NETWORK ENGINEER

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.

Level 4

24 Months

£17,000

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.

Qualifications

Apprentices must achieve one internationally recognised vendor or professional qualification from below:

CCNA 1 + 2 • Network + • Juniper JNCIA - Junus • MCP Server Virtualisation – Windows Server Hyper V

MCP MS Exchange Server • Security + • CCNA Security • MTA Cloud and Mobility • Juniper JNCIS – Sec • MCP Server 2012

MCP Windows Administrator • Server + • Juniper JNCIS - Ent

Further details are available in the occupational brief available from the Tech Partnership at www.thetechpartnership.com/apprenticeship/networkengineer

English and Maths

Level 2 English and maths will need to be achieved, if not already, prior to taking the end point assessment.

Delivery method

Various delivery models available to suit your needs. For any enquiries, or to book an appointment with our training consultants, please contact us at solutions@howcollege.ac.uk.

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What apprentices will learn

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.

Knowledge

- 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.

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.

End point assessment

The End Point Assessment (EPA) can only be triggered after 12 months of starting the apprenticeship and is dependent on when the employer and training provider decide the apprentice is ready. EPA is typically expected to conclude within 3 months. The employer has the final decision to progress the apprentice to EPA. The apprentice and training provider should feel confident the learning outcomes have been achieved.

The EPA consists of three elements, all of which may be completed online. All assessment methods need to be passed. Each assessment method should directly assess the knowledge, skills and behaviours of the Standard. The assessor has the final decision.

Knowledge Test

The apprentice undertakes a multi-choice test to last a maximum of 60 minutes and include 50 equally weighted multi-choice questions with four possible answers each. The assessment should typically be passed before the apprentice progresses to the interview and presentation. The test is to be completed online and requires invigilating.

Portfolio-based Interview

The interview is for 30-45 minutes and scored out of 100 by the Independent Endpoint Assessment Organisation. The interview assesses:

- Understanding of the portfolio to validate competence shown.
- Self-reflection of performance, demonstrating knowledge and how appropriate skills and behaviours have been applied.
- Judgement and understanding to explain appropriate examples.

Project Presentation:

The apprentice delivers a presentation to the EPAO on a project they have completed or a process they have improved. The presentation lasts 10-15 minutes, with a further 10-15 minutes for a Q&A session. The presentation is out of 100. The project is completed from month 9 of the apprenticeship and should be completed prior to EPA being triggered. The project is submitted to the EPAO and they provide a question to answer in the presentation, for example:

- How have you improved a process or operating practice?
- What were the steps you took to implement the project?
- What worked well and how would you improve the results in future?

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