

Specialist Knowledge, Skills and Understanding

Data Analytics and Artificial Intelligence Level 4

This document defines the additional subject-specific criteria required to quality assure **Data Analytics and Artificial Intelligence** provision.

It must be read in addition to the **Core EQA Role Profile**.

Specialist Curriculum Scope

The EQA will quality assure provision leading to the following qualifications:

- **Gateway Qualifications Level 4 Advanced Data Analytics and Artificial Intelligence – Low Code**
- **Gateway Qualifications Level 4 Data Analytics with Artificial Intelligence**
- **Gateway Qualifications Level 4 Foundations of Data Analytics with Artificial Intelligence – No Code**
- **Gateway Qualifications Level 4 Professional Practice in Data Analytics and Artificial Intelligence**

All qualifications are **portfolio-based**, technically oriented, and include applied analysis, data handling and project activity.

Specialist Knowledge, Skills and Understanding

The EQA must demonstrate **current occupational understanding** of the discipline in order to evaluate technical evidence and standards accurately.

This includes understanding of:

- Data analytics workflows, including:
 - Data preparation and cleaning
 - Exploratory data analysis
 - Insight generation and business interpretation
- Use of **Python for data analytics**, sufficient to judge learner work, including:
 - Jupyter notebooks
 - NumPy and Pandas for data manipulation
- **Relational databases and SQL**, including:
 - Writing and reviewing queries
 - Joins, aggregations and filtering
 - Understanding of database relationships and data types
- **Statistical techniques** appropriate to Level 4, including:

- Measures of central tendency and dispersion
- Hypothesis testing and interpretation of results
- **Introductory machine learning concepts**, sufficient to judge learner evidence, including:
 - Model purpose and limitations
 - Use of basic evaluation metrics
- **Data visualisation and dashboarding**, including:
 - Appropriate chart selection
 - Interpretation of visuals
 - Use of interactive elements to communicate insight
- **Ethical, legal and regulatory considerations** in data and AI practice, including:
 - Data protection and privacy
 - Bias and fairness in datasets and models
 - Responsible use of AI-enabled tools

Specialist Assessment Evidence (Subject-Specific)

The EQA must be able to evaluate **technical portfolios of evidence**, which may include:

- Python notebooks demonstrating data handling, analysis and interpretation
- SQL queries and outputs evidencing data retrieval, joins and aggregation
- Statistical analysis presented in spreadsheets or analytical tools
- Dashboards and data visualisations with supporting narrative and conclusions
- Written explanations evidencing ethical considerations and decision-making

The EQA must be able to judge whether such evidence:

- Is technically accurate
- Is appropriate to **Level 4** expectations
- Fully meets unit learning outcomes and assessment criteria for Data Analytics & AI

Specialist Quality Risks and Indicators

In this curriculum area, the EQA should be alert to subject-specific risks such as:

- Superficial or incomplete technical evidence (e.g. code or queries without explanation or interpretation)
- Learner over-reliance on automated or AI-assisted outputs without evidence of understanding
- Weak linkage between data analysis and business or operational conclusions
- Ethical considerations treated as descriptive rather than applied
- Inappropriate or misleading use of data visualisation techniques

Specialist Professional Currency

The EQA must maintain **ongoing subject-specific CPD** to ensure continued credibility in this rapidly evolving field.

This may include updates in:

- Data analytics tools and practices
- Python, SQL or analytics platforms
- Developments in AI and machine learning
- Emerging ethical and regulatory guidance relating to data and AI

Scope Clarification

This specialist template **does not restate**:

- Generic EQA or IQA competencies
- Quality assurance methodology or sampling practice
- Reporting, professional conduct or customer service expectations

These are fully covered in the **Core EQA Role Profile**.