

THE APPRENTICE and TRAINING PARTNERSHIP

LEVEL 4 SOFTWARE DEVELOPER

Role Profile:

The primary role of a software developer is to build and test simple, high-quality code across front end, logic and database layers. A developer will typically be working as part of a larger team, in which they will have responsibility for some of the straightforward elements of the overall project.

The developer will need to be able to interpret design documentation and specifications. The customer requirements will typically be defined and agreed by more experienced or specialist members of the team, such as a business analyst or technical architect.

Entry Requirements:

Individual employers will set the selection criteria, but this is likely to include A levels; a level 3 apprenticeship or other relevant qualification; relevant experience and/or an aptitude test with a focus on functional maths.

Typical Job Roles

- Web Developer
- Application Developer
- Mobile App Developer
- Games Developer
- Software Developer

Programme Duration:

The duration of this apprenticeship is typically 24 months.

Initial Assessments:

Initial assessments for Maths and English will be carried out for all apprentices using an approved diagnostic tool. This will include a full diagnostic of knowledge in Maths and English to gauge the level at which the apprentice is working. This will enable us to support the apprentice and structure training provision. Learners' suitability for the chosen apprenticeship programme is also initially assessed to ensure each learner is on the most appropriate programme for their chosen career path.

Delivery Model:

A minimum of 20% of the apprenticeship training takes place off-the-job and is flexibly delivered to suit your business. Training can be a combination of classroom and workplace workshops, block-training or day-release at our centre; with the remaining time being spent in the workplace.

A full timetable for training, ongoing assessment and End-Point Assessment will be issued to both you as the employer; and the apprentice, once the delivery model and training elements have been agreed.

On programme assessment will take the form of progress reviews with the trainer, employer and apprentice at least every 12 weeks. Feedback with ongoing development will include additional learning materials, resources and training delivered through the apprentice's e-portfolio OneFile; to which employers have access to view the progress and the development of each apprentice.

Programme Structure:

Technical Competencies

- **Logic:** Write good quality code (logic) with sound syntax in at least one language
- **User Interface:** Develop effective user interfaces for at least one channel
- **Data:** Effectively link code to the database/data sets
- **Test:** Test code and analyse results to correct errors found using either V-model manual testing and/or using unit testing
- **Problem Solving:** Apply structured techniques to problem solving, debug code and understand the structure of programmes in order to identify and resolve issues
- **Design:** Create simple data models and software designs to effectively communicate understanding of the program, following best practices and standards
- **Analysis:** Understand and create basic analysis artefacts, such as user cases and/or user stories
- **Deployment:** Understand and utilise skills to build, manage and deploy code into enterprise environments
- **Development Lifecycle:** Operate at all stages of the software development lifecycle, with increasing breadth and depth over time with initial focus on build and test, and apply good practice approaches according to the relevant paradigm (for example object oriented, event driven or procedural)
- Interpret and follow:
 - Software designs and functional/technical specifications
 - Company defined 'coding standards' or industry good practice for coding
 - Testing frameworks and methodologies
 - Company, team or client approaches to continuous integration, version and source control
- Respond to the business environment and business issues related to software development
- Operate effectively in their own business's, their customers' and the industry's environments
- Apply the maths required to be a software developer (e.g. algorithms, logic and data structures)

Technical Knowledge and Understanding

- Understand and operate at all stages of the software development lifecycle
- Understand the similarities and differences (taking into account positives and negatives of both approaches) between agile and waterfall software development methodologies
- Understand how teams work effectively to produce software and contributes appropriately
- Understand and apply software design approaches and patterns, and interpret and implement a given design, compliant with security and maintainability requirements.
- Understand and respond to the business environment and business issues related to software development

Underpinning Skills, Attitudes and Behaviours

- Logical and creative thinking skills
- Analytical and problem solving skills
- Ability to work independently and to take responsibility
- 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
- Maintaining a productive, professional and secure working environment

Qualifications

Apprentices must achieve one internationally recognised vendor or professional qualification, individual employers will select which vendor or professional qualification the apprentice should take.

Section 1 ► Knowledge Module 1:

Software Development Methodologies (for level 4 Software Development Apprenticeship)

Vendor Qualification:

BCS Systems Development Essentials

Section 2 ► Knowledge Module 2:

Software Language (for level 4 Software Developer Apprenticeship)

Vendor Qualifications:

Cloud Certified Developer Apache

Hadoop

C++

PHP

Drupal

Oracle SQL Developer

Oracle Java Certified

MCP.net

MTA/MCP programming in HTML5 with Javascript and CSS3

C#

Progression

This apprenticeship is recognised for entry onto the register of IT Technicians confirming SFIA level 3 professional competence. Those completing the apprenticeship are eligible to apply for registration.