POWERING POTENTIAL

SCOTLAND

Apprenticeship Programme Guide

SOFTWARE DEVELOPER SCQF 8

QA.com

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

SOFTWARE DEVELOPER SQCF L8

This programme has been designed with the aim of providing a learner with all of the knowledge and performance skills required to become a proficient software developer.

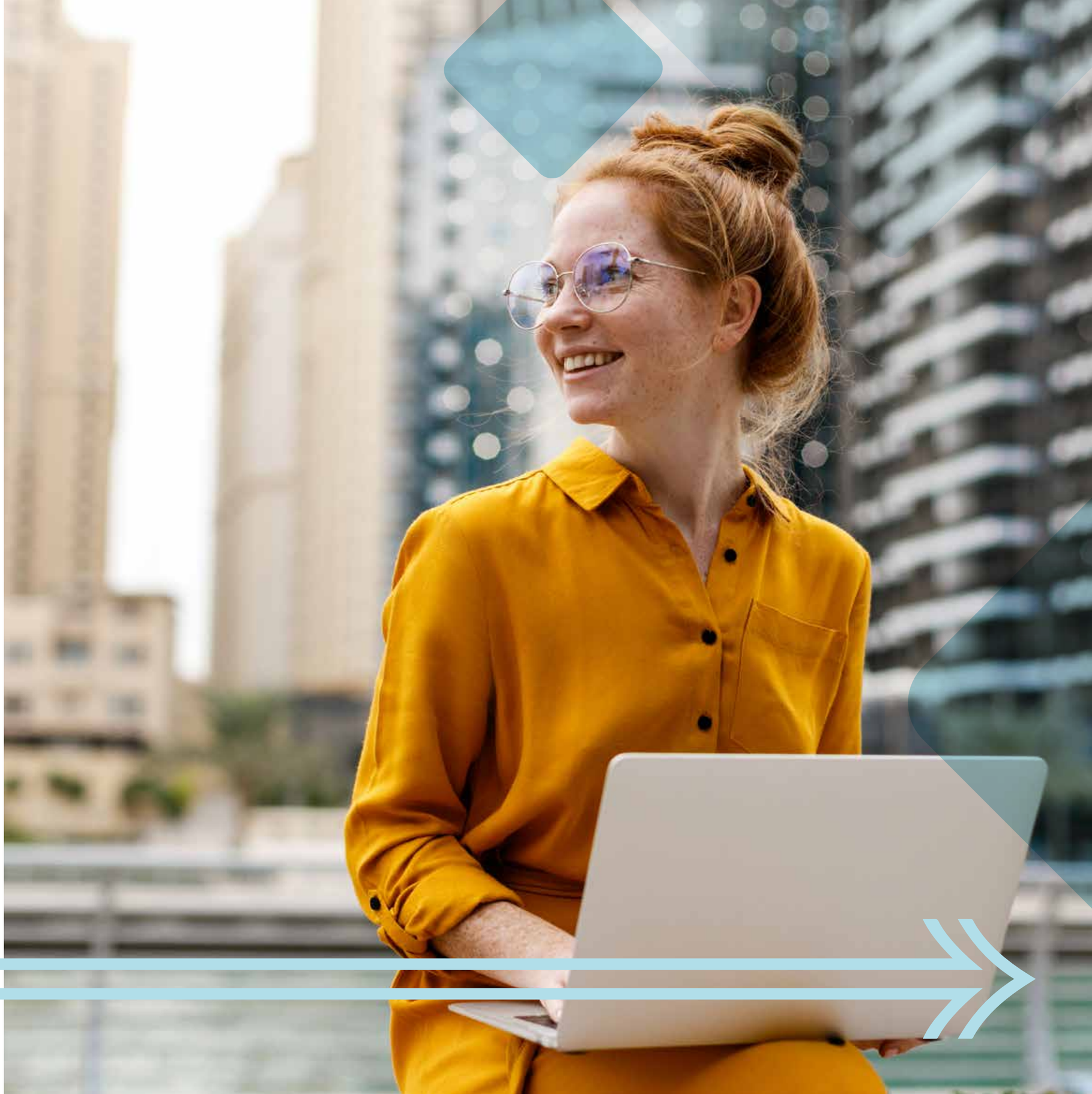
Learners will gain:

- A theoretical and practical understanding of programming and software design
- Knowledge of supporting tools and methodologies required to build, test, and document software solutions

TYPICAL JOB ROLES

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

- Software Engineer
- Back-End Developer
- Front-End Developer (Web Developer)
- Programmer



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.

QA attracts over **20,000 applicants a year** in Scotland for its apprenticeship and tech early careers programmes

Building **a strong pipeline of fresh tech talent** via free workshops and initiatives like Teach the Nation to Code, National Graduate Week and Scottish Apprenticeship Week workshops

Proactively **engaging with hundreds of High Schools and universities**, attending carers fairs to ensure that we reach talent first

Maintaining a **diverse candidate pool** with 33% of applicants identifying as female

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.

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.

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.

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 polices 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.

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

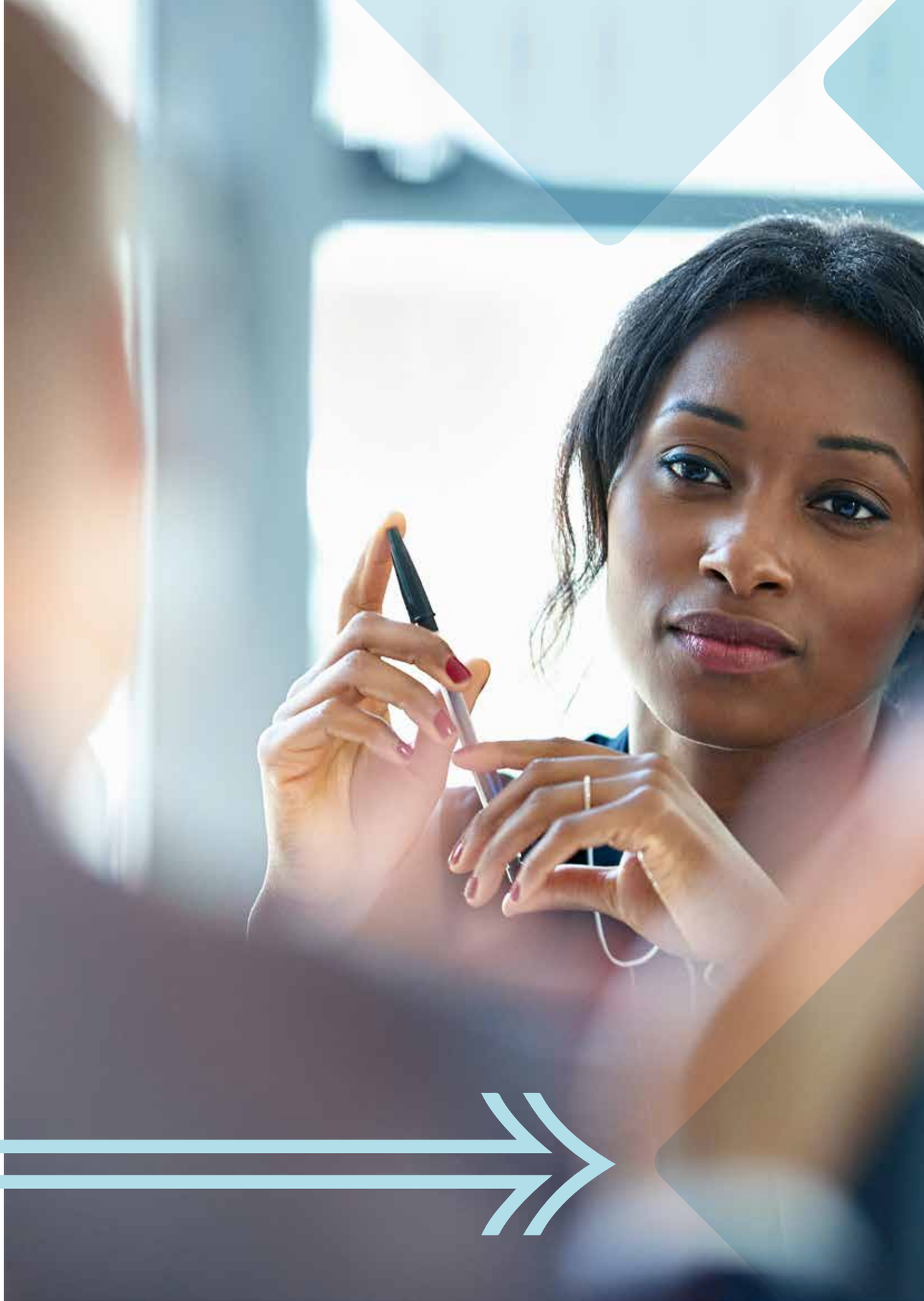
Emotional and mental wellbeing is an important component of successful learning.

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.

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



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.

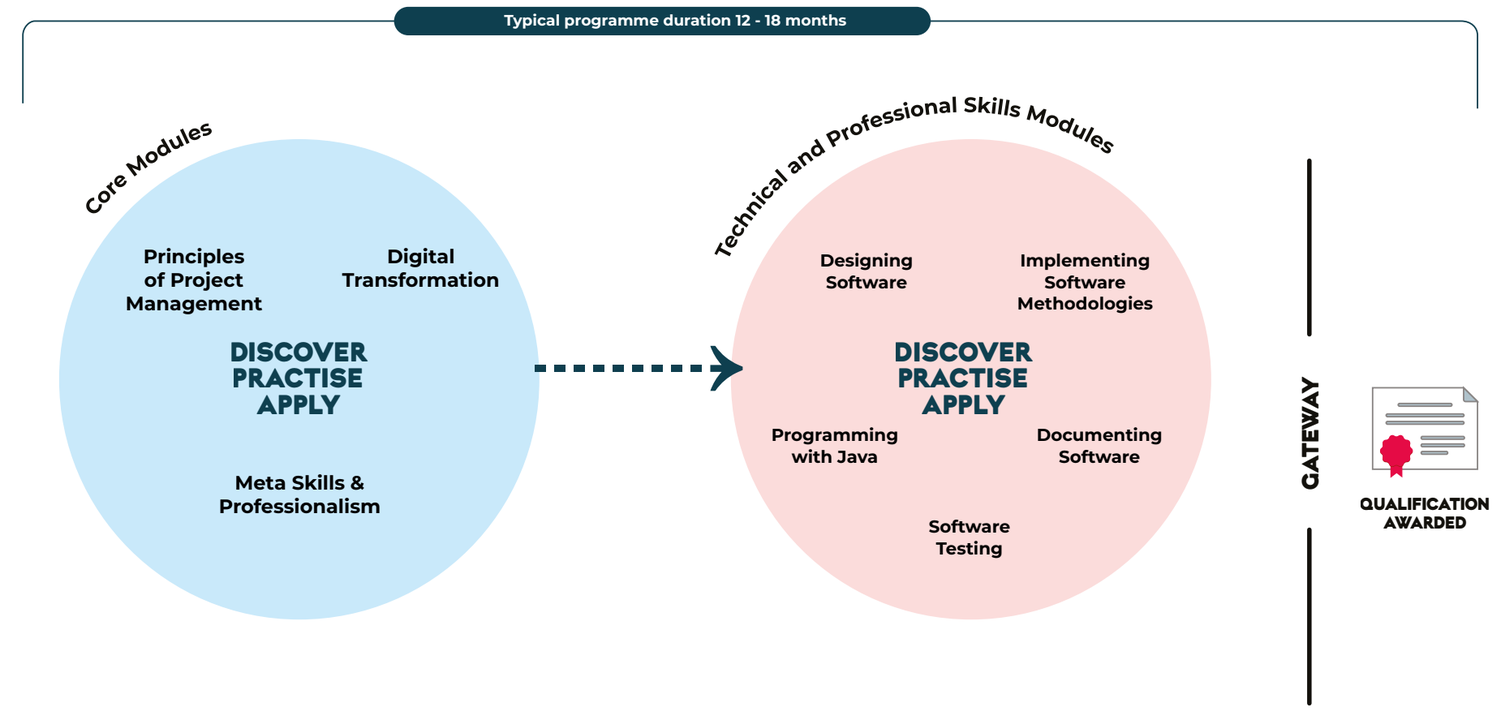
PRACTISE

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

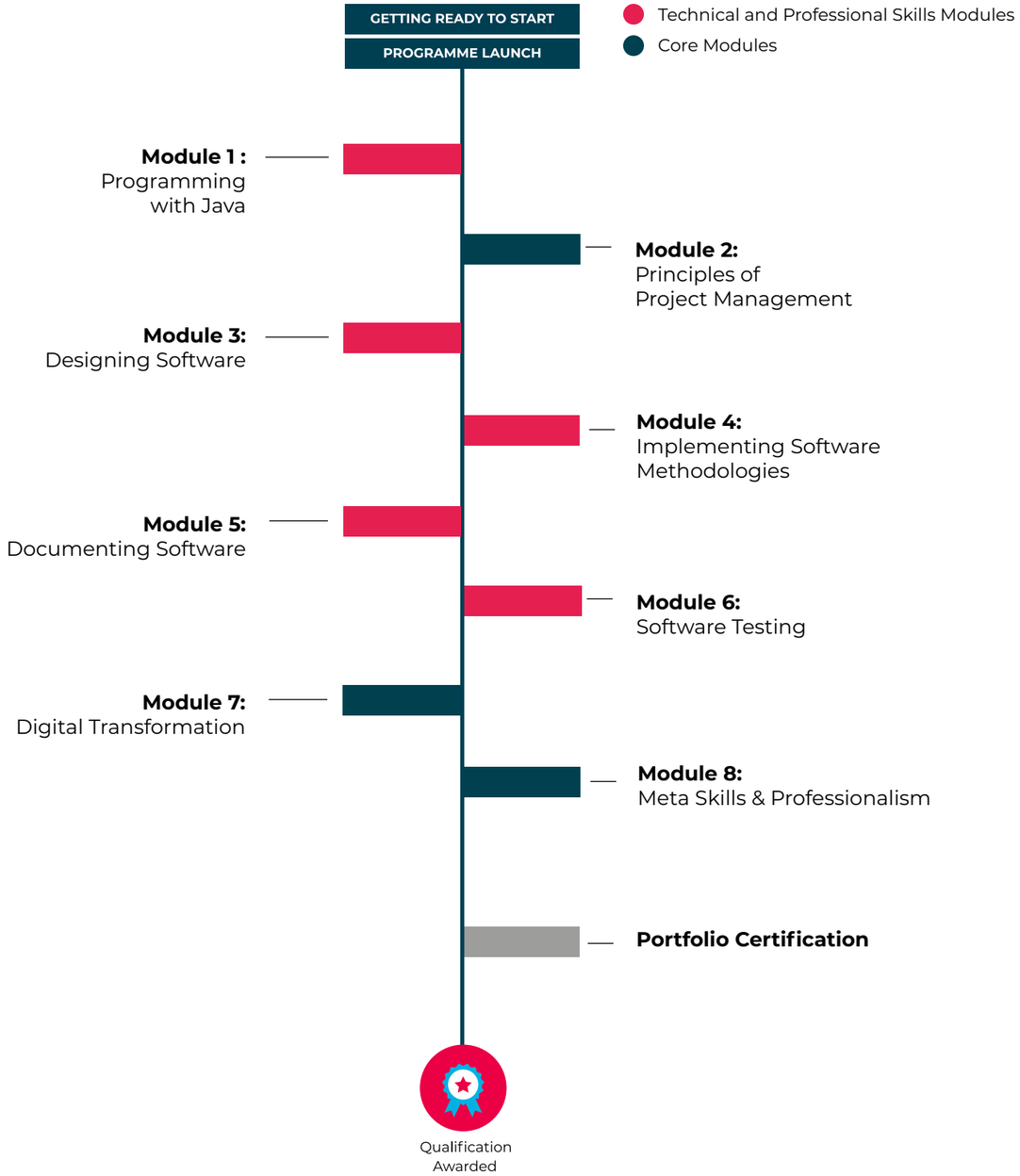
Learners will apply what they’ve discovered and practised at work. They will actively contribute to your organisation whilst building their portfolio of evidence (showing how they’ve applied their new skills) to gain their qualification.

Software Developer SCQF 8



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
- Day-1 learning activity introducing learners to the role of a Software Developer

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: ●
Programming with Java

This module pivots learner focus from design to development; using programming languages to develop, test, and refactor application solutions based on given software designs.

Learners will be given a working, practical understanding on programming through various programming paradigms, best practice, and the SDLC.

- Module duration: 8 weeks
- Classroom attendance: 6 days

Module 2: ●
Principles of Project Management

In this module learners apply methods and principles of project management in line with organisational requirements.

Learners will gain an understanding of how to ensure activities are delivered in accordance with the business case and safe systems of work.

This will involve liaising with and reporting progress to stakeholders, ensuring activities contribute to key milestones and deliverables.

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

Module 3: ●
Designing Software

This module focuses on the steps required to be completed by software developers prior to programming and testing a software solution.

Learners will gain a strong understanding of the design process with regards to software projects, as well as how to produce relevant documentation and diagrams that communicate requirements in a technical and non-technical format.

- Module duration: 4 weeks
- Classroom attendance: 2 days

Module 4: ●
Implementing Software Methodologies

This module gives learners a practical understanding of Agile, Version Control and DevOps, rounding a developer's skills outside of programming and testing.

Learners will gain an exposure to the concepts within CI/CD and use this to implement automation within the software development process.

- Module duration: 6 weeks
- Classroom attendance: 2 days

Module 5: ●
Documenting Software

This module provides learners with the essential knowledge required to efficiently document developed software, both from an end-user and a developer perspective.

Learners will begin to appreciate the importance of documentation, as well as what documentation is needed for a product and when it is to be developed.

- Module duration: 4 weeks
- Classroom attendance: N/A

Module 6: ●
Software Testing

This module pivots learner focus from design to development; using programming languages to develop, test, and refactor application solutions based on given software designs.

Learners will be given a working, practical understanding on programming through various programming paradigms, best practice, and the SDLC.

- Module duration: 6 weeks
- Classroom attendance: 2 days

● Technical and Professional Skills Modules
● Core Modules

Module 7: ●
Digital Transformation

In this module learners will be evaluating the organisational processes to propose digital technology solutions within businesses to reduce costs, enhance performance and deliver improved services as a result of digital transformation.

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

Module 8: ●
Meta Skills & Professionalism

In this online module learners develop their core knowledge of Meta Skills and Professionalism. 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.

- Module duration: 3 weeks
- Classroom attendance: N/A

Qualifications earned

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

- Software Developer L8

● Technical and Professional Skills Modules
● Core Modules

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 Professionalism
- How People Learn
- Personal Reflection and Performance Reviews
- SMART Objective Setting
- Development Plans, Career Planning and CPD
- Feedback
- Wellbeing

TECHNICAL AND PROFESSIONAL MODULES:

Programming with Java
- The Software Development Lifecycle
- An Introduction to Agile and Waterfall
- The Basics of Programming
- The Basics of SQL and Databases
- HTML & CSS Introduction
- Standards and Guidelines of Developing Applications
- 6-day practical workshop which will discuss the following topics:
- Writing Java-Based Applications, Including (Java GUI) and OOP
- Unit Testing Basics with JUnit
- Linking Code to a Database
- Basics of Staging and Deploying Apps

Designing Software
- An Introduction to the Software Development Lifecycle
- Translating Requirements into Designs
- Basic Design Levels
- Design Strategies
- Foundations of UI/UX
- 2-day practical ‘project simulation’ which will discuss the following topics:
- Modelling Techniques
- Development of Entity Relationship, Data Flow & Class Diagrams
- Development of Wireframes, Prototypes and Workflows for a Software Application
- Reviews and Feedback from Peers and Stakeholders for Further Contribution to Designs

Implementing Software Methodologies
- Understanding Kanban and Prioritisation
- Working in a Scrum Environment
- The Basics of DevOps and CI/CD
- Introduction to Version Control
- 2-day practical workshop which will discuss the following topics:
- Working in an Agile Scrum Methodology
- Developing Applications with Version Control and CI/CD Practices
- Implementing Automation with Build Pipelines

Documenting Software
- User Stories and Use Cases
- Documentation within the SDLC
- User & System-Based Documentation
- Designing Manuals, Guides, and Tool Tips
- Designing Documentation

Software Testing
- The Importance of Testing
- The Testing Lifecycle
- Understanding Test Plans, Cases, Scripts and Data
- The Basics of TDD
- 2-day practical workshop which will discuss the following topics:
- Writing Unit Tests for Developed Test Plans
- Using Tracking Tools
- Write Different Test Types

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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Skills Development Scotland

MODERN APPRENTICESHIPS