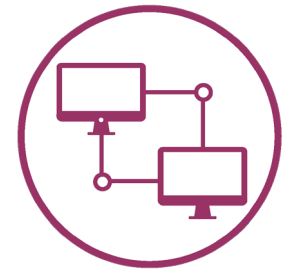


Level 4

# Network Engineer



**Phase 1** Onboarding

**Phase 2** Training & 1-1 Review Sessions

Cisco IT  
Essentials

Network Principles

Network Systems  
& Architecture

Network Security

**Phase 3** Assessment Gateway

**Phase 4** End Point Assessment



Review sessions  
every 4 weeks

## Programme Delivery

All modules are either trainer-led remote training sessions or self-paced distance learning on our dedicated VLE.

| Phase   | Month | Training Modules                       | Length   | Session Times   |
|---------|-------|--|----------|---|
| Phase 1 |       | Induction & Onboarding                 | 1-2 days | All trainer-led training days are delivered online and run from 9.30am to 4.30pm. Morning, afternoon and lunch breaks are provided. |
| Phase 2 | 1     | Cisco IT Essentials                    | VLE      |   |
|         | 2     | Network Principles (1)                 | 3 days   |   |
|         | 2     | Network Principles (2)                 | 3 days   |   |
|         | 2     | Network Principles (3)                 | 3 days   |   |
|         | 5     | Network Systems & Architecture (1)     | 2 days   |   |
|         | 5     | Network Systems & Architecture (2)     | 2 days   |   |
|         | 5     | Network Systems & Architecture (3)     | 2 days   |   |
|         | 7     | Network Security (1)                   | 3 days   |   |
|         | 7     | Network Security (2)                   | 3 days   |   |
|         | 7     | Network Security (3)                   | 3 days   |   |
| Phase 3 | 14    | Assessment Gateway and EPA Preparation | 2 days   |   |
| Phase 4 |       | End Point Assessment                   | 4 months |   |

## Onboarding

Our Induction and Onboarding team will assist apprentices in understanding their programme.

## Functional Skills

If required, apprentices will complete 3 days functional skills in Maths and English.

## Cisco IT Essentials

- Introduction to PC hardware.
- PC assembly.
- Advanced computer hardware.
- Preventive maintenance and troubleshooting.
- Networking concepts.
- Applied networking.
- Laptops and other mobile devices.
- Printers.
- Virtualisation and Cloud.
- Windows installation.
- Windows configuration.
- Mobile, Linux, and OS X Operating systems.
- Security.
- The IT Professional.

## Network Principles

- Describe the role performed by a network of computers and shared devices.
- Describe concepts of physical and logical networks and state their main features and the advantages and disadvantages of each.
- Explain the typical infrastructure components of physical networks.
- Understand network protocol suites and conceptual models.

## EPA Preparation

Dedicated one-to-one sessions to support the learner as they head towards assessment, putting them in the best possible position for achievement.

## Network Principles cont...

- Explore the fundamentals of network conceptual models.
- Compare and contrast the layers and the functionality of the OSI and TCP/IP models and associated devices.
- Understand the concepts of IP addressing and routing and IP addressing schemes, routing concepts and protocols.
- Describe the differences between a class based (IPv4) and Classless Inter Domain Routing scheme (CIDR).
- Compare and contrast the advantages and disadvantages offered by static and dynamic for a Local Area Network.

## Network Security

- Explain terminology for key IT security concepts.
- Describe current vulnerabilities and threats associated with IT security.
- Explain risk management methods and risk calculation tools.
- Explain and know when to use IT security countermeasures and controls.
- Understand how to configure network security.
- Understand how to configure a network server to enhance security of the server, applications and data.
- Describe elements of network security that can be configured on a server to enhance security.
- Understand a range of tools and techniques to identify vulnerabilities and threats to a network server.
- Understand the concepts of appropriate incident response for information security incidents and identify different instances and escalate in an appropriate way.

## Assessment Phase

EPA can take up to 3-4 months to complete. This involves a professional discussion underpinned by a portfolio and a simulated assessment and questioning.

## Network Systems & Architecture

- Develop a knowledge of the hardware and software components that form a server.
- Install and configure a server (or configure partition(s) within a server) and test connection to an existing network.
- Explain how to configure the elements required to enable a server to perform a specified role.
- Describe the concept of virtualisation and virtual machines.
- Install and configure one or more virtual machines and manage resource allocation using a Hyper-Visor.
- Explain the roles and services provided by servers.
- Describe how to configure a range of network services and test their operation.
- Explain middleware and application services in a networking context through examples and case studies.
- Describe the purpose, benefits and drawbacks of server workload balancing.
- Describe a range of different storage solutions used in networks for online and offline storage.
- Understand key storage protocols used for network attached storage.
- Describe how to configure network storage devices.

## Achievement & Grading

Network Engineer  
(Level 4)