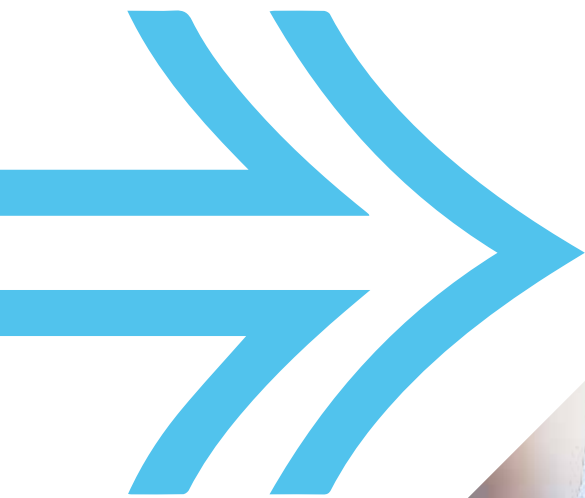




SCOTLAND

Apprenticeship Programme Guide

NETWORK ENGINEER SCQF 8





DIGITAL AND TECH APPRENTICESHIPS

Building tech careers in the workplace

We offer digital and tech apprenticeships that focus on the most in-demand skills including; cyber, IT, software development, data and digital marketing, along with others in project management.

We help learners to progress and grow within your company, helping you retain talent and build capabilities.

Our award-winning approach to blended learning enables apprentices to develop further and faster, adding immediate value to their roles, whilst our interactive portal with real-time dashboards and trigger alerts enable managers to effectively and efficiently track progress.



Experience: 20,000 apprenticeships placed



An unrivalled talent pool:
In Scotland, 20,000 apply to join our programmes every year



Proven:
We have high learner achievement rates*

*Over 800 Learners achieved their Apprenticeship with QA in 2022

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ROLE PROFILE

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This programme has been designed with the aim of providing a learner with all the knowledge and performance skills required to successfully design, implement, and manage enterprise networks.

Apprentices will learn:

- How to design, deploy and test on-premises network solutions to provide network services
- How to implement technical network security solutions to prevent, detect and monitor unauthorised access and compromise of network and network-accessible resources.



TYPICAL JOB ROLES

Upon completion of this course learners will be equipped to work in roles such as:

- Network Engineer
- Network Architect
- Network Administrator
- Systems Engineer

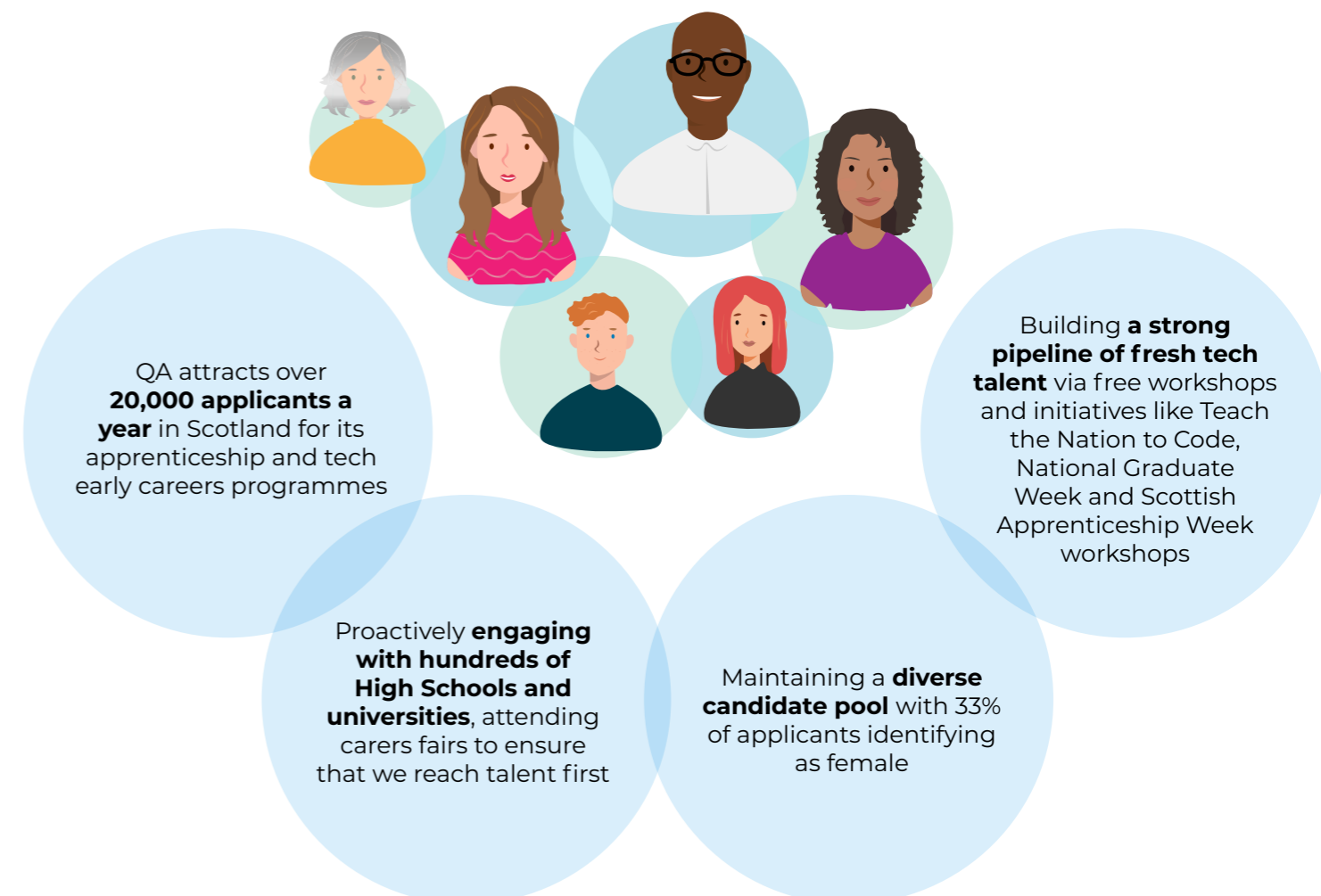




FINDING NEW TALENT

We offer an extensive attraction and recruitment service for employers who are looking to use apprenticeships to bring new talent into their organisation. We use multiple channels and tactics to attract people who are interested in and are passionate about building a career in tech. Our recruitment model includes 1-2-1 interviews to ensure we select apprentices of the highest calibre.

We are committed to increasing diversity and tech and to help achieve this, we work closely with special interest groups and charities including; Code First Girls, Developing The Young Workforce, and LTSB (Leadership Through Sports and Business) who are a social mobility charity. This ensures apprentices from all backgrounds are given the same opportunities, and supports us to close the gender and diversity gap in tech.



DIVERSITY AND INCLUSION

We're passionate about diversity in tech

It's our mission to help eradicate the gender gap, and make sure equal opportunities are given to applicants from all backgrounds. We do this through our long-standing partnerships, QA-driven initiatives and use of trending tools and software.

Diversity-first candidate attraction

We've invested in using augmented copy checking tools to ensure language is inclusive, open to all and free from bias.

We use inclusive imagery throughout our campaigns – producing visual content that promotes diversity and inclusion.

Promoting inclusivity

We nurture relationships with influencers, schools, colleges and universities via events and interactive sessions to ensure learners from all backgrounds are given the same opportunities.

Diversity partnerships

We forge partnerships with like-minded organisations who share our vision on STEM gender equality including; DYW, Code First: Girls, Stemettes and Young Professionals.

Initial Assessment

Every candidate goes through an initial assessment where their current knowledge and skills are measured and mapped against the apprenticeship framework.

This process is an assessment of the apprentice's suitability for an apprenticeship programme, and ensures they are placed on the right programme at the right time. This contributes towards a successful completion and a good learner experience.

A BLENDED APPROACH TO LEARNING

How we deliver

QA's apprenticeships are designed to immerse the apprentice in their job role while providing time for them to complete the training to become occupationally competent.

QA Apprenticeships also provide more flexibility for the employer, allowing apprentices to learn through a combination of project and lab work, live events, self-research, self-paced learning and peer-to-peer learning.

Employer coaching, shadowing and mentoring remain essential, however, there will be more defined requirements to guarantee this is directly related to the apprenticeship and will be part of the training plan.



LEARNER SUPPORT



Safeguarding at QA

Safeguarding means ensuring the safety and wellbeing of our learners.

At QA, this means ensuring our policies and processes promote and protect learner wellbeing and that while you are on programme, and that while on programme, we teach learners about the types of risk facing modern day British citizens.

This includes cyber risks, mental and physical health information, risks of radicalisation or grooming and much more.

Ways to access support if you are worried for yourself or someone else:

- Call us – anytime 07808 050273
- Email: safeguarding@qa.com
- Contact your Skills Coach, tutor or account manager
- Speak to any member of QA staff onsite



Prevent at QA

Prevent is part of the Government's counter-terrorism strategy.

At QA, this means we teach our staff and learners about the four British values: democracy, rule of law, individual liberty and respect and tolerance.

We also work with Prevent partners to identify people at risk of being or causing terror related harm.

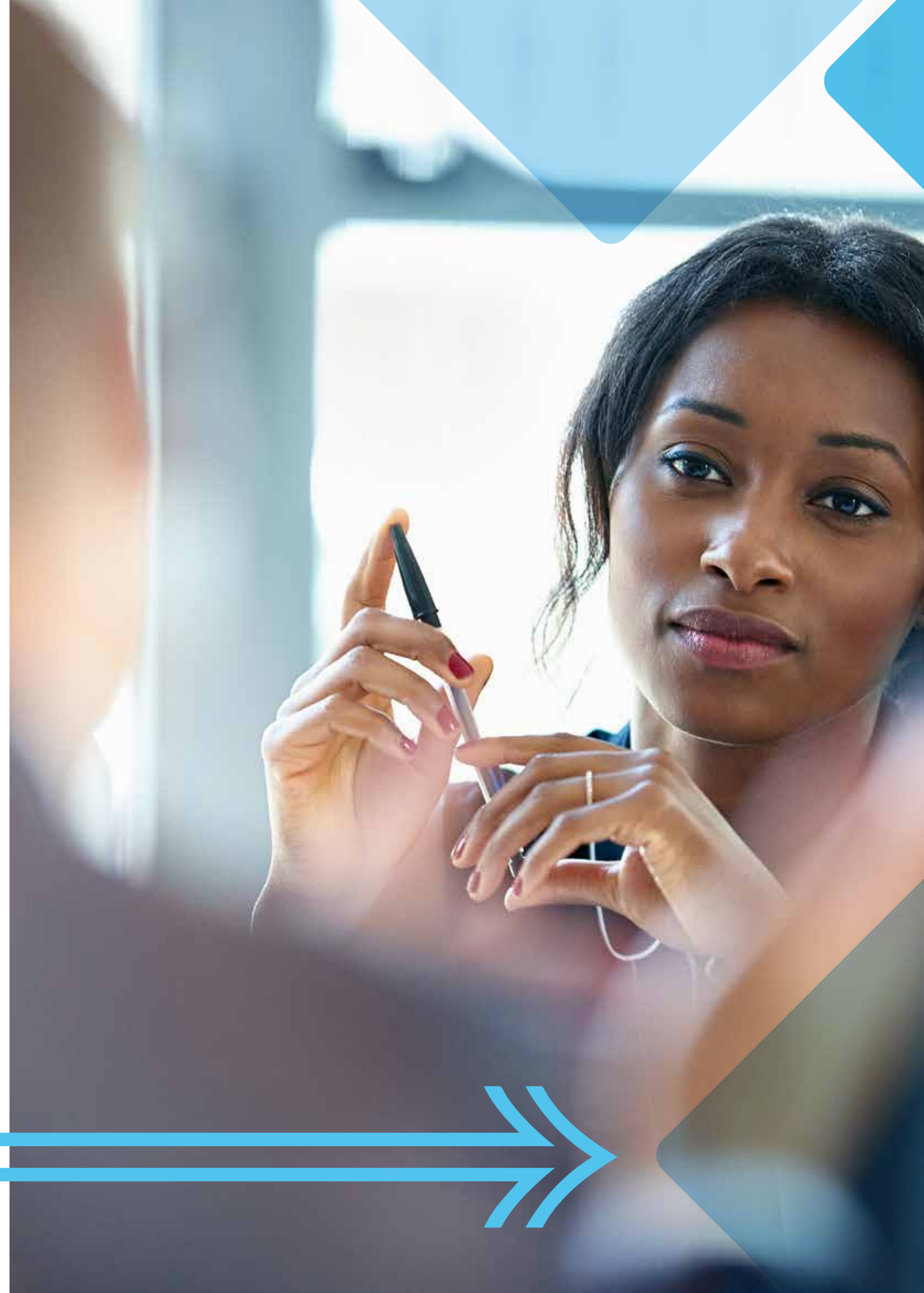


Mental Health at QA

Emotional and mental wellbeing is an important component of successful learning.

Understanding how to protect mental health and promote emotional wellbeing is part of maintaining positive mental welfare.

We will always actively encourage conversations and make sure information is readily available to both learners and staff with regards to mental wellbeing.



DIGITAL BY DESIGN APPRENTICESHIP PROGRAMMES

Digital by Design programmes

QA Digital by Design apprenticeships provide a greater focus on online learning together with using live interaction where it adds the most value for learners.

It means that there is a single learner journey which brings teaching, coaching, learning and assessment into a single, repeatable flow for every module.

In Digital by Design, these three elements will work together:

- The content
- The service and support
- The technology

Discover, practise and apply

All QA apprenticeships use a guided discovery approach to learning, as opposed to traditional methods of delivery such as live events. This shifts the emphasis from content delivery to our learners and their context, resulting in the apprentice feeling empowered to take ownership of their learning experience through the “Discover, Practise, Apply” model.



DISCOVER

Learners will learn the theory, by exploring subjects online and in the live events.



PRACTISE

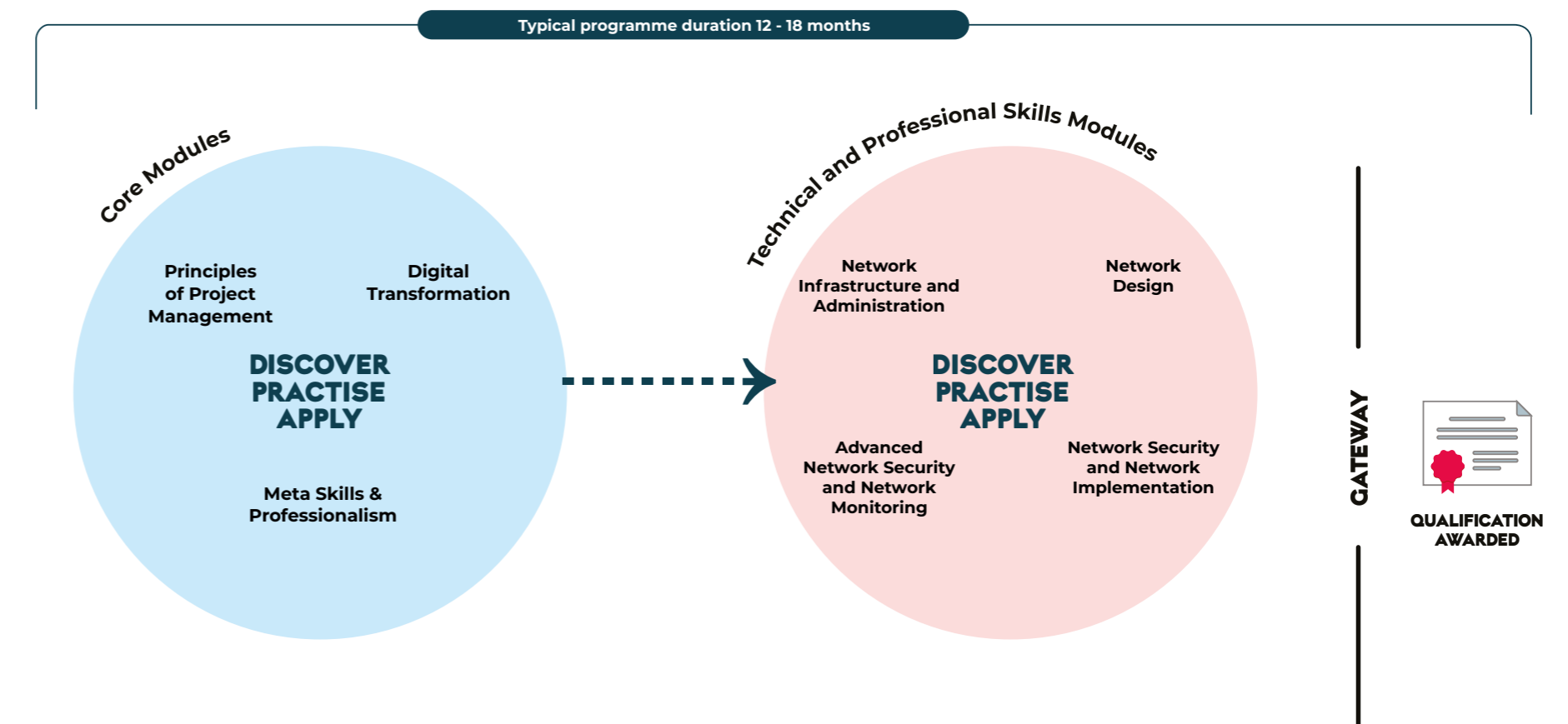
Learners will practise their new-found knowledge by completing activities - online, in the live events and (most importantly) directly at work in their day-to-day role.



APPLY

Learners will apply what they've discovered and practised at work. They will actively contribute to your organisation whilst building their portfolio of evidence (showing how they've applied their new skills) to gain their qualification.

Network Engineer SCQF 8

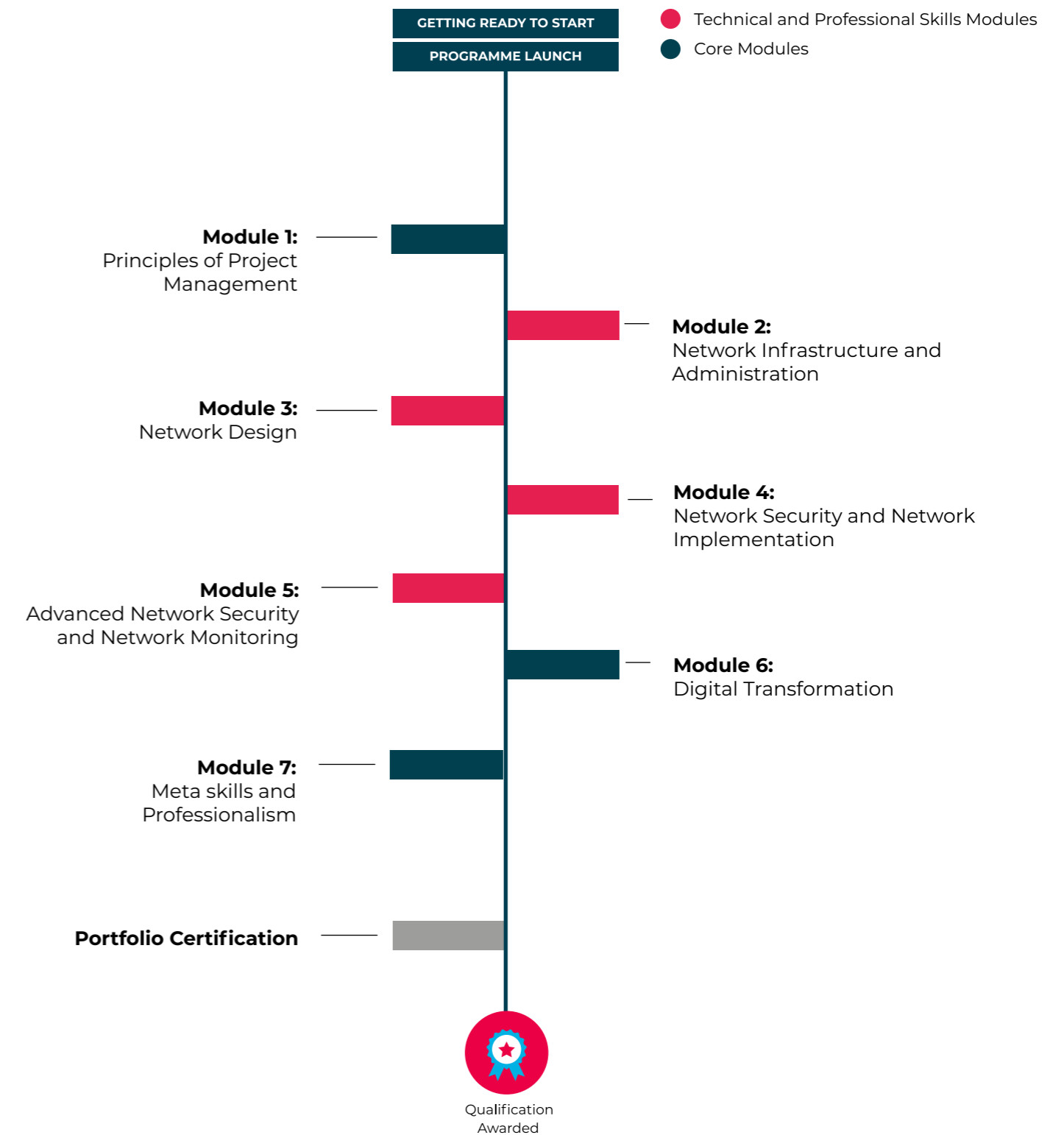


---> **Develop portfolio (competency evidence)**

*Optional Certification: Comptia Network + N10-008

THE LEARNER'S JOURNEY

Programme timeline | Duration: Typical programme duration 12 - 18 months



PROGRAMME STRUCTURE

Programme Launch

The Programme Launch will introduce learners to the apprenticeship, this module is kicked off with a digital session covering:

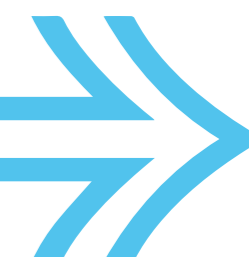
- The Programme Outline, Workflow and Structure
- Assessment/Certification/Qualifications
- Time commitment, planning calendar for apprenticeship
- Setting expectations
- Introduce bud, CA & other technology requirements

Assessment

There are no tests or exams involved in completing this apprenticeship. All learners will complete a portfolio of evidence, based on the modules completed on programme. Learners will be guided by their skills coach to achieve this.

There are a number of assessment methods that learners can use to generate and record evidence. Some of these are completed by themselves, such as personal reflective statements and product evidence (annotated screenshots).

Additionally, learners can collaborate with their skills coach to carry out presentations, observations, questioning and professional recorded discussions. Your employer may also provide witness testimonies on your behalf. These assessment methods are used to capture a learner's knowledge and skills across the range of competencies.



THE CORE, TECHNICAL & PROFESSIONAL SKILLS MODULES

The technical and core modules focus on the knowledge and skills required in detail. After each module learners will 'apply' what they've learned at work on current projects.

Module 1: ● Principles of Project Management

Module 1 introduces learners to the world of project management and explores the fundamental business concepts of legislation, codes of practice, safe systems of work, and risk and impact assessments for project activities. As a result of this module learners will be able to:

- Understand different methodologies for planning and delivering project activities.
- Creating effective business cases
- Identify and analyse risks and opportunities using appropriate tools and processes, including quantitative and qualitative measures of risk analysis.
- Explain the importance of monitoring and controlling a project, including using industry-specific tools and software, and establishing change control processes.
- Develop skills in evaluating and monitoring the benefits and challenges of project activities, presenting progress to stakeholders in different ways and formats, and effectively liaising with internal and external stakeholders.

- Module duration: 4 weeks
- Classroom attendance: 1 day

Module 2: ● Network Infrastructure and Administration

This module focuses on the knowledge and skills required to deploy and administer enterprise networks.

Learners will complete a 15 hour Networking Discovery digital learning path before attending a highly practical three day Networking live event. They will then proceed onto a further 8 hour Networking digital learning path before completing the learning for this module with a final two day practical networking live event.

- Module duration: 9 weeks
- Classroom attendance: 5 days

Module 3: ● Network Design

In this module, learners will attain the skills necessary to design Logical and Physical network architectures.

Apprentices will learn how to elicit and document requirements for both green field and existing network expansions. They will learn how to consider parameters, constraints and risks in their network designs and how to create network schemas to accurately document these designs. Learners will undertake a 15 hour digital discovery learning path focusing on the theory and best practice of effective enterprise network design before attending a scenario based, highly practical, three day network design workshop.

- Module duration: 8 weeks
- Classroom attendance: 3 days

Module 4: ● Network Security and Network Implementation

In this module, learners will focus on the skills necessary to securely implement an Enterprise network. Apprentices will learn how to identify those network assets requiring protection.

They will gain a comprehensive understanding of the main network security principles and best practice and gain practical experience in installing and configuring typical network security devices such as Firewalls, Antivirus and Antimalware software., Access controls and VPNs.

Learners will undertake a 15 hour digital discovery learning path focusing on the theory and best practice of effective network security before attending a three day highly practical course focusing on the principles behind and installation and configuration of network security devices.

- Module duration: 8 weeks
- Classroom attendance: 3 days

Module 5: ● Advanced Network Security and Network Monitoring

Building on the objectives of Module 4, in this module, learners will explore advanced network security concepts and network monitoring tools.

Apprentices will appreciate the key techniques for network hardening; how to audit networks against organisational security compliance and how to monitor networks for security threats and appropriately document and escalate breaches of network security. Learners will undertake a 15 hour digital discovery learning path focusing on the theory of advanced network security. Learners will also gain an appreciation of network monitoring tools and their importance in supporting a network infrastructure. Apprentices will then attend a more scenario based, highly practical, three day network security and monitoring workshop.

- Module duration: 8 weeks
- Classroom attendance: 3 days

- Technical and Professional Skills Modules
- Core Modules

Module 6: ● Digital Transformation

In this blended module learners develop core knowledge of the Digital Transformation.

Demonstrate the significance of digital transformation in businesses and the principles of business change.

Develop skills in modelling business processes and formulating proposals for new digital technology solutions, including cost-benefit analysis.

Identify the legislative and regulatory requirements, organisational policies, and safe use of digital technology equipment in the workplace.

Explain how digital technologies can be integrated within business processes to reduce costs, enhance performance, and improve productivity and service benefits.

Recognise the current issues and ethical aspects associated with the implementation of digital transformation in businesses.

- Module duration: 4 weeks
- Classroom attendance: 1 day

Module 7: ● Meta skills and Professionalism

In this online module learners develop their core knowledge of Meta Skills and Personal Practice. Enabling learners to understand the purpose and importance of meta-skills, how they relate to one's work and how to use reflective practice to identify gaps in knowledge and skills.

Recognise the importance and purpose of meta-skills and how they relate to their work.

Learn how to set SMART goals, prepare development plans, and identify sources of up-to-date information to support continuous professional development.

Describe the benefits and impact of Personal and Professional Development, including how to measure and record progress against key performance indicators.

Develop strategies for managing well-being in the workplace and seeking and acting on feedback to improve skills and knowledge using various learning models and styles.

- Module duration: 3 weeks
- Classroom attendance: 0 days

Qualifications earned



When they achieve this apprenticeship, learners will earn the following qualification:

- Network Engineer L8



LEARNING OUTCOMES

Apprentices will be assessed on all areas which emphasise the importance of both technical and core skills in the workplace.

CORE MODULES:

Principles of Project Management

- Introduction to Projects
- Stakeholders
- Business Cases
- Project Planning
- Risk Management
- Project Monitoring and Change Control
- Closing a project

Digital Transformation

- Introduction to Digital Transformation and Digital Economy
- Business Processes
- Benefits of Digital Transformation
- Implementation of Digital Change
- Legal Landscape
- Professional Standards
- Safe use of Digital Technology

Meta skills and Professionalism

- What are Meta Skills?
- Personal Development
- Learning Styles
- Performance Reviews
- SMART Objectives
- Wellbeing

TECHNICAL AND PROFESSIONAL MODULES:

Network Infrastructure and Administration

- Characteristics of an Enterprise Network
- Configuring and Implementing Network Components
- The OSI Model
- Network Troubleshooting
- Network Management Tools
- QOS
- QOS Metrics
- Diagramming

Network Design

- Determining Network Design Requirements
- The Network Design Process
- Principles of Network Design
- Network Design Parameters
- Logical and Physical Design
- Assessing Network Related Risk
- Network Design and Configuration Documentation

Network Security and Implementation

- Securing Network Devices, Systems and Data
- Identifying Network Security Requirements
- On-premise Network Security Principles
- Port Security
- NAC, Antivirus, AntiMalware, Firewalls and VPNs
- Installing and Configuring Firewalls, Antivirus, Content Filtering, and IDS
- Unified Threat Management and Next Gen Firewalls

Advanced Network Security and Monitoring

- Network Hardening
- Evaluating/Auditing Network Security Compliance
- Network Segmentation
- Securing Wireless Networks
- Monitoring Network Traffic for Threats
- Reviewing Network Audit Logs
- Reporting and Escalating Network Security Threats
- Documenting Network Security Implementations



EXPANDING YOUR TECHNICAL SKILLS WITH cloud academy

A QA COMPANY

Our apprentices are given full access to our proprietary Cloud Academy platform for the duration of their programme.

Cloud Academy brings the very latest and up-to-date content to our apprentices through single units, courses and comprehensive learning paths to really build on the core learning outcomes defined within the programme. Furthermore, apprentices are able to prepare for the full suite of vendor qualifications across AWS, GCP and Azure and much more.

Cloud Academy users also benefit from Hands-On Labs, Lab Challenges and Lab Playgrounds providing a safe, sandbox environment in which our learners are able to practise in real time through guided walkthroughs or through their own exploration.

Check out the [Training Library - Cloud Academy](#).



**FOR MORE
INFORMATION,
PLEASE CONTACT**

qa.com/contact

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