



SKILLS BOOTCAMPS

DATA ENGINEERING



QA's learning programme comprises:

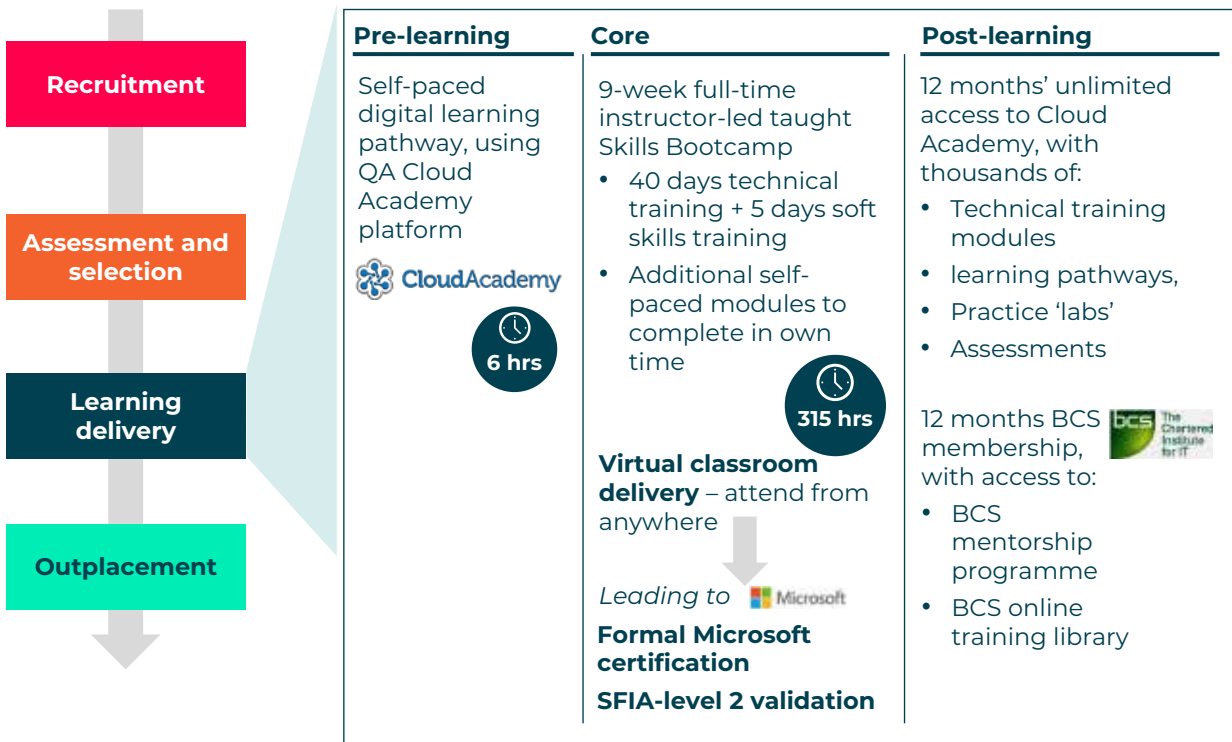
- A QA Cloud Academy self-paced pre-learning pathway
- 9-week, full time (35 hours per week) programme, using proven “QA Virtual Classroom”, allowing delegates to attend remotely or Covid – 19 permitted at one of QA's dedicated training centres.
 - 40-days technical training
 - 5 days soft skills training
 - Assignments completed in learners' own time

During the 9 weeks participants:

- Sit an industry-recognised exam leading to a Microsoft certification
- Undergo SFIA-benchmarked employer-led assessment
- PeopleCert Skills Bootcamp examination and certification

QA invites Applicants to participate in a programme of post-Skills Bootcamp learning in recognition of the value of life-long learning:

- Balance of 12-month access to ~10,000 hours content on QA's Cloud Academy
- 12-months BCS membership with access to Career Mentoring The programme structure is in exhibit 13:
- 12-month discount to over 5000+ Microsoft & PeopleCert technology certifications



This Skills Bootcamp will provide each learner with at least 315 hours of instructor-led learning, plus additional self-paced learning.

COURSE CONTENT

Cloud Academy Pre-Learning:

- Python Fundamentals (3hrs)
 - Introduction to Python, algorithms and how they are used
- Cloud Literacy (3hrs)
 - What the cloud is, how it works, and important considerations

Core content and schedule:

This Skills Bootcamp is aligned to the Data Analyst Apprenticeship (Level 4) standard and learning outcomes.



Days	Module	Learning content
Days 1-15 Technical Foundations		
1	Introduction	Induction Onboarding Requirements gathering Software development life cycle
2 - 3	Agile	Why agile Values Principals Scrum
4	DevOps and source control	What is DevOps? Introduction to Git Explaining architecture through CI/CD
5 - 6	Networking and Security	Network basics Local Area Networking OSI and TCP/IP Routing IP addresses Security 101
7	Operating system basics	OS basics Windows OS Introduction to Linux Command line
8 - 9	Database	Why we need databases? SQL fundamentals Working with data
10 - 14	Algorithm and scripting	Solving problems with code Python basics Writing scripts Use basic operators Understand precedence Primitive numeric and string data Classes and object references Debugging
15	Azure Fundamentals	Core cloud concepts AWS / Azure / GCP overview Exploring Microsoft Azure



Days	Module	Learning content
Days 16-40: Data Engineering Specialist Pathway		
16 - 20	Introduction to Big Data	<ul style="list-style-type: none">Understand the characteristics of data analysis, big data, machine learning and AIHow to formulate a Big Data strategyUnderstand Big Data architecturesHow to select the appropriate solution to solve practical Big Data problems.How to apply Big Data processes to extract value from massive quantities of data
20 - 22	Data Visualisation using PowerBI	<ul style="list-style-type: none">Modelling data for VisualisationTransforming and cleaning dataUsing the appropriate visualisationData storytelling
23 - 26	Data Architectures	<ul style="list-style-type: none">Model and implement a basic data warehouseUse ETL and Data Transformation ToolsUnderstand the Function of Data Architectures within an enterpriseUnderstand and apply Data testing strategies
27 - 31	Python for Data Analytics	<ul style="list-style-type: none">Pandas for Extract Transform LoadKnow how to analyse data through summary statisticsUse a range of Python features for numerical analysisExplore and visualize data using Python
32 - 35	Machine Learning	<ul style="list-style-type: none">Explore and prepare dataDevelop Machine Learning modelsHow to pick Machine Learning algorithms for a given taskUnderstand techniques and metrics used to determine the quality of ML models
36	Azure Data Fundamentals	<ul style="list-style-type: none">Describe core data concepts in AzureExplain concepts of relational data in AzureExplain concepts of non-relational data in AzureIdentify components of a modern data warehouse in Azure
37 - 39	Implementing a Data Science Solution on Azure	<ul style="list-style-type: none">How to plan and create a suitable working environment for data science workloads on AzureHow to run data experiments and train predictive modelsHow to manage, optimize, and deploy machine learning models into productionUnderstand the considerations for responsible machine learning
Day 40: DP 900 Exam and SFIA Project Prep		



SOFT SKILLS CONTENT

Days	Module	Learning content
1	Role overview and communication skills	Working in a technical role Key soft skills Importance of communication
2-3	Impactful presentations	Planning, preparing and structuring presentations Presenting with confidence Powerful visual aids Tackling difficult questions Controlling nerves
4	BCS Career Workshop	Careers in tech Preparing high-quality CVs (Dedicated workshop on individual learners' CVs)
5	BCS Interview Preparation	Preparing for technical interviews Presenting yourself effectively Asking questions



OPTIONAL POST-PROGRAMME

Participants are invited to further develop and embed their knowledge through:

1. Access to Cloud Academy

Balance of 12 months unlimited access to Cloud Academy (library of >2,500 digital learning assets) with signposting to training pathways pertinent to specialism.

2. BCS membership

Participants will be granted 12 months free BCS membership, providing:

- BCS' library of learning and careers support tools
- BCS' industry events, webinars, and reports
- BCS' mentorship scheme

3. PeopleCert Discounted Access

Participants will be given an access code for 12 months discounted access to PeopleCerts Ofqual regulated exams. Utilising Cloud Academy could obtain 25+ recognised certifications.

OUR PARTNERS



FOR MORE INFORMATION, PLEASE CONTACT

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