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Level 3
Software Development Technician

Programme Overview

Phase 1 Onboarding

Phase 2 Training, Tutor Support Sessions & Quarterly Reviews

- Introduction to Software Development
- Software Development Context & Methodologies
- Software Design
- Database Design and Development
- Java
- Introduction to AI
- Introduction to Machine Learning
- BCS Level 3 Certificate in Programming (Opt)

Phase 3 Assessment Gateway

Phase 4 End Point Assessment

Tutor support sessions every six weeks

Programme Delivery

All modules are either trainer-led remote training session or self-paced distance learning on our dedicated virtual learning enviorment (VLE).

All trainer-led training days are delivered across three online sessions at the following times:

9am - 10:30am
11am - 12:30pm
1:30pm - 4pm

Phase	Month	Training Modules	Length
Phase 1		Introduction & Onboarding	1-2 days
Phase 2	1	Introduction to Software Development	VLE
	1	Software Development Context & Methodologies	3 days
	2	Software Design	3 days
	3	Database Design & Development	2 days
	4	Java (1)	3 days
	5	Java (2)	3 days
	6	Java (3)	3 days
	7	Introduction to AI	2 days
	8	Introduction to Machine Learning	2 days
	9	BCS Level 3 Certificate in Programming (Opt)	
Phase 3	11 - 14	Assessment Gateway & EPA Preparation	
Phase 4		End Point Assessment	3 - 4 months

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Programme Details

Introduction to Software Development

- Overview of the role of a software development technician
- History of Software Development
- Introduction to the SDLC

Software Development Context and Methodologies

- The business context and market environment for software development
- How to recognise that there are different methodologies that can be used for software developmentThe roles within the software development team
- The structure of software applications and the context for the development platform (whether web, mobile, or desktop applications)
- All stages of the software development lifecycle
- Different types of testing
- How to test code
- The role of configuration management, version control systems and how to apply them

Software Design

- Algorithms
- Variables and data types
- Building blocks of algorithms
- Creating simple sorting and searching algorithms
- Principles of UI Design
- Users and cognition

Database Design and Development

- Types of relationships
- Data dictionaries
- Entity Relationship diagrams
- Normalisation
- Introduction to NoSQL

Introduction to Programming using Java

- Understand Java fundamentals
- Data types
- Construct code that manipulates strings
- Construct and evaluate arithmetic expressions
- Construct and evaluate code that uses branching statements
- Construct and evaluate code that uses loops
- Construct and evaluate code that performs parsing, casting and conversion
- Exception Handling

Introduction to Artificial Intelligence

- What is AI?
- AI Concepts, Terminology and how it has been used
- AI Issues, Concerns and Ethical considerations
- Where AI is going and how it can be used in software development

Introduction to Machine Learning

- Basics of Machine Learning
- Model learning – what is it and how it is used
- Introduction to Neural Networks
- Image Analysis

BCS Level 3 Certificate in Programming (Opt)

- How to implement code, following a logical approach
- How code integrates into the wider project
- How to follow a set of functional and non-functional requirements
- The end-user context for software development
- Importance of seamlessly connecting applications to databases
- Types of data storage and their applications
- Database normalisation
- Why there is a need to follow good coding practices
- Principles of good interface design
- Importance of building security in to software

Assessment Gateway & EPA

- EPA Preparation
  Dedicated one-to-one sessions to support the learner as they head towards assessment, putting them in the best possible position for achievement
- Assessment Phase
  EPA can take up to 3-4 months to complete. This involves a Project report with questioning and a Professional discussion underpinned by a portfolio

VC | DA | SDT | 2022 | V1