

# THE APPRENTICE and TRAINING PARTNERSHIP



## LEVEL 4 NETWORK ENGINEER

### Programme Overview:

The primary role of a network engineer is to design, install, maintain and support communication networks within an organisation or between organisations. Network engineers need to maintain high levels of operation of communication networks in order to provide maximum performance and availability for their users, such as staff, clients, customers and suppliers. They will understand network configuration, cloud, network administration and monitoring tools, and be able to give technical advice and guidance.

### Entry Requirements:

Individual employers will set the selection criteria, but this is likely to include A levels; a level 3 apprenticeship or other relevant qualifications; relevant experience and/or an aptitude test with a focus on functional maths.

### Initial Assessments:

Initial assessments for Maths and English will be carried out for all apprentices using an approved diagnostic tool. This will include a full diagnostic of knowledge in Maths and English to gauge the level at which the apprentice is working. This will enable us to support the apprentice and structure training provision. Learner's suitability for the chosen apprenticeship programme is also initially assessed to ensure each learner is on the most appropriate programme for their chosen career path.

### Who is it for?

Typical job roles will include;

- Network Technician
- Network Engineer
- Systems Engineer
- Network Administrator

### Programme Duration:

Level 4 Apprenticeship: 18-24 months (minimum of 12 months before End-Point Assessment can be accessed).

### Delivery Model:

A minimum of 20% of the apprenticeship training takes place off-the-job and is flexibly delivered to suit your business. Training can be a combination of classroom and workplace workshops, block-training or day-release at our centre; with the remaining time being spent in the workplace.

A full timetable for training, ongoing assessment and End-Point Assessment will be issued to both you as the employer; and the apprentice, once the delivery model and training elements have been agreed.

On Programme Assessment will take the form of progress reviews with the trainer, employer and apprentice at least every 12 weeks. Feedback with ongoing development will include additional learning materials, resources and training delivered through the apprentice's e-portfolio OneFile; to which employers have access to view the progress and the development of each apprentice.

### End Point Assessment:

As the apprentice progresses through the apprenticeship, the employer and training provider will agree the apprentice has met the Standard and is ready for End Point Assessment. This is called the 'Gateway' and will trigger End-Point Assessment.

This is carried out by a Qualified Independent Assessor by an Approved External Awarding Organisation and will test the knowledge and competencies of the apprentice using a range of methods, these can include; an interview, scenarios with questions, portfolio of evidence sampled, professional discussion, watching a presentation of the apprentice's evidence plus other methods.

The Independent Assessor will make the final judgement as to whether the apprentice has fully met the requirements of the Standard. Grading will also be awarded with a maximum mark of 100, this will be awarded by the Independent Assessor based on the apprentice's assessment. Grades awarded are distinction, merit, pass or fail. End-Point Assessment is normally carried out in the workplace.

## Programme Structure:

### Technical Competencies

- Can design simple networks from a well-defined specification and apply appropriate security products and processes
- Can install and configure network components, including switches, routers and firewalls
- Can optimise the performance of network systems and services
- Can monitor, test and adjust network systems and performance to meet accepted standards using diagnostic tools, analysers and other equipment
- Can apply diagnostic tools and techniques to identify the causes of network performance issues
- Can apply structured approaches to troubleshooting network issues and repair faults in hardware, software products and the network
- Can undertake system upgrades to network hardware, software and operating systems
- Can integrate network related software into an existing network environment
- Can interpret written requirements and technical specifications for network activities and maintain accurate records of network maintenance activities
- Can log and respond to network service calls and provide technical network support to end users as required
- Can document work done in accordance with agreed procedures
- Can operate within the parameters of service level agreements, standards and/or agreed response times
- Can operate effectively in the business environment and responds to business issues related to network engineering

### Technical Knowledge and Understanding

- Understands and applies the principles of networking, protocols and associated technologies (specifically this should include the latest published versions of OSI layer model, IP, TCP/IP, routing and switching, WANs, LANs)
- Understands and applies the applied maths required to be a network engineer (e.g. algorithms, data, binary, probability and statistics)
- Understands the causes and consequences of system failure including load balance and storage protocols and responds appropriately
- Understands the architecture of a typical business IT system, including hardware, OS, server, virtualisation, middleware and applications
- Understands and responds to security threats, firewalls and vulnerabilities

### Underpinning Skills, Attitudes and Behaviours

- Logical and creative thinking skills
- Analytical and problem solving skills
- Ability to work independently and to take responsibility
- Can use own initiative
- A thorough and organised approach
- Ability to work with a range of internal and external people
- Ability to communicate effectively in a variety of situations
- Maintain productive, professional and secure working environment

## Professional Qualifications:

Apprentices must achieve one internationally recognised vendor or professional qualification, from the right hand column in the table below. This then exempts the apprentice from one of the Ofqual-regulated knowledge modules, as shown in the left hand column.

### Knowledge or Vendor Qualifications

**Knowledge Module 1:** BCS Network Principles OR; CCNA 1 + 2 Network +

**Knowledge Module 2:** BCS Network Systems and Architecture

**Knowledge Module 3:** BCS Network Security OR; Security + CCNA Security MTA Cloud and Mobility

The designated trainer will support the employer and apprentice throughout the programme as a single point of contact for questions and queries. This includes additional support for portfolio and project preparation, along with any advice and guidance needed.

### Progression:

This apprenticeship is recognised for entry onto the register of IT Technicians confirming SFIA level 3 professional competence and those completing are eligible to apply for registration.

### Next steps:

In order to create an apprenticeship that best suits your business requirements, we will meet with you to discuss the delivery of the programme and how the apprenticeship will be funded. We will provide ongoing support including:

- Search and selection of the right apprentices to meet your business requirements.
- Specifying the training modules to optimise 'in job' performance.
- A tailored service in order to seamlessly integrate with your apprentice managers.
- Updates and information regarding apprenticeship costs and funding.
- Support and guidance for the apprentice and employer from start to finish with one main point of contact for you throughout the whole apprenticeship.
- Employer and apprentice access to a comprehensive range of resources and support material via OneFile.
- Time-efficient visits for training and assessment to work around you.
- Industry specialist qualified trainers and assessors.

## Questions?

If you have any questions or concerns relating to supporting an Apprentice, your assigned tutor is always available to help, or, contact one of our advisors on **0330 380 0249**.