Sample Assessment Brief: holistic

NCFE Level 5 Diploma: Data Engineer
QN: 610/5972/9
Unit 01 Data engineering principles and foundations (K/651/6932)

Unit 05 Data analytics, business intelligence and incident management (T/651/6936)

Unit 06 Professional practice and continuous improvement in data engineering (Y/651/6937)

Student name / ID number	
Unit number, title and learning outcomes (LOs)	**Holistic sample assessment** **Unit 01** Data engineering principles and foundations **LO1**: Explore the principles of data **LO2**: Explore the concepts of data governance **Unit 05** Data analytics, business intelligence and incident management **LO1**: The application of data analysis techniques in industry **LO2**: Analyse the use of on-demand cloud computing services to meet requirements **Unit 06** Professional practice and continuous improvement in data engineering **LO1**: Explore the principles of sustainable data products and environmental, social and governance responsibilities **LO2**: Analyse approaches to continuous improvement and how this can be of benefit to an organisation
Assignment title	Data engineering system audit and training

Scenario

You have been hired as a data engineering specialist by a company looking to improve its data operations. Your role is to audit their current systems and use of data, and design improved solutions and training that aligns with their organisational values.

Tasks

Task 1: data engineer training manual

Develop a training manual that introduces new staff to data engineering. Include sections that:

- describe the key principles of data management, including lawfulness, purpose limitation, storage limitation, and data integrity
- explain the value of external data sources for enriching internal business data
- describe core data governance concepts such as data privacy, ownership, and regulatory compliance
- identify major regulatory and legislative standards within an organisation that can influence data management, such as GDPR
- analyse different types of external data sources
- analyse how data governance impacts organisational operations
- evaluates the impact of direct data acquisition methods
- evaluates how governance practices shape organisational policies

Task 2: simulated data governance concerns

The company want to ensure their data meets specific governance standards. They have arranged a meeting to outline their concerns and sent through a list of requirements they wish to discuss:

- correct access controls
- compliance with GDPR and the Data Protection Act
- the data remains safe and secure.

Meet with the company to explain how you could check and ensure that their requirements are being met

Task 3: analytics demonstration with supporting analysis and evaluation

A new client has contacted the company as they are looking to update their company software as it is out of date, however, they are unsure on where to start.

Provide a document that compares the principles of descriptive, predictive, and prescriptive analytics, including their uses in business contexts.

The new client wants to see a demonstration (live or recorded) of how value can be extracted from existing data. Use a sample data set if needed.

During the demonstration, compare the use of local, remote, and distributed solutions with consideration for costing, scalability, compliance, and compatibility.

The client also wants to see a:

- a critical analysis how current data systems may be used to provide additional business insights
- an analysis of the cloud platform risks around scalability and regulation.

Critically evaluate the strategic impact of selecting different cloud platforms for enterprise-level operations.

Task 4: presentation on environmental, social and governance (ESG) and continuous improvement with applied examples and supporting evaluations

The clients are happy so far, but concerns have been raised on sustainability from their board, so more information is needed.

Create a presentation that:

- describes the principles of sustainable data products and the organisational responsibilities around ESG practices
- includes examples of green data solutions or strategies to support environmental goals
- describes support and approaches to continuous improvement in a data environment, including best practice sharing and feedback loops
- provides some personal examples of reflective practice or lessons you have learned from a data related project.

The presentation should include:

- analysis on how ESG strategies can influence data product design
- critical analysis of the importance of continuous improvement frameworks like Lean and Kaizen within an organisation.

In a separate document:

- evaluate green data engineering practices and organisational responsibilities for environment social governance
- evaluate the impact of continuous improvement strategies on business resilience and quality.

Evidence requirements

Task 1 – data Engineer Training Manual.

Task 2 – data store evidence.

Task 3 – analytics demonstration with supporting analysis and evaluation.

Task 4 – presentation on ESG and continuous improvement with applied examples and supporting evaluations.

Unit learning outcomes (LOs)

Unit 01 Data engineering principles and foundations
LO1: Explore the principles of data
LO2: Explore the concepts of data governance

Unit 05 Data analytics, business intelligence and incident management
LO1: The application of data analysis techniques in industry
LO2: Analyse the use of on-demand cloud computing services to meet requirements

Unit 06 Professional practice and continuous improvement in data engineering
LO1: Explore the principles of sustainable data products and environmental, social and governance responsibilities
LO2: Analyse approaches to continuous improvement and how this can be of benefit to an organisation

Grading criteria

Unit 01 Data engineering principles and foundations (K/651/6932)

Learning outcomes (LOs)	Pass	Merit	Distinction
LO1: Explore the principles of data	**P1**: describe key principles of data management **P2**: explain how external data sources can affect business operations	**M1**: analyse different types of external data sources	**D1**: evaluate the use of direct data acquisition in business operations
L02: Explore the concepts of data governance	**P3**: describe core data governance concepts **P4**: identify regulatory and legislative standards influencing data management within an organisation **P5**: evidence stakeholder collaboration to satisfy specific requirements	**M2**: analyse the role of data governance within organisations	**D2**: evaluate how data governance can impact organisational policies

Unit 05 Data analytics, business intelligence and incident management (T/651/6936)

Learning outcomes (LOs)	Pass	Merit	Distinction
LO1: The application of data analysis techniques in industry	**P1**: compare principles of descriptive, predictive, and prescriptive analytics **P2**: demonstrate the ability to extract value from existing data products	**M1**: critically analyse how current data systems may be used to provide additional business insights	
LO2: Analyse the use of on-demand cloud computing services to meet requirements	**P3**: compare the use of local, remote and distributed solutions with consideration for costing, scalability compliance and compatibility	**M2**: analyse on-demand cloud platforms in regard to scalability and financial and regulatory risks	**D1**: critically evaluate the financial, compliance, and strategic impacts of selecting different cloud platforms for enterprise data management

Unit 06 Professional practice and continuous improvement in data engineering (Y/651/6937)

Learning outcomes (LOs)	Pass	Merit	Distinction
LO1: Explore the principles of sustainable data products and environmental, social and governance responsibilities	**P1**: describe the principles of sustainable data product and organisational ESG responsibilities **P2**: identify and apply sustainable data solutions to support environmental strategies	**M1**: analyse the role of ESG strategies in the design, deployment, and maintenance of sustainable data products	**D1**: evaluate green data engineering practices and organisational responsibilities for environmental social governance
LO2: Analyse approaches to continuous improvement and how this can be of benefit to an organisation	**P3**: describe continuous improvement approaches within an organisational setting **P4**: evidence examples of good practice and reflection from a project	**M2**: critically analyse the importance of continuous improvement frameworks within business development	**D2**: evaluate the impact of implementing continuous improvement strategies on organisational resilience, quality, and employee engagement