

## National Apprenticeship - Occupational Profile

**Apprenticeship Title** ICT Associate Professional Software Developer

**NFQ Level** 6

**Duration** 2 Years

**Typical tasks/  
responsibilities**

An ICT Associate Professional Software Developer builds and tests high-quality code across front end, logic and database layers. Developers typically work as part of a larger team, in which they have responsibility for some of the straightforward elements of the overall project. While 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, the developer will be able to interpret design documentation and specifications.

**On successful completion, the ICT Associate Professional Software Developer will have:**

**Knowledge**

- 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 can 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
- Understand and operate effectively in their own business's, their customers' and the industry's environments
- Understand and apply the maths required to be a software developer (e.g. algorithms, logic and data structures)

**Skills**

- Writes good quality code (logic) with sound syntax in at least one language
- Develops effective user interfaces
- Can effectively link code to the database/data sets
- Can test code and analyse results to correct errors found using either V-model manual testing and/or using unit testing
- Can apply structured techniques to problem solving, can debug code and can understand the structure of programmes in order to identify and resolve issues
- Creates functional data models and software designs to effectively communicate understanding of the program, following best practices and standards

**Skills**  
Cont'd

- Understands and creates basic analysis artefacts, such as user cases and/or user stories
- Utilises skills to build, manage and deploy code into enterprise environments
- Operates at all stages of the software development lifecycle, with increasing breadth and depth over time with initial focus on build and test.
- Can apply good practice approaches according to the relevant paradigm (for example object oriented, event driven or procedural)
- Interprets and follows:
  - o software designs and functional/technical specifications
  - o company defined 'coding standards' or industry good practice for coding
  - o testing frameworks and methodologies
  - o company, team or client approaches to continuous integration, version and source control

**Competencies**

- Logical and creative thinking skills
- Analytical and problem solving skills
- Maintains a productive, professional and safe work environment
- Communicates effectively in a variety of situations
- Records and reports information accurately to a wide range of internal and external stakeholders
- Applies strong interpersonal skills when dealing with colleagues, customers and clients
- Flexible attitude
- Ability to work independently and to take responsibility
- A thorough approach to work and commitment to quality
- Passion for IT

**Industry/industries served by the apprenticeship**

Software products, applications and services are widely used across many sectors and potentially all sectors in a modern economy. Most ICT Associate Professional Software Developers will work in the ICT sector industries who research, develop, design, sell, install and maintain software products and services. However a large number will work in other sectors which use, develop and apply software solutions to support their activity.