

# LEVEL 4 DATA ANALYST

## THE APPRENTICE and TRAINING PARTNERSHIP

### **There is nothing standard about the new apprenticeship Standards!**

Following the 2019 - 2021 digital skills review, modern apprenticeships have once again taken a leap forward to provide better vocational training for apprentices and greater benefit to employers. The perfect solution for new career starts, professional upskilling or changes in career direction.

#### **Programme Overview:**

Our apprenticeship is designed to prepare apprentices by giving them a deep understanding of what data is, how to work with it and how to use it to gain the greatest insights to empower businesses.

We teach apprentices how to describe, handle, process and manipulate structured and unstructured data. They will learn Python SQL along with modelling techniques using tools such as Numpy, Pandas and Jupyter.

They will be taught data integration, database design and ETL processes along with accuracy and quality considerations.

We delve into statistical analysis and modelling for example z-scores, t-tests and regression.

We provide the understanding and application of the mathematics and formulas behind the analysis, and how to deliver well presented insight that a business can really use.

Along with technologies essential to data analysis, we also teach apprentices how to create local, virtual or cloud based sandboxes and other environments that enable them to visualise and operationalise data.

We also embed teamwork, process, project management and a good grounding in legal and ethical considerations to ensure apprentices are well rounded.

#### **Who is it for?**

For individuals working in a position which requires them to extract, compile, analyse and moderate volumes of data with a reasonable degree of complexity.

Key responsibilities which can include:

- Data Analysis
- Data Management
- Data Modelling
- Data Engineering
- Data Manipulation
- Data Presenting

#### **Entry Requirements:**

Entry requirements exist for all funded Further Education programmes. These ensure the value, gain and success of the programme. The ATP will conduct the processes with employers and prospective apprentices to determine correct funding eligibility.

#### **Job role eligibility (known as Competency Role Map):**

The job role must contain opportunity for an apprentice to practice the content set out in the apprenticeship Standard to achieve vocational competency. Apprentices must have the opportunity to practice the knowledge taught in training sessions in order to convert new knowledge in to sustainable skills applied in the workplace.

Each apprenticeship requires a portfolio of evidence which will showcase the apprentice's work and will be reviewed by the End Point Assessment Organisation to determine how well new knowledge has been successfully utilised vocationally. If a job role is close to the eligibility criteria we will consult with employers to see if adjustments can be made to ensure criteria is met.

### **Initial Assessment of existing knowledge and skills:**

A prospective apprentice must stand to gain significant knowledge and skills from an apprenticeship. If the apprenticeship is too advanced for them or if they already know much of the knowledge and skills the apprenticeship would provide then they may not be eligible for the funding.

The ATP will review existing qualifications, knowledge and skills to determine if the prospective apprentice will benefit from the proposed apprenticeship such that it meets the funding criteria. In most instances this is very straightforward, however in some instances funding can be specially authorised for reduction in order to fund the parts of an apprenticeship that would be relevant. The ATP will provide the assessment for these possibilities.

The Level 4 Data Analyst is highly technical, so whilst employers can select their own entry criteria, they should include; at least 5 GCSEs including English and Mathematics and have achieved a Level 2 or equivalent qualification as a minimum to help ensure success.

In many cases this type of apprenticeship can demand a higher capability of English and maths than is taught at GCSE or A-Level. For example, advanced report writing, budgeting, complex structured explanations and/or advanced formulae and statistics. The ATP will provide both functional and advanced English and maths diagnostics and teaching to ensure each apprentice is fully supported in these areas.

### **Programme Duration:**

This apprenticeship is delivered over 20 months for full-time employees. For part-time employees the term may be extended depending on contracted hours.

### **Delivery Model:**

Apprenticeship training is delivered through a blend of weekly live virtual classrooms and regular mentoring sessions that are held on a one-to-one basis.

These live classrooms are held through Microsoft Teams. This software provides the full suite of educational tools including everything you would find in a conventional classroom and more e.g. live open interactions, private breakout rooms, note and question queues and interactive illustration boards. We can also use movie green screen technology for lesson illustrations.

A full timetable for the training, mentoring, exams and assessments is provided at the outset. Progress is reviewed at 12-week intervals in a meeting between the mentor, apprentice and employer (typically the apprentice's line manager).

Employers and apprentices have full visibility of progress in real-time by accessing the e-portfolio system, alternatively regular updates can be provided by other means if preferred.

### **End Point Assessment (EPA):**

Aside from qualifications that can be obtained by doing an apprenticeship, the most important and valuable goal is what has been achieved during the programme.

Successful apprentices will obtain a Pass, Merit or Distinction in their apprenticeship. The way a Pass, Merit or Distinction is determined is at a stage called End Point Assessment which takes place once all the learning has been completed. Like all examinations, a mock will take place before the final assessment.

Once all components of the apprenticeship have been achieved including the mock, a final review is conducted to ensure everything has been covered, this is called gateway. Then the apprentice will undergo their End Point Assessment.

### **EPA for this programme consists of:**

1. Portfolio of Evidence demonstrating work on 6-8 projects covering all the standard criteria
2. Project presentation with questioning
3. A structured interview with the assessors exploring the project, portfolio of evidence and employer reference



## Programme Structure:

### Technical Competencies:

- Identify data sources to meet the organisation's requirement, using evidence-based decision making to establish a rationale for inclusion and exclusion of various data sets and models
- Liaise with the client and colleagues from other areas of the organisation to establish reporting needs and deliver insightful and accurate information
- Collect, compile and, if needed, cleanse data, such as sales figures, Digital Twins etc. solving any problems that arise, to or from a range of internal and external systems
- Produce performance dashboards and reports in the Visualisation and Model Building Phase
- Support the organisation by maintaining and developing reports for analysis to aid with decisions, and adhering to organisational policy/legislation
- Produce a range of standard and non-standard statistical and data analysis reports in the Model Building phase
- Identify, analyse, and interpret trends or patterns in data sets
- Draw conclusions and recommend an appropriate response, offer guidance or interpretation to aid understanding of the data
- Summarise and present the results of data analysis to a range of stakeholders, making recommendations
- Provide regular reports and analysis to different management or leadership teams, ensuring data is used and represented ethically in line with relevant legislation (e.g. GDPR which incorporates Privacy by Design)
- Ensure data is appropriately stored and archived, in line with relevant legislation
- Current legislation and its application to the safe use of data
- Organisational data and information security standards, policies and procedures relevant to data management activities
- Principles of the data life cycle and the steps involved in carrying out routine data analysis tasks
- Principles of data, including open and public data, administrative data, and research data
- Differences between structured and unstructured data
- Fundamentals of data structures, database system design, implementation and maintenance

- Principles of user experience and domain context for data analytics
- Quality risks inherent in data, mitigation or resolution
- Principal approaches to defining customer requirements for data analysis
- Approaches to combining data from different sources
- Approaches to organisational tools and methods for data analysis
- Organisational data architecture
- Principles of statistics for analysing datasets
- Principles of descriptive, predictive and prescriptive analytics
- Ethical aspects associated with data use and collation

### Skills:

- Use data systems securely to meet requirements and in line with organisational procedures and legislation including principles of Privacy by Design
- Implement the stages of the data analysis lifecycle
- Apply principles of data classification within data analysis activity
- Analyse data sets taking account of different data structures and database designs
- Assess the impact on user experience and domain context on data analysis activity
- Identify and escalate quality risks in data analysis with suggested mitigation or resolutions as appropriate
- Undertake customer requirements analysis and implement findings in data analytics planning and outputs
- Identify data sources and the risks and challenges to combination within data analysis activity
- Apply organisational architecture requirements to data analysis activities
- Apply statistical methodologies to data analysis tasks
- Apply predictive analytics in the collation and use of data
- Collaborate and communicate with a range of internal and external stakeholders using appropriate styles and behaviours to suit the audience
- Use a range of analytical techniques such as data mining, time series forecasting and modelling techniques to identify and predict trends and patterns in data

- Collate and interpret qualitative and quantitative data and convert into infographics, reports, tables, dashboards and graphs
- Select and apply the most appropriate data tools to achieve the optimum outcome

#### **Behavioural Development Embedded:**

- Initiative, resourceful, solution focussed
- Work independently and collaboratively
- Logical and analytical
- Identify issues quickly, investigating and solving complex problems and applying appropriate solutions. Ensures the true root cause of any problem is found and a solution is identified to prevent recurrence
- Resilience - viewing obstacles as challenges and learning from failure
- Adaptable to changing contexts within the scope of a project, direction of the organisation or Data Analyst role

The designated mentor will support the employer and apprentice throughout the programme as a single point of contact for questions and queries. This includes additional support for portfolio and project preparation, along with any advice and guidance needed.

#### **Additional Teaching:**

To help apprentices perform in industry we have developed and included the following additional teaching programmes alongside the mandatory qualifications:

- Introduction to Python
- Introduction to Statistics

#### **Professional Membership:**

On completion, apprentices may choose to register with the BCS under the register of IT technicians to support their professional career development and progression.

#### **Next steps:**

To configure an ideal apprenticeship we will meet with you virtually to discuss your requirements, present the options and collaborate to determine the best apprenticeships to meet your needs. We will provide ongoing support including:

- Recruitment of apprentices
- Quality assured Information Advice and Guidance
- Updates and information on legislation and funding
- Support and guidance for apprentice and employer throughout the apprenticeship
- Access to a comprehensive suite of resources and support material
- Industry specialist qualified trainers and mentors

