 30 hours

**Prerequisites:** None

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

### Learning Component Highlights:

- ✓ 4 modules and 30 practice labs
- ✓ Interactive activities & quizzes
- ✓ 1 final project
- ✓ 1 final test

**Course Recognitions:** Digital Badge

**Certification Aligned:** PCEP: Certified Entry-Level Python Programmer certification

**Recommended Next Course:**  
Python Essentials 2



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

[View Course](#)

Developed in collaboration with

# PCAP: Programming Essentials in Python



## Course Overview

Designed as easy to understand and beginner-friendly course focusing on various data collections, manipulation tools, logic and bit operations and creating basic REST APIs.

## Benefits

Learn to design, write, debug, and run programs encoded in the Python language. No prior programming knowledge is required. The course begins with the very basics guiding you step by step until you become adept at solving more complex problems.

## Prepare for Careers

- ✓ Develop fundamental programming skills
- ✓ Prepare for PCEP and PCAP certification exam
- ✓ Build your foundation to pursue more specialized networking and software development skills

## Course Details

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

Estimated Time to Completion: 75 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:

- ✓ 8 modules of interactive instructional content
- ✓ 30+ practice labs
- ✓ Built-in online tool for labs and practice
- ✓ Quizzes, tests, and final exam

Course Recognitions: Statement of Achievement

Recommended Next Course:  
DevNet Associate

In partnership with



Quick Links

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)

## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes



**Certification Aligned**

[PCEP: Certified Entry-Level Python Programmer](#)

[PCAP: Certified Associate in Python Programming](#)

# JavaScript Essentials 1 (JSE)

## Course Overview

Learn how interactive web and mobile apps are created with JavaScript programming – and how to design, write, debug, and run your own programs! No prior programming knowledge is required.

## Benefits

Programming skills open you up to careers in almost any industry. These skills are required if you want to continue to more advanced and higher paying web, mobile app, or game development roles.

## Prepare for Careers

- ✓ Develop fundamental programming skills
- ✓ Prepare for JSE certification exam
- ✓ Build your foundation to pursue more specialized networking and software development skills

## Course Details

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

**Estimated Time to Completion:** 40 hours

**Prerequisites:** None

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

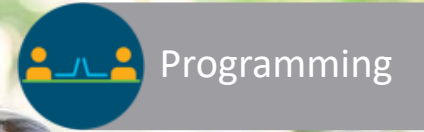
### Learning Component Highlights:

- ✓ 6 Modules
- ✓ Interactive Activities
- ✓ Module Exams and Quizzes
- ✓ Labs
- ✓ Final Exam

**Course Recognitions:** Statement of Achievement

**Recommended Next Course:**  
DevNet Associate

In partnership with 



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: No



### Certification Aligned

[JSE: Certified Entry-Level JavaScript Programmer](#)

[Quick Links](#)

[Course Page](#)

[Course Demos](#)

(Available for select courses)

[List of All Courses](#)

(Includes language availability)

# CLA: Programming Essentials in C

## Course Overview

This beginner course introduces the the universal concepts of computer programming using the C language, and teaches the syntax, semantics, and data types of the C language.

## Benefits

Build transferable skills. When you learn C, you develop overarching fundamentals for all programming languages. Practice your skills through hands-on labs and write your own programs!

## Prepare for Careers

- ✓ Develop skills for entry-level programming roles
- ✓ Prepare for CLA certification exam
- ✓ Fulfill prerequisites to pursue more advanced programming skills

## Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 9 modules of interactive instructional content
- ✓ 80+ practice labs
- ✓ Chapter and final exams

Course Recognitions: Certificate of Completion

Recommended Next Course:  
Internet of Things (IoT) Fundamentals,  
CCNA, NDG Linux Essentials

In partnership with



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Programming



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes



**Certification Aligned**

[CLA: C Programming Language Certified Associate](#)



# CLP: Advanced Programming in C

## Course Overview

This advanced course teaches intermediate to advanced coding such as C handling variable number of parameters (<stdarg.h>), low level IO (<unistd.h>), memory and strings (<string.h> et al.), processes and threads, floats and ints (<math.h>, <fcntl.h>, <inttypes.h> et al), and network sockets.

## Benefits

Extend your programming knowledge and proficiency. Learn to think harder and deeper about programming concepts.

## Prepare for Careers

- ✓ Develop skills for entry-level programming roles
- ✓ Prepare for CLP certification exam
- ✓ Set yourself up to succeed in jobs related to software development, network engineering, and system administration

## Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: CLA: Programming Essentials in C course, CLA certification, or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 8 modules of interactive instructional content
- ✓ 18 practice labs
- ✓ Quizzes, chapter and final exams

Course Recognitions: Certificate of Completion

Recommended Next Course:  
Internet of Things (IoT) Fundamentals,  
NDG Linux I

In partnership with



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Programming



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes



**Certification Aligned**

[CLP: C Certified Professional Programmer](#)

# CPA: Programming Essentials in C++

## Course Overview

This beginner course introduces the basics of programming in the C++ language and the fundamental notions and techniques used in object-oriented programming.

## Benefits

Build transferable skills. When you learn C, you develop overarching fundamentals for all programming languages. Practice your skills through hands-on labs and write your own programs!

## Prepare for Careers

- ✓ Develop skills for entry-level programming roles
- ✓ Prepare for CPA certification exam
- ✓ Fulfill prerequisites to pursue more advanced programming skills

## Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: None

Course Delivery: Instructor-led or Self-paced

Learning Component Highlights:

- ✓ 8 modules of interactive instructional content
- ✓ 100+ practice labs
- ✓ Chapter and final exams

Course Recognitions: Certificate of Completion

Recommended Next Course:  
Internet of Things (IoT) Fundamentals,  
NDG Linux Essentials, DevNet Associate

In partnership with 

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Programming



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes



**Certification Aligned**

[CPA: C++ Certified Associate Programmer](#)

# CPP: Advanced Programming in C++

## Course Overview

This advanced course teaches intermediate to advanced coding such as C++ template mechanism, understanding and using property template classes and methods, and the C++ STL library including solving common programming problems and the IO part.

## Benefits

Extend your programming knowledge and proficiency. Learn to think harder and deeper about programming concepts.

## Prepare for Careers

- ✓ Develop skills for entry-level programming roles
- ✓ Prepare for CPP certification exam
- ✓ Set yourself up to succeed in jobs related to software development, network engineering, and system administration

## Course Details

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

Estimated Time to Completion: 70 hours

Prerequisites: CPA: Programming Essentials in C++ course, CPA certification, or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 9 modules of interactive instructional content
- ✓ 65 practice labs
- ✓ Chapter and final exams

Course Recognitions: Certificate of Completion

Recommended Next Course:  
CCNP Enterprise, NDG Linux I

In partnership with



Programming



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Not Applicable

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**Certification Aligned**

[CPP: C++ Certified Professional Programmer](#)

# Programmable Infrastructure





# Introduction to IoT and Digital Transformation

## Course Overview

The course provides learners with an engaging, exploratory view of the Internet of Things and highlights how Digital Transformation impacts organizations, businesses, governments, industries, and our daily lives.

## Benefits

Learners discover how IoT, along with emerging technologies such as data analytics, artificial intelligence and cybersecurity, are digitally transforming industries and expanding career opportunities. Learners understand the importance of Intent-Based Networking using a software-driven approach and machine learning to be able to connect and secure tens of billions of new devices with ease.

## Explores Opportunities in Technology

- ✓ Develops digital basics
- ✓ Explores career opportunities in the new emerging technologies landscape

## Course Details

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

**Estimated Time to Completion:** 6 hours

**Prerequisites:** None

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

### Learning Component Highlights:

- ✓ 6 modules
- ✓ 16 practice lab activities
- ✓ 7 Cisco Packet Tracer activities
- ✓ 12 videos
- ✓ Knowledge checks and module quizzes
- ✓ Final exam

**Course Recognitions:** Digital Badge

**Recommended Insertion Points:** A great start for any learning path, and a way to introduce digital transformation before or during any Career course.



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

# DevNet Associate

## Course Overview

This course introduces the methodologies and tools of modern software development, applied to the IT and Network operations. It covers a 360° view of the domain including microservices, testing, containers and DevOps, as well as securely automating infrastructures with Application Programming Interfaces (APIs).

## Benefits

Gain practical, relevant, hands-on lab experience, including programming in Python, using GIT and common data formats (JSON, XML and YAML), deploying applications as containers, using Continuous Integration/Continuous Deployment (CI/CD) pipelines, and automating infrastructure using code.

## Prepare for Careers

- ✓ Develop skills for entry-level software development and infrastructure automation jobs
- ✓ Prepare for DevNet Associate certification exam

## Course Details

Target Audience: Secondary vocational students, 2-year and 4-year college students and participants of coding bootcamps

Estimated Time to Completion: 70 hours

Recommended Preparation:  
Object-oriented coding skills, equivalent to:  
PCAP: Programming Essentials in Python  
Fundamental skills of networking, equivalent to:  
CCNA: Introduction to Networks

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 8 modules and 23 practice labs
- ✓ 5 Cisco Packet Tracer activities
- ✓ 6 videos, 8 quizzes, 8 module exams
- ✓ 1 final exam, 1 practice certification exam

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

Recommended Next Course: CCNA, CCNP Enterprise, or CyberOps Associate

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(Includes language availability)



Infrastructure Automation

## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: No (Uses Virtual Machines on the student's computer)
- Discount Availability: Yes



Certification Aligned

[Cisco Certified DevNet Associate](#)

# Workshop: Experimenting with REST APIs using Webex Teams

## Course Overview

This workshop introduces the basic competencies needed to create applications and automate tasks using REST APIs, the most popular architecture for software integration in IT.

## Benefits

Learn the value of the REST APIs architecture, practice Python programming skills, and perform basic software integration and automation using real-world APIs on an enterprise collaboration platform (Webex Teams).

## Prepare for Careers

- ✓ Emerging Technologies Workshops are short, hands-on experiences to quickly develop new skills for today's job market
- ✓ Participate in relevant professional communities of practice (Cisco DevNet, GitHub, and Stack Overflow)

## Course Details

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

Estimated Time to Completion: 8 hours

Prerequisites: Basic programming

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 2 chapters and 9 practice labs
- ✓ 13 interactive activities
- ✓ 1 final exam

Course Recognitions: Certificate of Completion

Recommended Insertion Points:  
PCAP Programming Essentials in Python,  
IoT Fundamentals: Connecting Things

Other Insertion Points:  
IT Essentials, CCNA: Introduction to Networks



Infrastructure Automation

## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: No (Self-paced training option available)
- Physical Equipment Required: Internet access to Cisco DevNet Labs and APIs (Free)
- Discount Availability: Not Applicable

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**DevNet Sandbox**

Practice running code on live network infrastructure



# Workshop: Model-Driven Programmability

## Course Overview

This workshop introduces students to device level programmability. By defining standardized device models and APIs, network device configuration and management tasks can be automated, making it easier to manage network devices at scale.

## Benefits

Learn key model-driven programmability concepts: YANG to model networking devices, RESTCONF and NETCONF for device-level APIs, and Python scripting to programmatically retrieve and update device configurations.

## Prepare for Careers

- ✓ Emerging Technologies Workshops are short, hands-on experiences to quickly develop new skills for today's job market
- ✓ Participate in relevant professional communities of practice (Cisco DevNet, GitHub, and Stack Overflow)

## Course Details

Target Audience: Vocational, 2-year and 4-year College, 4-year university students

Estimated Time to Completion: 8 hours

Prerequisites: Basic programming, CCNA: Switching, Routing, and Wireless Essentials (SRWE) or equivalent

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 2 chapters and 10 practice labs
- ✓ 10 interactive activities
- ✓ 1 final exam

Course Recognitions: Certificate of Completion, Digital Badge

Recommended Insertion Points:

- After CCNA: SRWE
- With Network Security or CCNP Enterprise: Core Networking (ENCOR)



Infrastructure Automation

## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: No (Self-paced training option available)
- Physical Equipment Required: Internet access to Cisco DevNet Labs and APIs (Free)
- Discount Availability: Not Applicable

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DevNet Sandbox

Practice running code on live network infrastructure

# IoT Fundamentals: Connecting Things



Internet of Things



## Course Overview

This highly hands-on course introduces how to securely interconnect sensors, actuators, microcontrollers, single-board computers, and cloud services over Internet Protocol (IP) networks to create an end-to-end IoT system.

## Benefits

Develop the interdisciplinary skillset required to prototype an IoT solution for a specific business case with a strong focus on the security considerations for emerging technologies.

## Prepare for Careers

- ✓ Develop an entrepreneurial and design-thinking foundation for IoT job families that exist today and in the future
- ✓ Practice integrating hardware, software, data analytics, and security concepts
- ✓ Build your foundation to pursue more specialized networking, software development, and IoT skills

## Course Details

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

Estimated Time to Completion: 40-50 hours

Prerequisites: Basic programming, networking, and electronics

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 6 chapters and 35 practice labs
- ✓ 9 Cisco Packet Tracer activities
- ✓ 32+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion

Recommended Next Course:

IoT Fundamentals: Big Data & Analytics or Hackathon Playbook (Design Thinking)

## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Optional (Self-paced training option available)
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

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# IoT Fundamentals: Big Data & Analytics



Internet of Things



## Course Overview

This highly hands-on course introduces 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. The ability to extract data and using data analytics techniques to gain insights are skills highly-valued by employers.

## Prepare for Careers

- ✓ Develop entrepreneurial and design-thinking skills for IoT job families that exist today and in the future
- ✓ Practice integrating hardware, software, data analytics, and security concepts
- ✓ Build your foundation to pursue more specialized networking, software development, and IoT skills

## Course Details

Target Audience: 2-year and 4-year college, 4-year university students

Estimated Time to Completion: 40-50 hours

Prerequisites: IoT Fundamentals: Connecting Things

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 6 chapters and 11 practice labs
- ✓ 18 Jupyter Notebooks (with Python code)
- ✓ 35+ interactive activities, videos, & quizzes
- ✓ 1 final exam

Course Recognitions: Certificate of Completion

Recommended Next Course:  
IoT Fundamentals: Hackathon Playbook

## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Optional (Self-paced training option available)
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

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# Hackathon Playbook (Design Thinking)

## 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

Practice design thinking through a hands-on project. Deepen your multidisciplinary IoT and data skills by defining, designing, prototyping, and presenting an IoT solution to a panel of industry experts and peers.

## Prepare for Careers

- ✓ Build a design thinking mindset
- ✓ Gain resume-worthy experience working on a real prototype
- ✓ Get feedback and mentorship from industry experts

## Course Details

Target Audience: Secondary, vocational, 2-year and 4-year college, 4-Year university students

Estimated Time to Completion: 20-30 hours

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

Course Delivery: Instructor-led

Learning Component Highlights:  
✓ Hands-on project

Course Recognitions: Certificate of Completion

Recommended Next Course:  
Any Networking Academy Career course, or an industry IoT training program



Internet of Things



## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes  
(Self-paced training option available)
- Physical Equipment Required: Yes
- Discount Availability: Not Applicable

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# Cybersecurity





# Introduction to Cybersecurity

## Course Overview

This course explores cyber trends, threats, and staying safe in cyberspace, and protecting personal and company data.

## Benefits

Today's interconnected world makes everyone more susceptible to cyber-attacks. Teach how to protect personal data and privacy online, in social media, and why more and more IT jobs require cybersecurity awareness and understanding.

## Explore Opportunities in Technology

- ✓ Builds cybersecurity understanding for a secure and safe digital life
- ✓ Explores many career possibilities cybersecurity skills offers

[View Course](#)

## Course Details

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

**Estimated Time to Completion:** 6 hours

**Prerequisites:** None

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

**Learning Component Highlights:**

- ✓ 5 modules and 7 practice labs
- ✓ Interactive activities & quizzes
- ✓ 1 final exam

**Course Recognitions:** Digital Badge

**Certification Alignment of [Cybersecurity Pathway](#):** IT Specialist Cybersecurity certification from Certiport

**Recommended Next Course:**  
Networking Essentials or Cybersecurity Essentials



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

# Endpoint Security

## Course Overview

This course covers how to assess the network, operating systems, and endpoints for vulnerabilities, and how to secure the network. It also covers skills to maintain the integrity, confidentiality, and availability in the network and data.

## Benefits

The demand for security professionals continues to grow. Teach the foundational knowledge used in the workplace as a Cybersecurity Technician.

## Prepare for Careers

- ✓ Develop a cybersecurity foundation
- ✓ Offer the next step in exploring the many career possibilities in cybersecurity
- ✓ Build skills securing a network all the way to the edge, including hardware, software, and media

[View Course](#)

## Course Details

**Target Audience:** Secondary and 2-year college vocational students; Reskilling  
Intent to find a job in cyber

**Estimated Time to Completion:** 40 hours

**Recommended Preparation:** Introduction to Cybersecurity and Networking Essentials

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

Learning Component Highlights:

- ✓ 10 modules
- ✓ 31 Labs and Cisco Packet Tracer activities
- ✓ 40+ interactive activities & quizzes
- ✓ 1 final exam

**Course Recognitions:** Digital Badge

**Certification Alignment** of [Cybersecurity Pathway:](#)  
IT Specialist Cybersecurity certification from Certiport

**Recommended Next Course:**  
Network Defense



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

# Network Defense

## Course Overview

This course covers different methods to monitor the network and how to evaluate security alerts. It delves into tools and techniques used to protect the network, including access control, firewalls, cloud security, and cryptography.

## Benefits

The demand for security professionals continues to grow. Gain the intermediate knowledge used in the workplace as a Cybersecurity Technician.

## Prepare for Careers

- ✓ Builds a cybersecurity foundation
- ✓ Explores the many career possibilities in cybersecurity
- ✓ Develops skills to create a layered defense-in-depth cybersecurity strategy

[View Course](#)

## Course Details

**Target Audience:** Secondary and 2-year college vocational students; Reskilling  
Intent to find a job in cyber

**Estimated Time to Completion:** 40 hours

**Recommended Preparation:** Introduction to Cybersecurity, Networking Essentials, and Endpoint Security

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

### Learning Component Highlights:

- ✓ 11 modules
- ✓ 29 Labs and Cisco Packet Tracer activities
- ✓ 58 + interactive activities & quizzes
- ✓ 1 final exam

**Course Recognitions:** Digital Badge

**Certification Alignment of [Cybersecurity Pathway](#):** IT Specialist Cybersecurity certification from Certiport

**Recommended Next Course:**  
Cyber Threat Management



## Requirement

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

# Cyber Threat Management

## Course Overview

This course explores governance in cybersecurity and threat management. Learn to develop policies and ensure your organization complies with ethics standards and legal and regulatory frameworks.

## Benefits

The demand for security professionals continues to grow. Develop advanced knowledge you will use in the workplace as a Cybersecurity Technician.

## Prepare for Careers

- ✓ Builds a cybersecurity foundation
- ✓ Explores the many career possibilities in cybersecurity
- ✓ Develops skills for managing threats, such as how to assess a network for vulnerabilities, manage risks, and respond to security incidents

[View Course](#)

## Course Details

**Target Audience:** Secondary and 2-year college vocational students; Reskilling to find a job in cybersecurity.

**Estimated Time to Completion:** 20 hours

**Recommended Preparation:** Introduction to Cybersecurity, Networking Essentials, Endpoint Security, and Network Defense

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

### Learning Component Highlights:

- ✓ 6 modules
- ✓ 16 Labs and Cisco Packet Tracer activities
- ✓ 28+ interactive activities & quizzes
- ✓ 1 final exam

**Course Recognitions:** Digital Badge

**Certification Alignment of [Cybersecurity Pathway](#):**  
IT Specialist Cybersecurity certification from Certiport



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No



# Cybersecurity Essentials

## Course Overview

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

## Benefits

The demand for security professionals continues to grow. Develop a foundational understanding of cybercrime, security principles, technologies, and procedures used to defend networks.

## Explores Opportunities in Technology

- ✓ Builds cybersecurity foundation
- ✓ Offer the next step in exploring the many career possibilities in cybersecurity
- ✓ Help learners determine if they want to pursue job roles in networking or cybersecurity

[View Course](#)

## Course Details

**Target Audience:** Secondary and 2-year college vocational students

**Estimated Time to Completion:** 30 hours

**Prerequisites:**

- Introduction to Cybersecurity
- Foundational networking knowledge (equivalent of Networking Essentials)

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

**Learning Component Highlights:**

- ✓ 8 Modules and 14 practice labs
- ✓ 12 Cisco Packet Tracer activities
- ✓ Interactive activities & quizzes
- ✓ 1 final exam

**Course Recognitions:** Digital Badge

**Recommended Next Course:**

CyberOps Associate or Cloud Security or Network Security, or IoT Security



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No



# CyberOps Associate

## Course Overview

This course introduces the core security concepts and skills needed to monitor, detect, analyze, and respond to cybercrime, cyberespionage, insider threats, advanced persistent threats, regulatory requirements, and other cybersecurity issues facing organizations.

## Benefits

Gain practical, hands-on skills needed to maintain and ensure security operational readiness of secure networked systems.

## Prepare for Careers

- ✓ Develop skills for entry-level security operations center (SOC) jobs
- ✓ Prepare for CyberOps Associate certification
- ✓ Pursue a career in cybersecurity operations, a rapidly-growing, exciting new area that spans all industries

## Course Details

Target Audience: Students enrolled in technology degree programs at higher education institutions; IT professionals who wants to pursue a career in Security Operations

Estimated Time to Completion: 70 hours

Recommended Preparation: Introduction to Cybersecurity, Cybersecurity Essentials

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 28 chapters and 46+ practice labs
- ✓ 6 Cisco Packet Tracer activities
- ✓ 113 interactive activities, videos, & quizzes
- ✓ 1 practice certification exam

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

Recommended Next Course:  
Cloud Security, Network Security, IoT Security



Cybersecurity



## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Yes
- Physical Equipment Required: No (Uses Virtual Machines on the student's computer)
- Discount Availability: Yes

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**Certification Aligned**

[Cisco Certified CyberOps Associate](#)

# Cloud Security

## Course Overview

This course introduces the fundamentals of cloud computing and skills needed to secure an organization in the cloud.

## Benefits

Learn the methods and tools to design, build, and maintain a secure cloud business environment.

## Prepare for Careers

- ✓ Develop skills for entry-level cloud security positions
- ✓ Prepare for Certificate of Cloud Security Knowledge (CCSK) exam
- ✓ Pursue a career in cloud security, an in-demand, exciting new area that spans all industries

## Course Details

**Target Audience:** Learners enrolled in technology degree programs at higher education institutions; IT professionals who want to pursue a career in Cloud Security

**Estimated Time to Completion:** 35 hours

**Recommended Preparation:** Introduction to Cybersecurity, Cybersecurity Essentials

**Course Delivery:** Online self-paced (with instructor mentorship)

**Learning Component Highlights:**

- ✓ 6 modules
- ✓ 20+ videos
- ✓ 10 interactive activities
- ✓ 37 quizzes
- ✓ 1 final exam

**Course Recognitions:** Certificate of attendance

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



Cybersecurity



## Requirements & Resources

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No
- Discount Availability: Yes

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(Available for select courses)

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**Certificate Aligned**  
[Certificate of Cloud Security Knowledge \(CCSK\)](#)

# Network Security

## Course Overview

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

## Benefits

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

## Prepare for Careers

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

## Course Details

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

Estimated Time to Completion: 70 hours

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

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 22 modules and 25 practice labs
- ✓ 22 Cisco Packet Tracer activities
- ✓ 87+ interactive activities, videos, and quizzes
- ✓ 1 final exam

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

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



Cybersecurity



## Requirements & Resources

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

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Hands-on practice with  
Cisco Packet Tracer



# IoT Security

## Course Overview

The explosive growth of connected IoT devices also increases the exposure to security threats. Learn to perform vulnerability and risk assessments, and research and recommend risk mitigation strategies for common security threats in IoT systems.

## Benefits

Learn practical tools for evaluating security vulnerabilities, perform threat modeling, and recommend threat mitigation measures. Gain hands-on, transferable skills relevant across IoT and other network architectures.

## Prepare for Careers

- ✓ Develop skills for entry-level roles in the rapidly growing IoT and security domains
- ✓ Increase awareness of emerging technologies in the IoT Security space, such as Blockchain

## Course Details

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

Estimated Time to Completion: 50 hours

Prerequisites:

- IoT Fundamentals: Connecting Things
- Networking Essentials and Cybersecurity Essentials (or equivalent)

Course Delivery: Instructor-led

Learning Component Highlights:

- ✓ 6 chapters and 24 practice labs
- ✓ 5 Cisco Packet Tracer activities
- ✓ 50+ interactive activities, videos, & quizzes
- ✓ 1 hands-on capstone activity
- ✓ 1 IoT Security game with 10 missions
- ✓ 1 final exam

Course Recognitions: Certificate of Completion

Recommended Next Course:

CyberOps Associate, Cloud Security, Network Security



Cybersecurity



## Requirements & Resources

- ASC Alignment Required: Yes
- Instructor Training Required: Optional
- Physical Equipment Required: Yes
- Discount Availability: Yes

Quick Links

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(Available for select courses)

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(Includes language availability)



Features the IoT Security Game!

# Getting Started with Cisco Packet Tracer

## Course Overview

This short on-ramp course introduces Cisco Packet Tracer, an innovative network simulation and visualization tool. Teaches how to download Cisco Packet Tracer, navigate the simulation environment, and practice building a network using everyday examples.

## Benefits

Provides valuable tips, best practices, and builds confidence using this powerful tool offered in many courses.

## Explore Opportunities in Technology

- ✓ Installs the powerful simulation and visualization tool.
- ✓ Practices networking, cybersecurity, and IoT skills by using Cisco Packet Tracer.

[View Course](#)

## Course Details

**Target Audience:** General audience

**Estimated Time to Completion:** 2 hours

**Prerequisites:** None

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

### Learning Component Highlights:

- ✓ 2 modules
- ✓ 1 Cisco Packet Tracer Tutored Activity (PTTA)
- ✓ 1 Cisco Packet Tracer Activity
- ✓ 1 assessment

**Course Recognitions:** SFA Achievement

### Recommended Next Courses:

- ✓ Exploring Networking with Cisco Packet Tracer
- ✓ Exploring IoT with Cisco Packet Tracer



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No



# Exploring Networking with Cisco Packet Tracer

## Course Overview

In this course, learners create and explore a small office network using Cisco Packet Tracer. Teach how to connect and configure devices in a network, including wireless devices, and how to manage and monitor a network.

## Benefits

Offers valuable tips and practices networking skills using Cisco Packet Tracer.

## Explore Opportunities in Technology

- ✓ Teach how to connect and configure devices in a small office network using Packet Tracer
- ✓ Show how packets travel across a network using Simulation Mode
- ✓ Explore how a network controller can be used to manage and configure a network

[View Course](#)

## Course Details

**Target Audience:** General audience

**Estimated Time to Completion:** 3 hours

**Prerequisites:** Getting Started with Cisco Packet Tracer

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

### Learning Component Highlights:

- ✓ 2 modules
- ✓ 1 Cisco Packet Tracer Tutored Activity (PTTA)
- ✓ 7 Cisco Packet Tracer Activity
- ✓ 1 assessment

**Course Recognitions:** SFA Achievement

### Recommended Next Course:

- ✓ Exploring IoT with Cisco Packet Tracer



## Requirement

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

# Exploring IoT with Cisco Packet Tracer

## Course Overview

This course teaches how to set up a smart home network using Cisco Packet Tracer, how to add IoT devices to a home network, and then connect, configure, and monitor them. Learners become more familiar with IoT devices and how they can be programmed. Learners will create their own IoT device and use it in a simulated smart home network.

## Benefits

Practice IoT (Internet of Things) skills using Cisco Packet Tracer.

## Explores Opportunities in Technology

- ✓ Connect and monitor devices in a smart home network.
- ✓ Modify and monitor environment elements that may affect IoT devices.
- ✓ Create and modify an IoT Thing in Cisco Packet Tracer.

[View Course](#)

## Course Details

**Target Audience:** General audience

**Estimated Time to Completion:** 3 hours

**Prerequisites:** Getting Started with Cisco Packet Tracer course

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

### Learning Component Highlights:

- ✓ 2 modules
- ✓ 6 Cisco Packet Tracer Activity
- ✓ 1 assessment

**Course Recognitions:** SFA Achievement

### Recommended Next Course:

Exploring Networking with Cisco Packet Tracer



## Requirements

- ASC Alignment Required: No
- Instructor Training Required: No
- Physical Equipment Required: No

# Practice

Hands-on tools & interactive experiences to  
build skills, not just knowledge



# Hands-On Practice

A key pillar of Networking Academy



Motivate your students with exciting experiences that make learning very real



Accelerate and optimize each student's path to career-ready skills



Build student confidence: "I can do this!"

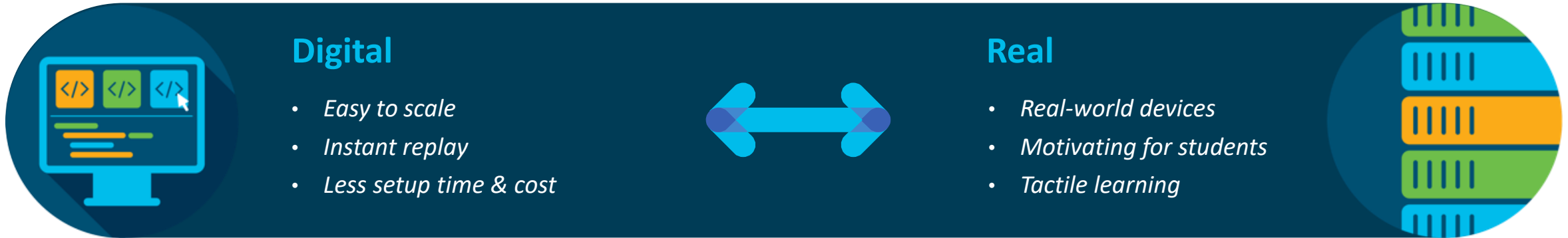


Developed by learning scientists & subject-matter experts



# A Suite of Lab Environments

Options ranging from simulation to physical hardware



Simulation with Packet Tracer



Virtualized Equipment



Virtual Machines



Remote Equipment



Physical Hardware



# Cisco Packet Tracer

## Overview

Cisco Packet Tracer is a powerful simulation and visualization learning environment. Practice building simple and complex networks across a variety of devices and extend beyond routers and switches.

## Benefits

Teach complex concepts without complex hardware. Leverage the versatility of simulation for lectures, labs, games, homework, assessments, competitions, and distance learning.

## Build Skills for Success

- ✓ Quickly try, experiment, learn, repeat
- ✓ Practice teamwork, critical thinking and creative problem-solving skills
- ✓ Integration with online assessment engine prepares students for hands-on assessments

## Details

Use it to:

- Create and configure your own networks
- Practice cabling your devices in the rack with Physical Mode
- See how packets travel through your network with Simulation Mode
- Program your own IoT smart solution
- And more!

How to Access:

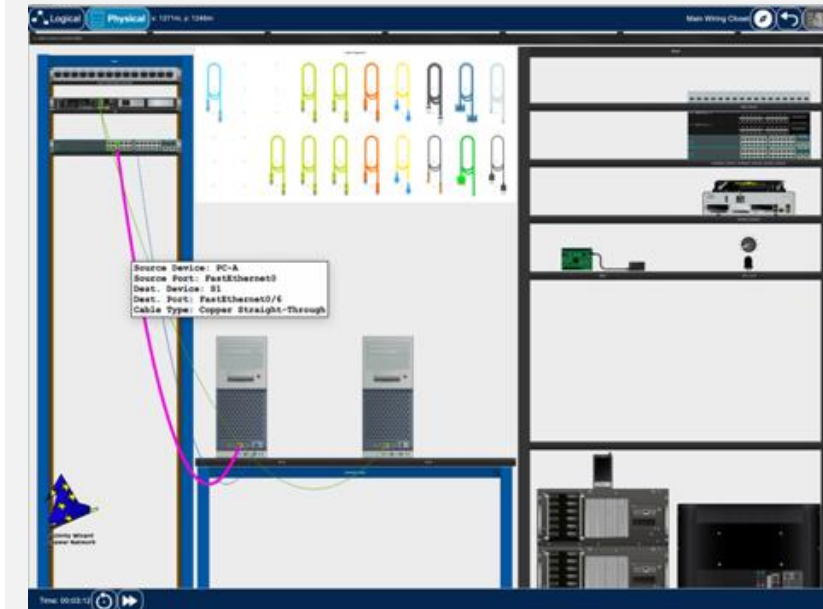
Enroll in Getting Started with Cisco Packet Tracer course to download desktop version

Courses that use Cisco Packet Tracer include:

- Networking Essentials
- Cybersecurity Essentials
- IT Essentials
- CCNA
- CyberOps Associate
- DevNet Associate
- CCNP Enterprise
- Introduction to Internet of Things (IoT)
- IoT Security
- Network Security



Practice



## Requirements & Resources

- Cost: Free

Quick Links

[Getting Started with Cisco Packet Tracer short courses](#)

[Teaching with Cisco Packet Tracer](#)

[Cisco Packet Tracer FAQs](#)



Hands-on tools & interactive experiences to build skills, not just knowledge

# Virtual Machines (VM)

## Overview

Virtual machines are virtual environments that emulate a computer system. These self-contained virtual environments let students explore systems to the breaking point without causing actual damage.

## Benefits

Experiment and explore in a low-risk environment. Deliberately test security threats and malware in a safe environment.

## Build Skills for Success

- ✓ Hands-on cybersecurity practice
- ✓ Students become familiar with virtual machines to prepare for on-the-job skills

## Details

Use it to:

- Teach virtual machine technology
- Simulate real-world cybersecurity threat scenarios
- Create opportunities for ethical hacking, security monitoring, analysis, and resolution

How to Access:

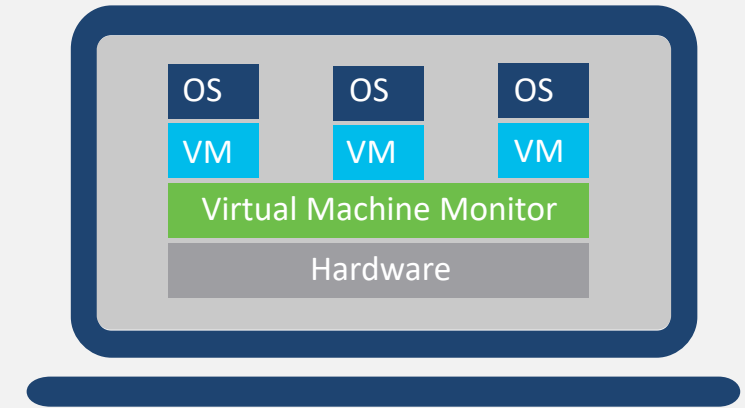
Free software download from Oracle VirtualBox  
<https://www.oracle.com/virtualization/technologies/vm/downloads/virtualbox-downloads.html>

Courses that use Virtual Machines include:

- CCNA
- CyberOps Associate
- Emerging Technologies Workshop: Model-Driven Programmability
- DevNet Associate



Practice



## Requirements & Resources

- Cost: Free



Hands-on tools & interactive experiences to build skills, not just knowledge

# Remote Equipment: NDG NETLAB+

## Overview

Connect to real hardware through the web. Available through Networking Academy partnerships:

NDG NETLAB+ provides cloud-based, remote access to networking equipment and PCs.

## Benefits

Reduce your setup time for complex labs with on-demand remote access to lab equipment when you need it.

## Build Skills for Success

- ✓ Provide practice opportunities for students to complete labs from anywhere
- ✓ Supplement your lab offerings when physical hardware is not available at your institution

## Details

Use it to:

- Access remote IT equipment through a web browser
- Reduce your lab setup time

How to Access:

Learn more at the NDG NETLAB+ page for Networking Academy.

<https://www.netdevgroup.com/content/cnap/>

Courses that use Remote Equipment include:

- CCNA
- CCNP Enterprise
- IT Essentials
- CyberOps Associate
- Network Security



Practice

In partnership with



NETLAB+



## Requirements & Resources

- Cost: Yes



Hands-on tools & interactive experiences to build skills, not just knowledge

# Remote Equipment: DevNet Sandbox

## Overview

Connect to real hardware through the web. Available through Networking Academy partnerships:

Cisco DevNet Sandbox offers packaged labs for software development, testing APIs, training, hackathons, and more.

## Benefits

Reduce your setup time for complex labs with on-demand remote access to lab equipment when you need it.

## Build Skills for Success

- ✓ Students get experience running their code against live network infrastructure
- ✓ Practice working in a sandbox environment just like on-the-job software developers

## Details

Use it to:

- Interact with live network infrastructure and programmable devices using real-world Application Programming Interfaces (APIs)

How to Access:

Learn more at the Cisco DevNet Sandbox page <https://developer.cisco.com/site/sandbox/>

Courses that use Remote Equipment include:

- Workshop: Experimenting with REST APIs
- Workshop: Model-Driven Programmability
- DevNet Associate



Practice

 [DevNet Sandbox](#)



## Requirements & Resources

- Cost: Free



Hands-on tools & interactive experiences to build skills, not just knowledge

# Physical Hardware

## Overview

Bring the real world inside the classroom so students can practice physical, sensory skills. Seeing and exploring with real equipment makes the abstract more tangible.

## Benefits

Excite learners to consider career pathways in networking technology, and increase retention through tactile learning.

## Build Skills for Success

- ✓ Provide hands-on practice with the same devices found in the work environment
- ✓ Students gain real experience even before on-the-job training
- ✓ Build transferable, career-ready skills

## Details

How to Access:

1. Contact a local Cisco Reseller Partner for pricing and order fulfillment. Use [Partner Finder](#) to find one near you.
2. Consider working with an Academy Support Center (ASC) who can help you choose the best way to secure equipment needed for your location. They may offer loaner equipment or used equipment options

Courses that use Physical Hardware include:

- Networking Essentials
- IT Essentials
- CCNA
- CCNP Enterprise
- Network Security
- IoT Security



Practice



## Requirements & Resources

- Cost: Yes

## Discounts

Equipment discounts are available for Networking Academy institutions. Available for Cisco equipment needed for Networking Academy courses and labs when purchased through a Cisco Reseller Partner.



Hands-on tools & interactive experiences to build skills, not just knowledge





## Our Labs

Reignite hope and address socio economic transformation through digital empowerment

# Marburg Secondary School Lab

Address: Corner Deepvale and, Main Harding Rd, Grosvenor, Port Shepstone





# RA Engar Lab

Address: Oceanview Road, Marburg, Port Shepstone, 4240



**Enrollment Form:**

**Click the link below to  
register**

**[Register here](#)**

or [click here to enrol via WhatsApp](#)



# For Partnerships and contributions towards our projects:

Your contribution is more than an charitable donation, it:

- Helps educate children and communities for the jobs of tomorrow.
- Helps play an active role in reducing unemployment.
- Helps empower all people with career possibilities.
- Assists in bringing the best-in-class, global technology standards locally.
- It provides ongoing access for students to reskill and upskill for jobs of the future.
- Provides critical digital skills irrespective of education background.

To make contributions by card, [click here](#)

For the following monthly contributions, click on the amount you'd like to pledge:

[R50](#)

[R100](#)

[R200](#)

Account Holder: Digital Skills Africa NPC

Bank: First National Bank (FNB)

Account Type: Business Account

Account Number: 62887554197

Branch Code: 210835

Swift Code: FIRNZAJJ

Please use your name or company name as a reference.





## Contact Information:

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Partnerships and Collaboration Inquiries	<a href="mailto:jnaidoo@digitalskillsafrica.org">jnaidoo@digitalskillsafrica.org</a>
To register via WhatsApp	+27 72 290 5810

### Office Hours:

Mon – Fri: 08h00 – 17h00

Sat: 08h00 – 12h00