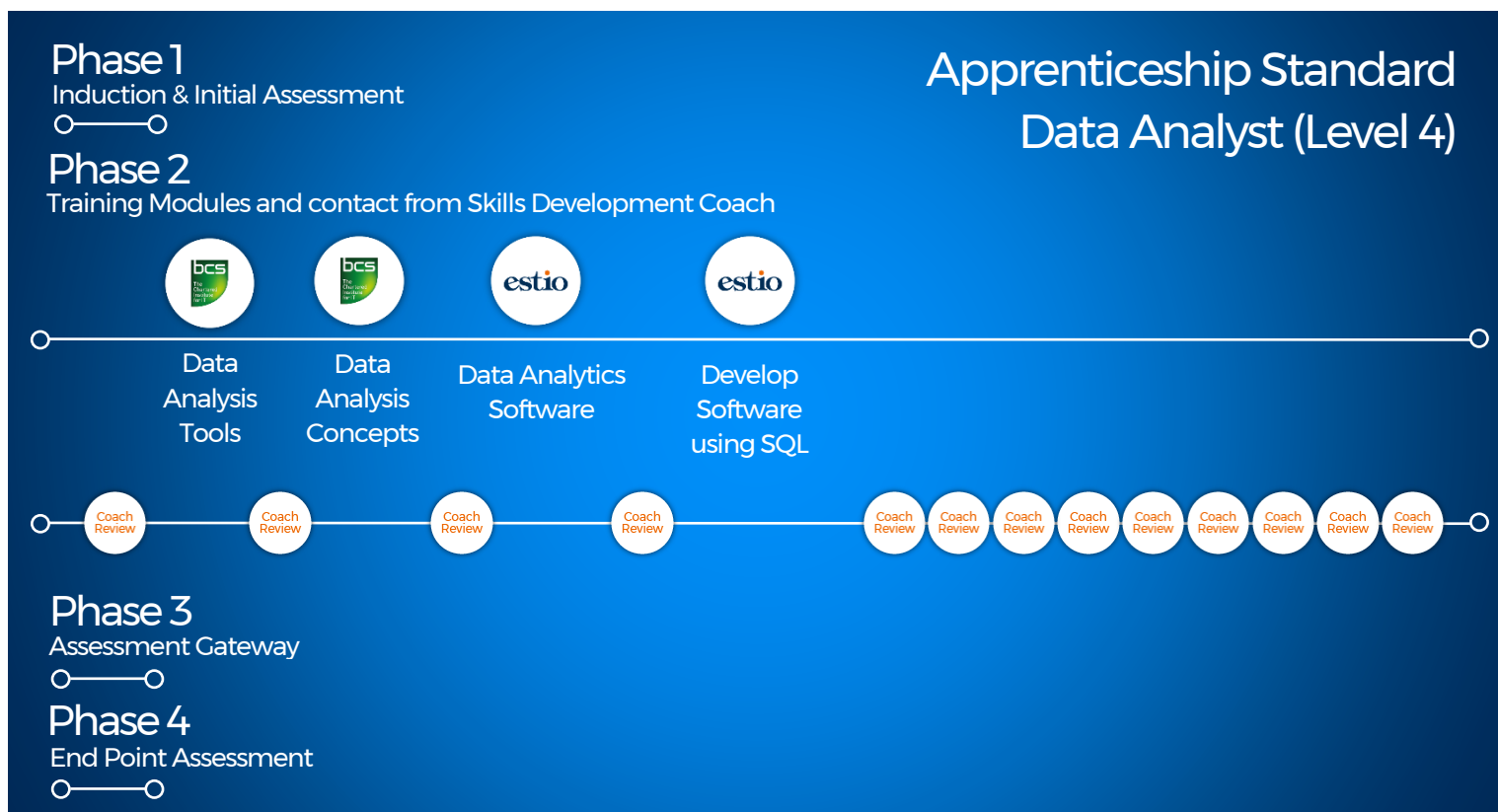


Data Analyst (Level 4)



Blended Learning breakdown

		Training Centre	Remote
Phase 1	Induction & Initial Assessment	1 day	Training Centre only
Phase 2	Data Analysis Tools - Part 1	1 week	20 hours self-study 4 remote training sessions
	Data Analysis Tools - Part 2	1 week	20 hours self-study 4 remote training sessions
	Data Analysis Concepts - Part 1	1 week	20 hours self-study 4 remote training sessions
	Data Analysis Concepts - Part 2	1 week	20 hours self-study 4 remote training sessions
	Data Analytics Software	1 week	20 hours self-study 4 remote training sessions
	Develop Software using SQL	1 week	Training Centre only
	Phase 3	Assessment Gateway	Up to 1 week*
Phase 4	End Point Assessment	3 - 5 days	Training Centre only

*To be arranged by your Skills Development Coach

Course Details



Induction/Initial Assessment

1 day in the training centre

Functional Skills

If required, learners will sit a Maths and/or 3 English exams.
Allow 1 – 2 days per exam.

Data Analysis Concepts (Part 1)

- Explore the different types of data, including open and public data, administrative data, and research data
- Explore the data lifecycle
- Learn how to be able to illustrate the differences between structured and unstructured data
- Explain the importance of clearly defining customer requirements for data analysis
- Learn how quality issues can arise with data and how to avoid and/or resolve these
- Explore the steps involved in carrying out routine data analysis tasks

Data Analysis Concepts (Part 2)

- Explain the range of data protection and legal issues
- Explain the importance of the domain context for data analytics
- Explore the fundamentals of data structures
- Explore the database system design, implementation, and maintenance
- Discuss organisation's data architecture



Data Analytics Software

- Manipulating data using Pivot tables in Excel
- Basics of Python and Data Types
- Exploratory analysis and data munging in Python using Pandas
- Building a Predictive Model in Python
- Basics of R and Data Types
- Data Manipulation in R
- Data Visualisation with ggplot2
- Interactive Data Visualisation with R and plotly



Data Analysis Tools (Part 1)

Big Data Analytics and the Data Scientist Role:

- The characteristics of Big Data
- The practice of analytics
- The role and required skills of a Data Scientist

Data Analytics Lifecycle:

- Discovery
- Data preparation
- Model planning and building
- Communicating results
- Operationalising a data analytics project

Initial Analysis of the Data:

- Using basic R commands to analyse data
- Using statistical measures and visualisation to understand data
- The theory, process, and analysis of results to evaluate a model

Data Analysis Tools (Part 2)

Advanced Analytics for Big Data (Theory and Methods):

- K-means clustering
- Association rules
- Linear regression
- Logistic Regression
- Naïve Bayesian classifiers
- Decision trees
- Time Series Analysis
- Text Analytics

Advanced Analytics for Big Data (Technology and Tools):

- MapReduce
- Hadoop Ecosystem
- SQL OLAP extensions, Windows functions, user defined functions, and aggregates

Operationalising an Analytics Project and Data Visualisation Techniques:

- Best practices for operationalising an analytics project
- Best practices for planning and creating effective data visualisations



Developing Software Using SQL

- Know how to query and display data from a single table
- Query and display data from multiple tables
- Manipulate data in tables
- Create and manage tables, views and indexes



Assessment Gateway, Assessment Preparation & Administration Week

(Up to 1 week in the training centre)

Preparation week to understand the four elements of the assessment gateway

Assessment Phase

Summative Portfolio

Synoptic Project

Technical Interview with SME

Employer Reference

Achievement of Apprenticeship

BCS Data Analyst (Level 4)