POWERING POTENTIAL

Apprenticeship Programme Guide

JUNIOR DEVELOPER

Level 3

QA.com

DIGITAL AND DEGREE APPRENTICESHIPS

Building tech careers in the workplace

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

With programme pathways from Level 3 – Level 7, 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: 30,000 apprenticeships placed

An unrivalled talent pool: 100,000 apply to join our programmes every year

Award-winning: Recipient of the Gold Award at the Learning Tech Awards 2020 for our apprenticeship delivery model

98% Higher than average provider performance with a pass rate of 98.61%

Based on end point assessments by the BCS 2022

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ROLE PROFILE

JUNIOR DEVELOPER

Junior Developers typically work as part of a software development team, to build simple software components (whether web, mobile or desktop applications) to be used by other members of the team as part of larger software development projects.

They will interpret simple design requirements for discrete components of the project under supervision. The approach will typically include implementing code, which other team members have developed, to produce the required component.

The Junior Developer will also be engaged in testing that the specific component meets its intended functionality.

Junior Developers need:

- Strong analytical and mathematical skills
- A methodical, step-by-step approach to resolving issues
- Business skills like effective communication, teamwork and task/time management
- The adaptability to do a range of work—sometimes complex and non-routine—in different environments
- The ability to work under direction, use discretion and determine when to escalate issues

JOB ROLE SUITABILITY

As an employer is it important to assess whether a candidate (a new hire or existing employee) is working in a suitable job role to successfully complete their programme.

The checklist has been created to help you assess whether your apprentice will be in a position to demonstrate all of the following Junior Developer's duties, during their programme.

Job roles this programme is a great match for:

- Junior Developer
- Junior Web Developer
- Junior Application Developer
- Junior Software Developer
- Junior Application Support Analyst
- Junior Programmer
- Assistant Programmer

Checklist

1	Will they follow clearly defined requirements to deliver software development products?
2	Will they report progress against metrics on software development activities accurately throughout the stages of the software development lifecycle?
3	Will they identify and report any impediments to progress in development to supervisors?
4	Will they follow instructions to convert customer requirements to technical requirements?
5	Will they communicate outcomes from development activities to team members and other stakeholders?
6	Will they write logical and maintainable software solutions in line with given specifications to meet design requirements and organisational coding standards?
7	Will they take the non-functional requirements of maintenance, performance and user experience into account alongside functional requirements?
8	Will they apply security principles and practice to the software development tasks assigned?
9	Will they maintain appropriate project documentation throughout development tasks?
10	Will they apply appropriate recovery techniques to ensure that the software solution being developed is not lost, for example, work with source control?
11	Will they undertake unit and integration testing of solutions to meet code coverage guidelines?
12	Will they contribute to testing of the end-to-end software solution to ensure a high-quality output and where necessary?
13	Will they provide support throughout the development lifecycle, including user acceptance testing and final release to production?
14	Will they provide initial support to classify severity and priority of issues and schedule bug fixes where necessary?
15	Will they practice continuous guided self-learning to keep up-to-date with technological developments?

ENTRY REQUIREMENTS

The entry requirements for this programme are as follows:

- 5 GCSEs (especially English, mathematics and a science or technology subject);
- other relevant qualifications and experience;
- or an aptitude test with a focus on IT skills

Experience:

Previous experience as a programmer in industry can be considered.

FINDING NEW TALENT

Each year, QA attracts over 100,000 applicants for our early careers opportunities, building a robust pipeline of fresh tech talent.

Our success lies in leveraging a wide array of channels and partnerships that ensure we have a constant flow of applications and access to a diverse range of candidates.

We have strong partnerships in place with educational and career institutions, including local job centres, career networks, youth groups, and universities.

We have a prominent presence on all major job boards in the market, ensuring maximum visibility for our job postings.

Our QA team employs social media campaigns to reach specific profiles in certain regions or demographics.

QA attracts over **100,000 applicants a year** 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 National Apprenticeships Week workshops

Proactively **engaging with thousands of sixth forms/colleges and universities**, attending carers fairs to ensure that we reach talent first

Maintaining a **diverse candidate pool** with **54%** of applicants indicating that they are of an ethnic minority background and **33%** 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 STEM women, Stemettes, Young Professionals and Coding Black Females.

We make tech skills accessible to all

We run free tech workshops including '**Teach the Nation to Code**' and '**Teach the Nation to Cloud**' so anyone can explore technology career opportunities.

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, skills and behaviours are measured and mapped against the apprenticeship standard.

This process is an assessment of the apprentice's eligibility 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 apprenticeships are designed to immerse the apprentice in their job role while providing time for them to complete the required off-the job training to become occupationally competent and ready to undertake End-Point Assessment to complete their apprenticeship standard.

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.

Full-time apprentices (those that work 30 hours per week or more) will be required to spend at least 20% of the apprentice's normal working hours over the planned duration of the apprenticeship practical period on off-the-job training. This means the minimum requirement for apprentices working 30 hours or more per week is an average of 6 hours of off-the-job training per week (i.e. 20% of 30 hours) over the planned duration.

Employer coaching, shadowing and mentoring remain off-the-job training, 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 Digital Learning Consultant (DLC), 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. This ensures that from the beginning of the programme there is a clear focus on successful completion of the end-point assessment (EPA).

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

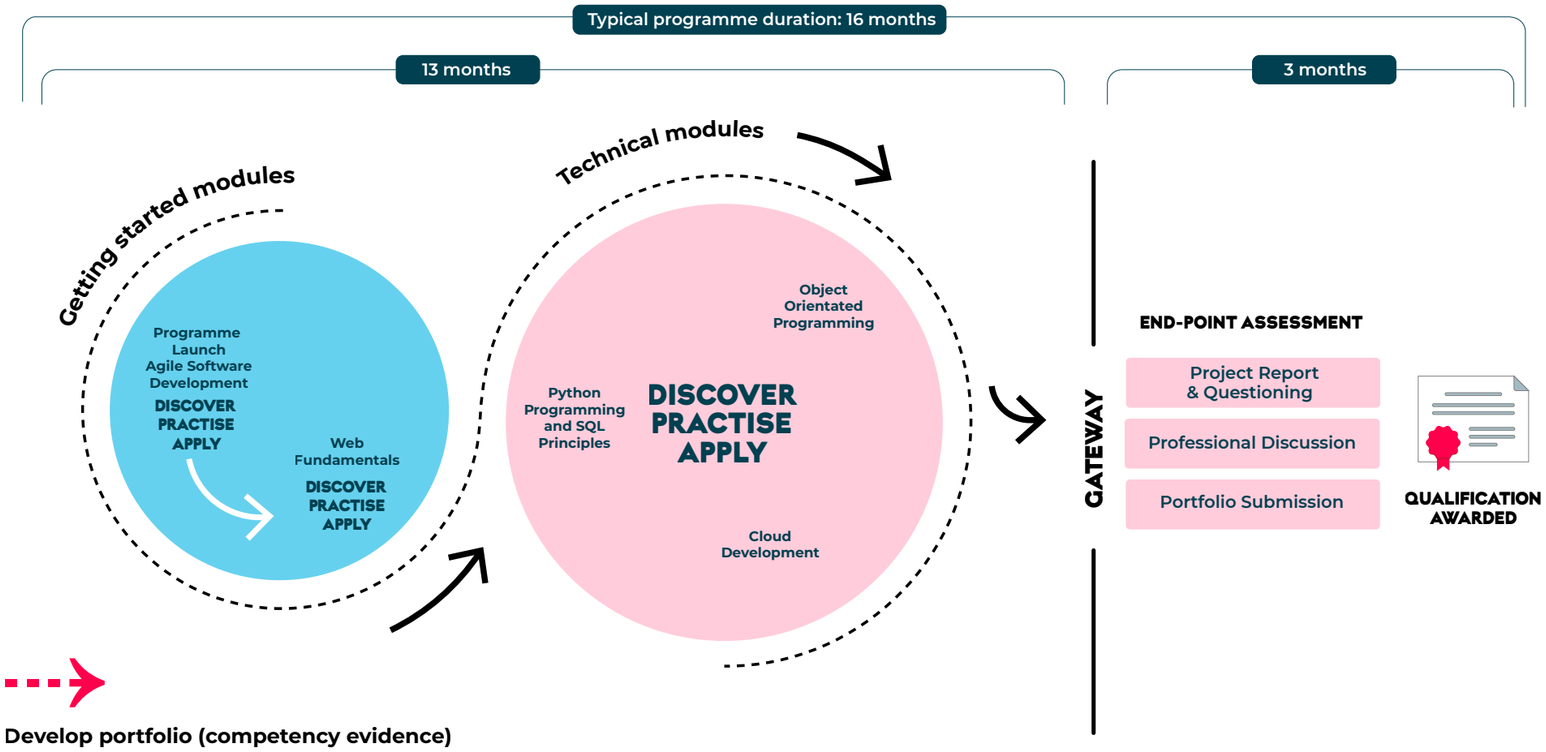
Learners will learn the theory, by exploring subjects online and in the live events.

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.



Develop portfolio (competency evidence)

Level 2 functional skills, English and Maths must be passed as part of the programme (if not already) and certificates presented, prior to taking the end-point assessment. This will be discussed at programme launch.

THE LEARNER'S JOURNEY

Typical Programme Duration: 13 months (+ 3 months for End-Point Assessment)

GETTING READY TO START

- Safeguarding Module
- HandS: Workstation Assessment
- Functional Skills: Maths and English Diagnostics
- Functional Skills: Maths and English Learning
- **Check-in session 1#**

PROGRAMME LAUNCH

13 months learning

Module 1:
Agile Software Development
(8 weeks)

Module 2:
Python Programming and SQL Principles
(8 weeks)

- **Employer Check-in**

Module 3:
Web Fundamentals
(10 weeks)

Module 4:
Object Oriented Programming
(12 weeks)

- Functional Skills: Speaking, Listening and Communicating Exam Preparation
- Functional Skills: Maths and English (R&W) Mock Exams
- Functional Skills: Speaking, Listening and Communicating Exam
- Functional Skills: Maths Exam
- Functional Skills: English (R) Exam
- Functional Skills: English (W) Exam
- **Employer Reflection (1 of 2)**

Module 5:
Cloud Development
(8 weeks)

3 months EPA

End-Point Assessment

- **Employer Reflection (2 of 2)**
- **Portfolio Consolidated**

Qualification Awarded

GETTING STARTED MODULE

The modules in our Junior Developer apprenticeship equip learners with the advanced skills they need for their role. Each module develops core set of skills they must be able to do well to be competent. In each module, learners will 'discover', 'practise' and 'apply' what they have learned.

This helps them put their newly found knowledge into action back at work. There are 5 modules to complete with the following learning outcomes.

Module 1:

Agile Software Development

This module will introduce learners to an incredibly important set of principles and frameworks to conduct working, focusing on the Software Development Lifecycle and planning and delivering products through Agile Scrum.

Module duration: 8 weeks

Classroom attendance: 3 days

Module 2:

Python Programming and SQL Principles

This module introduces learners to Python as their first programming language. Learners will then explore the SQL programming language and basic commands. They will do so by:

- Understand and write Python and SQL commands
- Understand control flow, lists and functions
- Explore debugging techniques
- Explore data and databases
- Collaborating on Github

After the module learners can continue to practise their Python programming skills online.

Module duration: 8 weeks

Classroom attendance: 3 days

TECHNICAL MODULES

The remaining modules focus on the knowledge and skills required of a Junior Developer in detail. After each module learners will 'apply' what they've learned at work on current projects.

Module 3:

Web Fundamentals

This module introduces learners to writing simple scripts and builds using the JavaScript framework. Learners will also delve into HTML and CSS for web applications. In summary, learners will:

- Write a simple HTML page to display static data
- Use simple CSS to change the look and feel of a page
- Building responsive web applications
- Client side code using JavaScript.
- Data Structures
- Programme control
- Learners can explore React.js, Anglular.js and Node.js later

After this module, learners will put their new-found knowledge into action at work, progressing their learning online.

Module duration: 10 weeks

Classroom attendance: 5 days

Module 4:

Object Orientated Programming

This module introduces learners to Object Oriented Programming techniques using both Java and C# syntax. Learners will spend their time completing practical labs online and in the classroom. By doing so, they will:

- Java and C# syntax
- Create and used classes
- Constructors
- Inheritance
- Abstract classes and interfaces
- Static fields
- Testing

After this module, learners will put their new-found knowledge into action at work, progressing their learning online.

Module duration: 12 weeks

Classroom attendance: 2x5 days

Module 5:

Cloud Development

This module introduces learners to the concept of Microservices and cloud services. Learners will further explore databases and gain the skills to embed data queries into code. This includes:

- The cloud
- API
- Microservices
- Data Modelling
- Normalisation
- Performance
- Database objects
- SQL Server

After this module, learners will put their new-found knowledge into action at work, progressing their learning online.

Module duration: 8 weeks

Classroom attendance: 3 days

Consolidate End Point Assessment Preparation (Virtual)

This final component will get learners ready to go through the 'gateway'.

The apprenticeship gateway is an internal QA process. It will ensure that your learner's work is ready to be assessed by BCS. This exists to increase their chances of success.

At this pre-gateway stage learners will:

- Consolidate their portfolio
- Prepare for their professional discussion
- Complete their project report

In addition to the items above, learners must have successfully completed all the Functional Skills exams (except exempt learners).

Once learners have met all the above criteria, they will go through the gateway. When approved, it takes 3 months from gateway to achievement.

During this time, learners will:

- Submit their project report
- Complete their professional discussion

Module duration: 7 days + EPA

Qualifications earned

- Software Development Technician Level 3 Apprenticeship

LEARNING OUTCOMES

As well as being assessed on their technical knowledge, apprentices are also assessed on their ability to demonstrate the following more advanced competencies through their portfolio and interview.

This ensures balanced development – as the competency standards provide a greater emphasis on the importance of both technical and soft skills relevant to their role in the workplace. The DLC will help apprentices build their portfolio and record these skills throughout the programme.

LOGIC

Follow an appropriate logical approach.

Understand the context for the development platform.

Understand how code integrates to the wider project.

Understand how to follow a set of functional and non-functional requirements.

SECURITY

Apply appropriate secure development principles.

Understand the importance of building in security at the development stage.

BUSINESS SKILLS

Operate appropriately in their own business, their customers' and the industry's environments.

Understand the business context.

Understand their role within the development team.

USER INTERFACE

Develop appropriate to the organisation's standards and the type of component being developed.

Understand the end user context for the activity.

Understand the principles of good interface design.

SKILLS AND BEHAVIOURS

Apprentices will also need to show they have demonstrated the following skills and behaviours in their role:

- Logical and creative thinking skills
- Problem solving skills
- Work independently and take responsibility
- Use own initiative
- Take a thorough and organised approach
- Work with a range of internal and external people
- Communicate effectively in a variety of situations
- Maintain a productive, professional and secure working environment

DEVELOPMENT SUPPORT

Apply industry standard approaches to manage code.

Understand there are different methodologies for software development.

DATA

Make connections between code and defined data sources.

Understand database normalisation.

TEST

Understand how to test code.

Carry out functionality tests.

ANALYSIS

Follow basic analysis models.

DEVELOPMENT LIFECYCLE

Support build and test stages.

Understand all stages of the lifecycle.

DATA

Follow good coding practices.

Understand configuration management and version control.

Understand why there is a need to follow good coding practices.

PROBLEM SOLVING

Solve logical problems and seek assistance when required.

COMMUNICATION

Communicate clearly to a variety of stakeholders.

HOW TO GET READY FOR THE END-POINT ASSESSMENT

We want to deliver memorable learning experiences, whilst developing learners with well-rounded skillsets, ready to meet their professional requirements.

To ensure we are achieving this goal consistently, it is important for learners, digital learning consultants and employers to work together to ensure learners are supported to succeed in their apprenticeship's end-point assessment (EPA).

In this section we outline a number of guidelines which intend to provide a framework so that this can be achieved in a consistent way.

Preparation for the end-point assessment starts from day one.

STAYING ON-TRACK THROUGHOUT THE PROGRAMME

Learners and employers should start preparing for EPA from the start of the programmme. Employers will need to ensure that learners are given the right opportunities at work to develop and prove the knowledge, skills and behaviours in the standard.

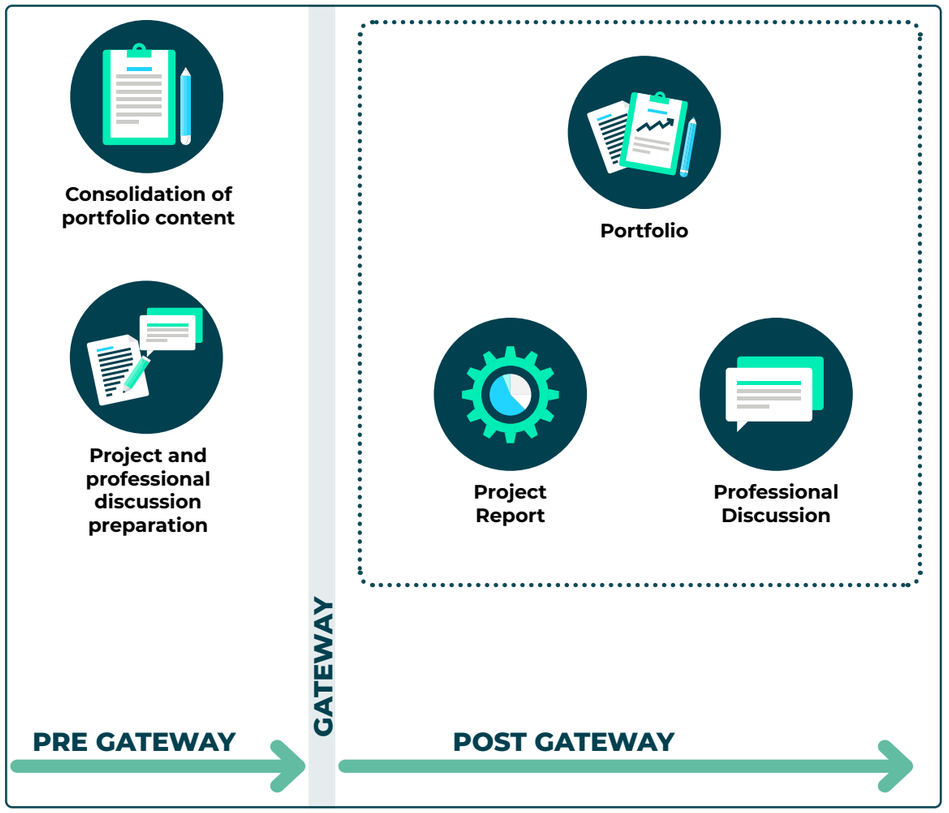
For this reason, it is very important to keep learners, digital learning consultants and employers informed about the programme progress. It is critical to the success of the apprenticeship programme that all of the above work together to ensure that each learning journey is kept on-track avoiding further interventions (and time commitment) whenever possible.

To help learners with this, we have created two guiding documents – a programme timeline, and a progress review map – so progress can be checked against it, at any time. Any progress deviations above 15% will be reviewed on a case-by-case basis. This is to ensure the apprenticeship is progressing in a timely manner.

HOW THE EPA IS GRADED

After the EPA interview, the assessor will make a holistic judgement of the apprentice's performance across all four assessment methods based on three criteria:

1. **WHAT**
   What has been learned
2. **HOW**
   The way the work was done
3. **WITH WHOM**
   The personal and interpersonal qualities brought to working relationships



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

0333 060 7701
qa.com/contact

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