

TECKYGUYS ACADEMY



DATA CENTER ENGINEERING

PATHWAY GUIDE

Powered by Chrome Tech LLC

2026 EDITION A practical pathway for beginners, career changers, working professionals and experienced technicians.

Build Skills. Create Evidence. Prepare for Opportunity.

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ABOUT THIS GUIDE

Welcome to the Data Center Engineering Pathway

This guide explains the curriculum, practical training, assessments, completion requirements and career preparation for the TeckyGuys Academy Data Center Engineering Pathway.

What this guide covers

- The five required Cisco Networking Academy courses
- The ten-module TeckyGuys Data Center Technician Core
- The required physical-infrastructure learning component
- Supervised workshops, practical evidence and capstone assessment
- Completion awards, optional certification preparation and career directions

What this guide does not replace

- The TeckyGuys Academy Catalog and Student Handbook
- The student's written enrollment agreement and program offer
- Current provider terms, examination policies or employer requirements
- Site-specific safety training, work authorization or production procedures

IMPORTANT: Program availability, provider access, schedules and included services must be confirmed in writing for the applicable enrollment period.

NAVIGATION

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SECTION 1

Pathway Overview

The pathway prepares students for technical roles supporting servers, networks, cabling and physical infrastructure within enterprise, colocation, edge and hyperscale data centers.

1.1 Who this pathway is for

- Newcomers seeking a structured entry into data center operations
- IT support, smart-hands and field-service technicians
- Server, hardware, network and cabling technicians
- Career changers entering infrastructure roles
- Experienced technicians transitioning into enterprise or hyperscale environments
- Working professionals seeking stronger practical discipline and documented evidence

1.2 Entry position

Previous data center experience is not required. Students should have basic computer literacy, willingness to follow controlled procedures, ability to communicate professionally and readiness to complete both online learning and supervised practical work.

NOT ONLY FOR BEGINNERS: Prior experience may support placement, faster progression or deeper project work, but it does not automatically waive required safety, assessment or completion standards.

SECTION 2

Learning Outcomes

By completing the pathway, students should be able to demonstrate foundational competence in the following areas:

Domain	Student capability
Hardware	Identify major server, storage, power, cooling and interface components.
Rack operations	Interpret rack positions, install approved equipment and verify location, orientation and labeling.
Connectivity	Recognize copper, fiber, transceivers, patching and basic network addressing.
Management	Access approved remote-management interfaces and review inventory, health and event information.
Provisioning	Support boot, storage, operating-system installation, drivers, firmware and verification tasks.
Diagnostics	Follow a controlled process to isolate faults and perform authorized component replacement.
Facilities awareness	Explain power redundancy, airflow, cooling, environmental monitoring and physical security.
Operations	Work from tickets and procedures, communicate status, document evidence and escalate correctly.
SCOPE: The pathway develops technician awareness and authorized practical skills. It does not qualify a student to perform regulated electrical, mechanical, fire-protection or facilities engineering work.	

SECTION 3

Curriculum Architecture and Completion Sequence

1. Complete the five required Cisco Networking Academy courses.
2. Complete all ten modules of the TeckyGuys Data Center Technician Core.
3. Complete the approved data center physical-infrastructure learning component.
4. Participate satisfactorily in required supervised workshops.
5. Build and submit required technical evidence.
6. Pass the Data Center Engineering Capstone Assessment.
7. Meet attendance, conduct, safety, academic-integrity and administrative requirements.
8. Receive eligible provider credentials and the TeckyGuys pathway award.

3.1 Delivery model

Learning may combine self-paced coursework, instructor-led sessions, demonstrations, simulations, physical laboratory activities, technical documentation assignments and career-development support. The exact schedule is stated in the enrollment offer.

CONTROLLED PRACTICE: Students may work only on training equipment, simulations or properly authorized systems under the applicable procedure and supervision.

SECTION 4

Required Cisco Courses — Hardware and Networking Foundations

4.1 IT Essentials

Provides the technical foundation for computer hardware, operating systems, networking, security and technical support.

- Identify computer components and common interfaces
- Install and configure approved hardware
- Understand operating-system functions
- Apply preventive-maintenance procedures
- Diagnose common hardware and software problems
- Follow support and security practices

4.2 Networking Basics

Explains how servers, switches, endpoints and other devices communicate across a network.

- Network types and components
- Ethernet and network communication
- Wired and wireless connectivity
- Basic protocols and services
- Network troubleshooting principles

WHY THESE COURSES MATTER: Data center technicians frequently troubleshoot at the boundary between hardware, operating systems and network connectivity.

4.3 Networking Devices and Initial Configuration

- Switches, routers and network interfaces
- Device addressing and initial configuration
- Connectivity verification
- Basic device troubleshooting

4.4 Network Addressing and Basic Troubleshooting

- IPv4 and IPv6 concepts
- Subnet information and network settings
- Connectivity testing
- Addressing problems and evidence collection for escalation

4.5 Linux Unhatched

- Linux command-line navigation
- Files and directories
- Essential commands
- Users and permissions
- Basic Linux system functions

PROVIDER NOTICE: Course titles, access, completion rules, certificates and badges remain subject to Cisco Networking Academy requirements and availability.

SECTION 5

TeckyGuys Data Center Technician Core

After completing the five required Cisco Networking Academy courses, students progress into the ten-module TeckyGuys Data Center Technician Core. These modules build on foundational

knowledge of computer hardware, networking, IP addressing and Linux, then apply it to practical data center procedures, evidence and professional documentation.

5.1 Core Structure

Each module includes core knowledge and skills, required practical evidence, a defined performance standard, and applicable safety, authorization and escalation boundaries. Students should complete the modules in sequence because later activities build on skills introduced earlier.

5.2 Module Sequence

- Data Center Fundamentals
- Safety, Security and Controlled Operations
- Enterprise Server Hardware
- Rack-and-Stack Operations
- Data Center Cabling and Connectivity
- Remote Server Management
- Server Provisioning and Operating-System Support
- Hardware Diagnostics and Component Replacement
- Power, Cooling and Environmental Systems
- Smart Hands and Operational Documentation

MODULE 1

Data Center Fundamentals

Core knowledge and skills:

- Purpose and functions of a data center

Enterprise, colocation, edge and hyperscale environments

- Data halls, racks, rows, cages and equipment rooms
- Data center teams and responsibilities
- Operational discipline, service expectations and terminology

Required practical evidence

- Create a labeled facility map or topology sketch.
- Translate a sample work request into location, asset and access details.
- Prepare a glossary of common data center terms.

PERFORMANCE STANDARD: Explain how facility type, customer model and operational scale affect a technician's work.

MODULE 2

Safety, Security and Controlled Operations

Core knowledge and skills:

- Personal protective equipment and hazard awareness
- Electrostatic-discharge protection
- Safe lifting and equipment handling
- Site access and physical-security procedures
- Method of procedure, change control and work authorization
- Stop-work, escalation and protection of customer information

Required practical evidence

- Complete a pre-work safety checklist.
- Demonstrate ESD preparation and controlled equipment handling.
- Identify stop-work conditions in a scenario.

PERFORMANCE STANDARD: No physical workshop begins until the required safety preparation is complete.

MODULE 3

Enterprise Server Hardware

Core knowledge and skills:

- Rack-mounted servers, compute trays and chassis
- Processors, memory, drives, backplanes and RAID concepts
- Power supplies, fans and cooling components
- Network-interface cards, GPUs, accelerators, risers and mezzanine cards
- Motherboards, firmware, BIOS, boot processes and health indicators

Required practical evidence

- Identify components from physical equipment or approved visuals.
- Create a component-to-symptom reference sheet.
- Record inventory and service-tag information accurately.

PERFORMANCE STANDARD: Recognize components, their purpose, common indicators and appropriate escalation boundaries.

MODULE 4

Rack-and-Stack Operations

Core knowledge and skills:

- Rack elevations and rack-unit positions
- Equipment inspection before installation
- Rails and cable-management components
- Safe mounting and removal
- Location, orientation, labels and asset identifiers
- Approved power and network connections
- Verification and installation records

Required practical evidence

- Read a sample rack elevation.
- Practice rail and equipment placement on training hardware.
- Complete an installation verification record.

PERFORMANCE STANDARD: Accuracy matters: correct rack, correct unit, correct orientation, correct connections, correct evidence.

MODULE 5

Data Center Cabling and Connectivity

Core knowledge and skills:

- Copper and fiber cabling
- Connectors, transceivers and interface types
- Patch panels and cable management
- Routing, bend radius, port identification and labeling
- Patch schedules and link-light verification
- Fiber inspection and cleaning
- Basic testing, troubleshooting and escalation

Required practical evidence

- Trace and label a training circuit.
- Demonstrate approved fiber inspection and cleaning.
- Document link status and a connectivity escalation.

PERFORMANCE STANDARD: Students must receive authorization before connecting, disconnecting or testing production circuits.

MODULE 6

Remote Server Management

Core knowledge and skills:

- Dell iDRAC, HPE iLO and Lenovo XClarity awareness
- Baseboard Management Controller concepts
- Management-network connectivity
- Hardware inventory and system health
- Event and lifecycle logs
- Remote power operations and virtual console
- Firmware and configuration information

Required practical evidence

- Configure a laptop for an approved management network.
- Review a simulated hardware-health dashboard and log set.
- Prepare an evidence-based escalation note.

PERFORMANCE STANDARD: Training uses approved laboratory equipment, demonstrations or simulations; remote actions require authorization.

MODULE 7

Server Provisioning and Operating-System Support

Core knowledge and skills:

- BIOS and firmware fundamentals
- Boot order and boot modes
- Storage and RAID configuration
- Operating-system installation
- Driver and firmware dependencies

- Network configuration
- Post-installation verification
- Reimaging, recovery, documentation and escalation

Required practical evidence

- Prepare a provisioning checklist.
- Install an operating system on approved training equipment.
- Record configuration and verification results.

PERFORMANCE STANDARD: A successful installation includes validation, accurate records and a clear handoff—not merely reaching the login screen.

MODULE 8

Hardware Diagnostics and Component Replacement

Core knowledge and skills:

- Review work order and available evidence
- Confirm authorization and safety requirements
- Identify equipment and affected component
- Inspect connections, indicators and logs
- Isolate the probable cause
- Perform approved corrective action
- Reassemble, reconnect, verify, document and escalate

Required practical evidence

- Diagnose a staged fault.
- Replace an approved field-replaceable component.
- Complete before-and-after evidence and a service report.

PERFORMANCE STANDARD: Practical activities may include memory, drives, power supplies, fans, cables and adapters on approved training systems.

MODULE 9

Power, Cooling and Environmental Systems

Core knowledge and skills:

- Redundant power, A-side and B-side power
- PDUs, UPS systems, generators and backup concepts
- Equipment power requirements
- Airflow, hot aisle, cold aisle and containment
- Temperature, humidity and environmental monitoring
- Fire detection, suppression, efficiency and sustainability

Required practical evidence

- Interpret a simplified power-path diagram.
- Identify airflow risks in a rack scenario.
- Respond to a simulated environmental alarm using escalation procedures.

PERFORMANCE STANDARD: This module provides operational awareness and does not authorize regulated facilities work.

MODULE 10

Smart Hands and Operational Documentation

Core knowledge and skills:

- Scopes of work, service tickets and site details

- Arrival, access and progress communication
- Serial numbers, asset details and authorized photographs
- Test results and professional service reports
- Blocker escalation, shift handover and closure authorization

Required practical evidence

- Convert a scope of work into a technician action plan.
- Complete a smart-hands ticket and service report.

PERFORMANCE STANDARD: Professional documentation must be factual, concise, time-stamped where appropriate and free from unsupported conclusions.

SECTION 6

Physical-Infrastructure Learning Component

Students complete an approved external learning component covering data center physical infrastructure. Students complete approved Schneider Electric University physical-infrastructure coursework aligned with the Data Center Certified Associate (DCCA) body of knowledge, subject to current availability and provider requirements. Any DCCA examination, certification, voucher or provider-issued credential will be identified separately in the student's written enrollment offer.

6.1 Coverage

- Data center power and electrical-distribution concepts
- Cooling systems and airflow
- Racks and physical infrastructure
- Cabling and connectivity
- Fire detection and protection awareness
- Physical security
- Infrastructure management and data center operations

6.2 Why It Is Included

The component strengthens facilities and physical-infrastructure awareness that is not fully covered by the core networking courses.

CURRENT INFORMATION: The enrollment offer will identify the approved course, access method, completion requirement and whether any provider credential is included. Provider policies control the provider-issued credential.

SECTION 7

Required Practical Workshops

7.1 Installation and Connectivity

Workshop	Evidence
Equipment identification and inspection	Inspection checklist, asset record and photographs where authorized.
Rack-unit identification and rack-and-stack	Rack placement record and completion verification.
Copper and fiber connectivity	Port map, labels, link verification and exception notes.
Cable routing and management	Routing plan and quality/safety inspection.
Remote-management access	Management connectivity record, inventory and health review.

7.1.1 Workshop Discipline

- Confirm authorization and scope before touching equipment.
- Verify site, room, row, rack, unit and asset identifiers.

- Use the required PPE, ESD controls and handling method.
- Protect ports, connectors, cables and equipment from contamination or damage.
- Stop and escalate when instructions, access or conditions are unclear.

LABORATORY RULE: Speed never takes priority over safety, equipment protection, correct identification or authorized procedure.

7.2 Provisioning, Diagnostics and Service

Workshop	Evidence
Laptop management-network setup	Approved static or dynamic configuration and connectivity results.
Operating-system installation	Installation checklist, configuration record and post-install validation.
Hardware diagnosis	Symptoms, observations, logs, tests, probable cause and escalation decision.
Approved component replacement	Pre-work checks, replacement record, reassembly and health verification.
Smart-hands ticket completion	Status updates, serials, test results, authorized evidence and closure notes.
Shift handover	Completed work, remaining tasks, risk, blocker, owner and next action.

7.3 Acceptable Environments

- Dedicated training equipment
- Instructor-controlled laboratory systems
- Approved virtual labs or simulations
- Properly authorized systems used under an approved procedure

PRODUCTION LIMIT: Completion of classroom and laboratory training does not authorize a student to work independently on live production systems.

SECTION 8

Data Center Engineering Capstone Assessment

The capstone requires the student to complete an end-to-end technician assignment using approved training equipment or a controlled simulation.

1. Review the work order and method of procedure.
2. Identify the correct rack, equipment and components.
3. Complete safety, access and pre-work checks.
4. Install, connect or diagnose the approved equipment.
5. Use appropriate management and diagnostic tools.
6. Verify the completed work and system condition.
7. Record actions, identifiers, observations and test results.
8. Prepare an escalation or shift-handover report.
9. Explain the work performed, decisions made and lessons learned.

8.1 Evaluation Domains

Technical	Operational	Professional
Knowledge and practical ability	Safety, procedure and verification	Communication and documentation
Troubleshooting and tool use	Authorization and escalation	Conduct and ownership

SECTION 9

Assessment, Evidence and Completion Requirements

9.1 Evidence Portfolio

- Course-completion records
- Laboratory checklists and practical observations
- Rack, cabling, provisioning and diagnostic records
- Service ticket and shift-handover samples
- Capstone report and instructor evaluation
- Career-development documents where included

9.2 Pathway Award Requirements

- Complete all five required Cisco courses
- Complete all ten technician-core modules
- Complete the approved physical-infrastructure course
- Complete the required supervised workshops
- Pass the capstone assessment
- Meet attendance, participation, safety, conduct and academic-integrity standards
- Resolve applicable academic and administrative requirements

ASSESSMENT DECISION: Participation alone is not completion. Students must submit required evidence and meet the stated performance standard.

SECTION 10

Credentials and Optional Certification Preparation

10.1 Eligible Completion Recognition

- Applicable Cisco Networking Academy course-completion certificates
- Applicable Cisco digital badges
- The applicable approved physical-infrastructure course credential
- TeckyGuys Academy Data Center Engineering Pathway Award

AWARD DISTINCTION: The TeckyGuys Academy Data Center Engineering Pathway Award confirms completion of the published training and assessment requirements. It is not a professional engineering license, Cisco certification, CompTIA certification, DCCA certification or authorization to perform regulated electrical, mechanical, fire-protection or facilities-engineering work.

10.2 Optional: CompTIA Server+ Preparation

- Server hardware and administration
- Security and disaster recovery
- Troubleshooting and operational support

10.3 Optional: Fiber-Optic Specialization

- Fiber principles, cables and connectors
- Installation, inspection and cleaning
- Testing, troubleshooting, safety and documentation

CERTIFICATION NOTICE: Professional certification examinations, vouchers and provider awards are separate unless expressly included in the student's written enrollment agreement. Certification-aligned preparation does not guarantee certification or examination success.

SECTION 11

Career Preparation and Opportunities

11.1 Representative Roles

Operations and hardware	Deployment and connectivity
Data Center Technician	Deployment Technician
Data Center Operations Technician	Rack-and-Stack Technician
Server Hardware Technician	Data Center Cabling Technician
Break/Fix Technician	Network Deployment Technician
Hardware Support Technician	Smart Hands Technician
Infrastructure Support Technician	Field Service Technician

11.2 Career Evidence Students Should Build

- Accurate technical résumé and LinkedIn profile
- Skills inventory tied to completed evidence
- Redacted work samples that protect confidential information
- Practice interview stories using safety, troubleshooting and teamwork examples
- Professional references where available and appropriate

EMPLOYMENT NOTICE: Job titles and requirements vary. Employers may require experience, certifications, background screening, driving eligibility, lifting ability, shift availability, work authorization or site-specific safety training. Completion does not guarantee employment or salary.

SECTION 12

Student Readiness, Safety and Next Steps

12.1 Before Enrolling, Confirm

- Program format, start date, duration and weekly commitment
- Required computer, internet and laboratory access
- Tuition, payment schedule and additional expenses
- Included provider courses, credentials, software and services
- Assessment, attendance, withdrawal and refund requirements
- Any physical, accessibility or scheduling support needs

12.2 Professional Commitments

- Attend and participate consistently
- Practice within authorization and safety boundaries
- Protect accounts, equipment and confidential information
- Communicate blockers early and document work accurately
- Accept feedback and continue developing technical judgment

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