

LEVEL 4 NETWORK ENGINEER



There is nothing standard about the new apprenticeship Standards!

Following the 2019-2021 digital skills review, modern apprenticeships have once again taken a leap forward to provide better vocational training for apprentices and greater benefit to employers. The perfect solution for new career starts, professional upskilling or changes in career direction.

Programme Overview:

The primary role of a Network Engineer is to design, install, maintain and support IT communication networks within an organisation or between organisations.

Network Engineers need to maintain optimal levels of performance, operation, security, for network users by correct configurations and use of appropriate monitoring tools.

They will understand configuration for wired, cloud and hybrid networks, and be able to convey technical advice and guidance in layman's terms.

Who is it for?

Typical job roles will include;

- Network Engineer
- Infrastructure Engineer
- Systems Engineer
- Network Administrator
- Desk or Field based Engineer

Entry Requirements:

Entry requirements exist for all funded Further Education programmes. These ensure the value, gain and success of the programme. The ATP will conduct the processes with employers and prospective apprentices to determine correct funding eligibility.

Job role eligibility (known as Competency Role Map):

The job role must contain opportunity for an apprentice to practice the content set out in the apprenticeship Standard to achieve vocational competency. Apprentices must have the opportunity to practice the knowledge taught in training sessions in order to convert new knowledge in to sustainable skills applied in the workplace.

Each apprenticeship requires a portfolio of evidence, which will showcase the apprentice's work and will be reviewed by the End Point Assessment Organisation to determine how well new knowledge has been successfully utilised vocationally. If a job role is close to the eligibility criteria we will consult with employers to see if adjustments can be made to ensure criteria is met.

Initial Assessment of existing knowledge and skills:

A prospective apprentice must stand to gain significant knowledge and skills from an apprenticeship. If the apprenticeship is too advanced for them or if they already know much of the knowledge and skills the apprenticeship would provide then they may not be eligible for the funding.

The ATP will review existing qualifications, knowledge and skills to determine if the prospective apprentice will benefit from the proposed apprenticeship such that it meets the funding criteria. In most instances this is very straightforward, however in some instances funding can be specially authorised for reduction in order to fund the parts of an apprenticeship that would be relevant. The ATP will provide the assessment for these possibilities.

The Level 4 Network Engineer apprenticeship is highly technical, so whilst employers can select their own entry criteria, they should include; at least 5 GCSEs including English and Mathematics and have achieved a Level 2 or equivalent qualification as a minimum to help ensure success.

In many cases this type of apprenticeship can demand a higher capability of English and maths than is taught at GCSE or A-Level. For example, advanced report writing, budgeting, complex structured explanations and/or advanced formulae and statistics. The ATP will provide both functional and advanced English and maths diagnostics and teaching to ensure each apprentice is fully supported in these areas.

Programme Duration:

This apprenticeship is delivered over 18 months for full-time employees. For part-time employees the term may be extended depending on the contracted hours.

Delivery Model:

Apprenticeship training is delivered through a blend of weekly live virtual classrooms and regular mentoring sessions that are held on a one-to-one basis.

These live classrooms are held through Microsoft Teams. This software provides the full suite of educational tools including everything you would find in a conventional classroom and more e.g. live open interactions, private breakout rooms, note and question queues and interactive illustration boards. We can also use movie green screen technology for lesson illustrations.

A full timetable for the training, mentoring, exams and assessments is provided at the outset. Progress is reviewed at 12-week intervals in a meeting between the mentor, apprentice and employer (typically the apprentice's line manager).

Employers and apprentices have full visibility of progress in real-time by accessing the e-portfolio system, alternatively regular updates can be provided by other means if preferred.

End Point Assessment (EPA):

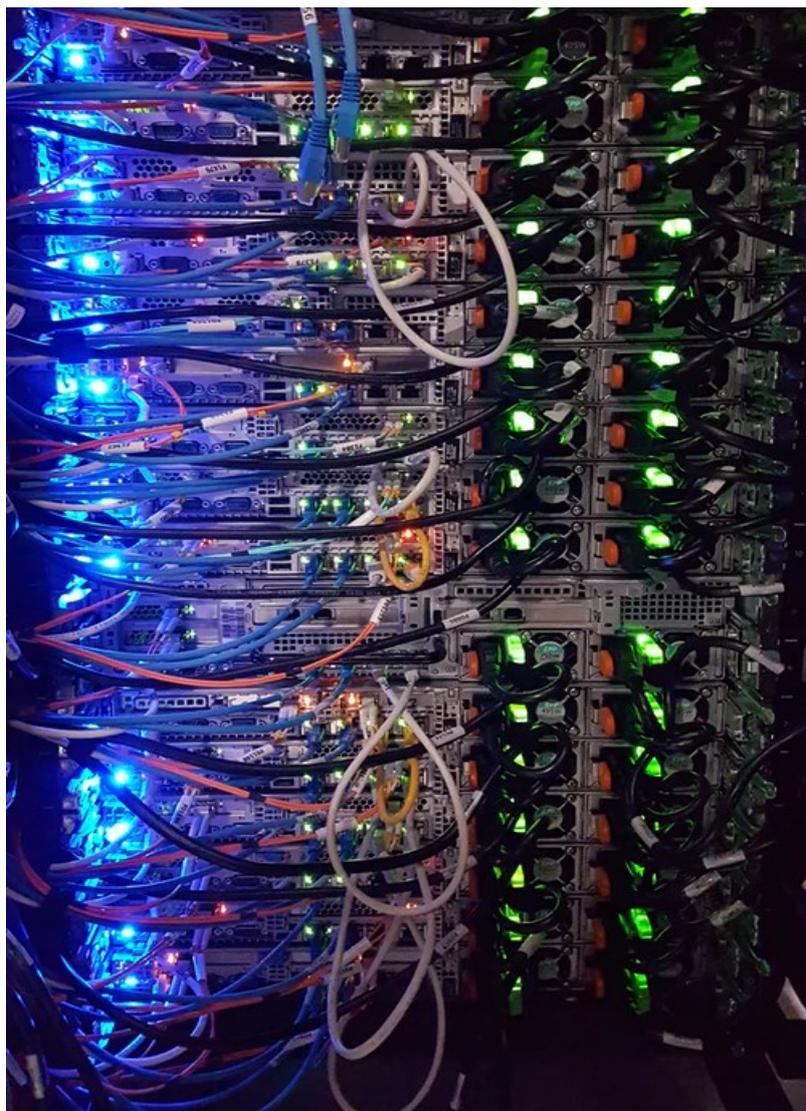
Aside from qualifications that can be obtained by doing an apprenticeship, the most important and valuable goal is what has been achieved during the programme.

Successful apprentices will obtain a Pass, Merit or Distinction in their apprenticeship. The way a Pass, Merit or Distinction is determined is at a stage called End Point Assessment which takes place once all the learning has been completed. Like all examinations, a mock will take place before the final assessment.

Once all components of the apprenticeship have been achieved including the mock, a final review is conducted to ensure everything has been covered, this is called gateway. Then the apprentice will undergo their End Point Assessment.

The EPA for this programme consists of:

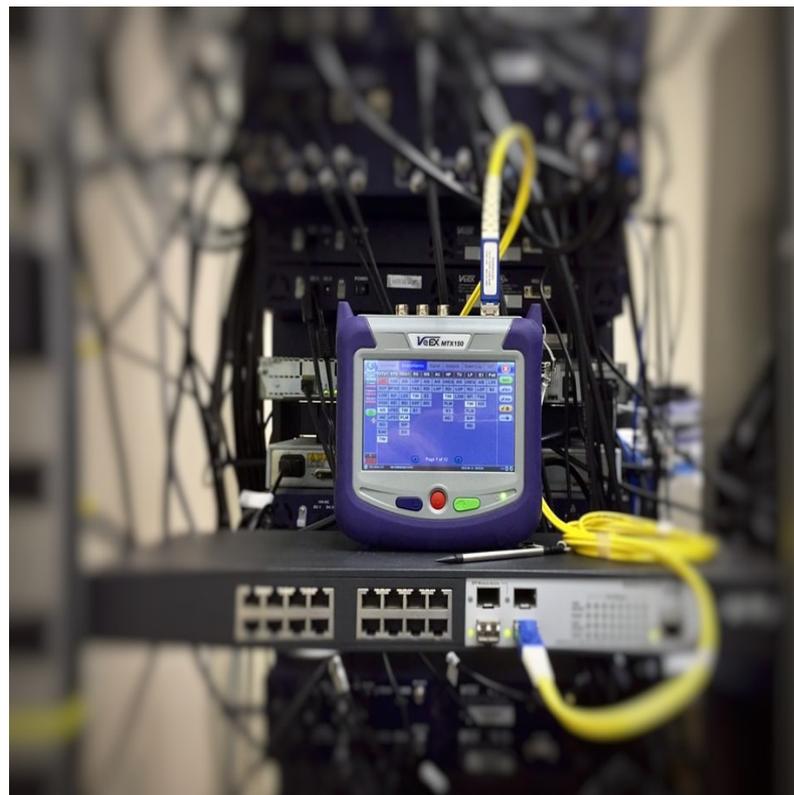
1. Portfolio of Evidence demonstrating work on 6-8 projects covering all the standard criteria
2. A simulation assessment with questioning by an independent end point assessor
3. A structured interview with the assessor – exploring the project, portfolio of evidence



Programme Structure:

Technical Competencies and Skills:

- Install, configure, and test appropriate network components or devices securely to well-defined specifications both physical or virtual
- Acquire and analyse network performance data to monitor network activity
- Optimise and maintain performance of network systems and services in line with defined specification whether physical or virtual
- Investigate and problem solve to address technical performance issues to return the network to successful operation, escalating as necessary
- Undertake upgrades to a network including physical or virtual systems
- Interpret requirements and technical specifications in relation to delivery of network systems and services
- Maintain accurate logical records according to organisational policy when carrying out tasks
- Use operational data to manage weekly work schedule in an efficient and cost effective way
- Consider impact and risk when implementing network changes according to work activities, escalating as required by organisational policies
- Communicate technical network requirements effectively and professionally with a range of stakeholders ensuring stakeholder relationships are maintained
- Practice continuous self-learning to keep up to date with technological developments to enhance relevant skills and take responsibility for own professional development
- Incorporate considerations of the requirements of the wider digital context in which they operate to ensure that network engineering activities are carried out effectively
- Ensure all network engineering activity complies with organisational policies, technical standards, Health and Safety legislation, data security requirements, professional ethics, privacy and confidentiality
- Deliver and manage a high quality service under pressure
- Understands causes and consequences of network and IT infrastructure failures
- Understands architecture of typical IT systems, including hardware, OS, server, virtualisation, voice, cloud and applications
- Uses techniques for systems performance and optimisation
- Uses diagnostic techniques and tools to interrogate information regarding systems performance
- Utilises organisational procedures to record information effectively and in line with protocols
- Works to Service Level Agreements (SLAs) and their application to delivering activities in line with contractual obligations and customer service
- Understands and performs their role in Business Continuity and Disaster Recovery
- Understands the purposes and uses of different ports and protocols
- Uses devices, applications, protocols and services at their appropriate OSI and, or, TCP or IP layers
- Understands the concepts and characteristics of routing and switching
- Understands the characteristics of network topologies, types and technologies
- Utilises wireless technologies and configurations
- Understand cloud concepts and their purposes
- Understands the functions of network services
- Utilises different types of network maintenance
- Understands how legislation relates to or impacts occupation
- Can use troubleshooting methodologies on network and IT infrastructure
- Can integrate a server into a network
- Understands types of security threats to networks and IT infrastructure assets
- Uses tools to automate network tasks
- Understands approaches to change management



Behavioural Development Embedded:

- Logical and creative thinking
- Analytical, deductive and problem solving
- Resourceful
- Personal responsibility, independent working and highly collaborative
- Personal initiative
- Thorough and organised approach
- Ability to work with colleagues and clients
- Communicate effectively in a variety of situations
- Maintain productive, professional and secure working environment
- Committed to ongoing professional development
- Strong work ethic and works effectively under pressure

The designated mentor 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:

On completion, apprentices may choose to register with the BCS under the register of IT technicians to support their professional career development and progression.

Next steps:

To configure an ideal apprenticeship we will meet with you, discuss your needs, present the options and collaborate to determine the best apprenticeships to meet your needs. We will provide ongoing support including:

- Recruitment of candidates
- Quality assured Information Advice and Guidance
- Updates and information on legislation and funding
- Support and guidance for apprentice and employer throughout the apprenticeship
- Access to a comprehensive suite of resources and support material via OneFile
- Industry specialist qualified trainers and mentors

