QUALIFICATION SPECIFICATION

gateway qualifications

Data Analytics with Artificial Intelligence

Access to HE
Apprenticeships
Digital
Employability & Enterprise
English & Maths
ESOL
Personal & Social Development
Professional Development
Vocational

This qualification specification covers the following qualification:

Qualification Number	Qualification Title
610/6308/3	Gateway Qualifications Level 4 Diploma in Data Analytics with Artificial Intelligence

Version and date	Change detail	Section/Page Reference
1.0 July 2025	Version 1.0	Throughout

About this qualification specification

Gateway Qualifications is a nationally regulated Awarding Organisation that supports education and training providers through its strong relationships, adaptability and expert team.

This qualification specification contains everything you need to know about this qualification and should be used by everyone involved in the planning, delivery and assessment of the Level 4 Diploma in Data Analytics with Artificial Intelligence.

This document should be read in conjunction with the Gateway Qualifications' Centre Handbook and other publications available on the website, which contain more detailed guidance on assessment and quality assurance practice.

In order to offer this qualification, you must be a Gateway Qualifications recognised centre and be approved to offer this qualification.

If your centre is not yet recognised, please contact our Business Development team to discuss becoming a Gateway Qualifications recognised centre:

Telephone: 01206 911211
Email: enquiries@gatewayqualifications.org.uk
Website: Gateway Qualifications

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Introduction

In today’s data-driven world, the ability to extract insights, make predictions, and communicate findings effectively is more valuable than ever. The Level 4 Diploma in Data Analytics with AI is designed to equip learners with the technical expertise, analytical mindset, and ethical awareness required to thrive in the rapidly evolving fields of data science and artificial intelligence.

This qualification offers a robust foundation in core data analytics principles while integrating cutting-edge AI techniques. Whether you're aiming to launch a career in data, upskill in your current role, or prepare for further study, this diploma provides the tools and confidence to succeed

The Level 4 Diploma in Data Analytics with Artificial Intelligence content has been developed in partnership with Code Institute.

Qualification Overview

1.1 Qualification purpose

The Level 4 Diploma in Data Analytics with Artificial Intelligence has been developed for learners who would like to develop a career in data analytics. It assumes no prior knowledge of statistics, analytics, or programming. The diploma provides a comprehensive pathway into the field, preparing learners for full-time roles as data analysts or for progression to higher study.

Learners will work through the full analytics lifecycle, including data collection, cleaning, transformation, analysis, visualisation, and communication of insights. This hands-on qualification will provide learners with experience with industry-standard programming languages and tools such as Python, SQL, Jupyter Notebooks, and business intelligence platforms. The diploma also introduces machine learning techniques, feature engineering, and applied projects that reflect real business challenges.

Learners in employment can apply skills directly to their workplace data challenges, creating measurable business impact through improved efficiency, higher quality reporting, and enhanced decision-making and day-to-day productivity. Unemployed learners, reskilling, or seeking their first role, build portfolios using curated datasets and simulated projects that demonstrate readiness for entry-level data analytics positions across sectors.

Learners are trained to use AI responsibly and evaluate its outputs critically to ensure accuracy and compliance. Generative AI is integrated as an assistive capability, supporting learners with tasks such as coding support, exploratory analysis, documentation, data storytelling, and ethical risk checks.

By successfully achieving this qualification, learners can gain the opportunity to establish themselves as full-time data analysts with strong foundations in programming, analytics, and applied AI.

This qualification will is mapped directly to the knowledge, skills and behaviours (KSBs) of the Level 4 Data Analyst apprenticeship standard on the IfATE website.

1.2 Aims and objectives

The aims and objectives of the qualification are to:

- Equip learners with a broad foundational knowledge of data analytics, including core statistical principles, data processing techniques, and AI integration.
- Enable learners to develop practical skills in data manipulation, visualisation, and interpretation using industry-standard tools such as Python, Jupyter Notebooks, and Business intelligence tools.
- Foster an understanding of ethical and legal responsibilities in data handling, including data privacy, governance, and bias mitigation.
- Prepare learners for real-world challenges through a project-based learning approach that emphasises structured problem-solving, critical thinking, and effective communication of insights.
- Support learners' career progression into entry-level data roles or further education in data science and AI-related disciplines.

1.3 Key Information

Qualification summary	
Qualification title	Gateway Qualifications Level 4 Diploma in Data Analytics with Artificial Intelligence
Qualification type	VRQ
Qualification number	610/6308/3
Learning aim reference number	61063083
Level	4
Guided learning hours (GLH)	504
Total qualification time (TQT)	560
Credit value	56
Sector subject area	6.1 Digital technology (practitioners)
Age appropriateness	19+
Grading scale	Pass/Fail
Assessment method	Portfolio of Evidence
Regulation information	This qualification is regulated by Ofqual for use in England and Qualitifcations Wales for use in Wales.

1.4 Entry requirements

There are no mandatory prior qualifications required for this diploma. It is designed to allow learners to progress from little or no prior knowledge of data analytics, statistics, or programming.

Learners studying this qualification should be proficient at least to Level 2 in English and Maths.

It is recommended that learners have a working knowledge of spreadsheets, including tasks such as sorting, use of formulas, creating simple charts, and basic file management.

Learners may be in employment, seeking work, or reskilling for a new role. For those in work, skills can be applied directly to workplace projects and reporting. For those who are unemployed or reskilling, the diploma can be completed using curated datasets and industry scenarios to build a portfolio that supports employability.

This qualification will be assessed in English. All learners' work must be in English. British Sign Language can be used where it is permitted for the purpose of a reasonable adjustment.

Centres must ensure that learners have the correct information and advice when selecting qualifications to ensure that the qualification will meet their needs.

Centres must ensure that this qualification suits the age and abilities of their learners by ensuring that learners can meet the relevant literacy, numeracy, digital, and health and safety requirements of the qualification.

Learners enrolled on this qualification should not undertake another qualification at the same level with a similar title or content, as this could impact funding eligibility due to duplicated learning.

Centres are responsible for registering learners via the Gateway Qualifications' online registration portal Quartz. Learner registration guidance is available on our website, Registering learners.

1.5 Progression opportunities

On completion of this qualification learners will be equipped with the knowledge, skills and understanding related to Data Analytics with Artificial Intelligence.

Successful completion of the Level 4 Diploma in Data Analytics with Artificial Intelligence will allow learners to progress onto:

- Entry-level employment in data analytics and AI roles
- Other Level 4 and 5 qualifcations in Data Analysis/Analyst
- Level 4 Data Analyst apprenticeship
- Level 4 Business Analysis apprenticeship
- Further education in data science, machine learning, or business intelligence

A full in-depth careers information, advice and guidance session should be completed for learners before, during and after completion of learning, finding them the most appropriate progression pathways unique to them and based on their ability and aspirations.

1.6 Equity, diversity and inclusion

At Gateway Qualifications we aim to create an environment which celebrates differences and strives for equitable opportunities and outcomes for all. More than a mere commitment, this Equity, Diversity, and Inclusion Policy stands as a framework, informing every aspect of the work we do. It is our aim to support our staff and learners of all abilities, ensuring the development, delivery, and awarding of qualifications in a fair and inclusive manner.

Whilst developing our qualifications, we have given due consideration to eliminating discrimination, harassment and victimisation, advancing equality of opportunity, and fostering good relations between people who share a relevant protected characteristic (as defined in the Equality Act 2010) and those who do not.

For full details please see the Equity, Diversity and Inclusion Policy.

1.7 Support materials and resources

In addition to this qualification specification, the following resource is available for centres approved to offer the qualification:

- Code Institute Learner Management System (LMS) content to support delivery Build Your Tech Career with AI, Data Science, & Development

1.8 Achieving this qualification

The qualification will be awarded to learners who successfully demonstrate their achievement of all learning outcomes of the units of the qualification and satisfy the rules of combination.

The knowledge, skills and understanding that will be assessed as part of the qualification are set out within the unit details.

To be awarded this qualification learners must successfully achieve all three mandatory units.

Mandatory units

Unit	Unit title	Unit reference	Credit value	GLH
Unit 01	Data analytics and Python for data preparation	F/651/7442	26	236
Unit 02	Advanced data analytics, visualisation and machine learning	H/651/7443	25	226
Unit 03	Ethical practice and communication in data	J/651/7444	5	42

2. Assessment

2.1 Assessment overview

Portfolio of evidence only
The qualification is assessed through a portfolio of evidence which is internally assessed by centre staff and externally quality assured by Gateway Qualifications. For more information, please see the Centre Guide to Best Practice in Internal Assessment.

Each learner must build a portfolio of evidence generated from appropriate assessment tasks which demonstrates achievement of all the learning outcomes associated with each unit throught practical, work related tasks.

Assessment guidance is provided for each unit. Assessors may use alternative assessment methods as long as they are fit for purpose, meet the requirements of the qualification and ensure the integrity of the assessment process.

On completion of each unit learners must declare that the work produced is their own and the Assessor must counter sign this.

Should a learner not achieve the required standard to pass an assessment, further teaching and learning should take place before attempting the assessment again.

The qualification will be awarded to learners who successfully demonstrate their achievement of all learning outcomes of the units of the qualification.

For learners who are not successful in achieving the whole qualification but still achieve any full unit, a unit certificate of achievement may be awarded.

The knowledge, skills and understanding that will be assessed as part of the qualification are set out within the unit details.

2.2 Assessment language

This qualification will be assessed in English. All learners work must be in English. British Sign Language can be used where it is permitted for the purpose of a reasonable adjustment.

3. Unit Details

3.1 Mandatory units

Unit 01 – Data analytics and Python for data preparation

Unit Reference:	F/651/7442
Unit Summary:	This unit introduces learners to the essential principles of data analytics and the practical use of Python for preparing data for analysis and visualisation. Learners will explore how data is collected, structured, and understood through key analytical concepts, and will develop hands-on skills using Python to clean, transform and prepare data sets for further insight. By the end of the unit, learners will be able to apply Python tools to carry out basic data preparation tasks and demonstrate a foundational understanding of how analytics supports evidence-based decision-making in real-world contexts.
GLH:	236
Credit Value:	26
Grading Method:	Pass/Fail

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
1. Be able to analyse data analytics applications.	1.1. Analyse relevant **applications of data** analytics in the chosen data domain, demonstrating a breadth of understanding. 1.2. Explain how data analytics and AI can address specific **challenges** or **opportunities**.
2. Be able to use Python and data science tools.	2.1. Use Python and data science tools to manipulate and analyse data. 2.2. Review and evaluate Python code and queries. 2.3. Apply coding techniques and tools for effective data analysis.
3. Be able to use integrated development environments (IDE).	3.1. Integrate AI tools into data analysis workflows 3.2. Apply generative AI for storytelling with data 3.3. Evaluate analysis outcomes, identify limitations, and consider alternatives

4. Be able to demonstrate effective data management practices.	4.1 Apply and assess effective techniques for collecting, cleaning, storing, and processing data 4.2 Justify best practices for data handling and processing

Unit 02 – Advanced data analytics, visualisation and machine learning

Unit Reference:	H/651/7443
Unit Summary:	This unit builds on core data analysis skills by introducing learners to more advanced analytical techniques, visualisation methods, and the foundations of machine learning. Learners will explore how to analyse complex data sets, create effective dashboards and visual outputs, and apply basic machine learning models to uncover patterns and trends. The unit also reinforces the importance of presenting data clearly to support insight and decision-making. By the end of the unit, learners will be able to apply a range of advanced tools and techniques to analyse, interpret and communicate data in meaningful ways.
GLH:	226
Credit Value:	25
Grading Method:	Pass/Fail

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
1. Be able to apply core statistical and probabilistic principles to analyse datasets.	1.1. Describe the **key principles** of statistics, probability, and data analysis. 1.2. Demonstrate the **application of these core principles** using relevant examples to demonstrate practical understanding and application. 1.3. Implement an appropriate **supervised or unsupervised machine learning algorithm** to address a defined analytical problem.
2. Be able to demonstrate the ability to structure and plan an independent data analytics project.	2.1. **Organise their project effectively** using best practices in data analytics. 2.2. Justify the selection of **research methodologies** applicable to the project goals.
3. Be able to analyse real-world problems using data analytics methodologies.	3.1. Apply **appropriate analytics methods** to investigate a real-world dataset. 3.2. **Assess the effectiveness** of the chosen approach and solution. 3.3. Present a **structured plan** detailing analysis and problem-solving techniques used.
4. Be able to adapt to analytics tools and methods.	4.1 Demonstrate the use of **data analytics tools, technologies, or methodologies**,

	clarifying how these were integrated into the project. 4.2 Evaluate the **learning process** and how the project has prepared the learner for adaptation in the field.

Unit 03 – Ethical practice and communication in data

Unit Reference:	J/651/7444
Unit Summary:	This unit introduces learners to the ethical responsibilities involved in working with data, alongside the importance of clear and effective communication. Learners will explore key principles such as privacy, consent, transparency, and fairness, and how these apply to real-world data practices. The unit also develops learners' ability to communicate data insights accurately and responsibly, considering the needs of different audiences. By the end of the unit, learners will be able to demonstrate ethical awareness in their approach to data and communicate findings in a clear, honest, and professional manner.
GLH:	42
Credit Value:	5
Grading Method:	Pass/Fail

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
1. Understand ethical considerations, data privacy, and governance in data analytics practices.	1.1 Examine **ethical issues, data privacy**, and **governance** in the project's methodology. 1.2 Evaluate the **legal** and **social implications** of data handling and justify approaches that promote responsible and **compliant practice**.
2. Be able to clarify and present complex data insights to audiences.	2.1 Clarify complex data insights and present them in a way that is accessible to both **technical** and **non-technical audiences**. 2.2 Demonstrate the use of appropriate **visualisations** and **narratives** to **enhance** user understanding. 2.3 Collate and **organise project documentation** using a structured approach to ensure clarity and accessibility
3. Be able to review and revise data analytics project plans.	3.1. Collate and present a complete project plan, including implementation, maintenance, updates, and evaluation phases. 3.2. Reflect on the practical challenges and considerations in executing the project.

3.2 Explanation of assessment terms used in this qualification

Term	Definition
Analyse	Break the subject or complex situations into separate parts and examine each part in detail; identify the main issues and show how the main ideas are related to practice and why they are important; reference to current research or theory may support the analysis
Apply	Explain how existing knowledge can be linked to new or different situations or in practice
Assess	Estimate or make a judgment
Clarify	Explain the information in a clear, concise way showing depth and understanding
Collate	Collect and present information arranged in sequence or logical order which is suitable for purpose
Demonstrate	Apply skills in a practical situation and/or show detailed understanding of the topic
Describe	Provide a broad range of detailed information about the topic or item in a logical way
Evaluate	Examine strengths and weaknesses, arguments for and against and / or similarities and differences; judge the evidence from the different perspectives and make a valid conclusion or reasoned judgment; apply current research or theories to support the evaluation when applicable
Examine	Inspect thoroughly in order to determine the nature or condition
Explain	Apply reasoning to account for how something is or to show understanding of underpinning concepts; responses could include examples to support the reasons
Implement	Put into practical effect; Carry out
Integrate	Combine (one thing) with another to form a whole
Justify	Give a detailed explanation of the reasons for actions or decisions
Organise	Arrange systematically. Order
Present	Give a speech or talk in which a new product, idea, or piece of work is shown and explained to an audience
Reflect	Think deeply or carefully about the topic
Review (and revise)	Look back over the topic or activity and make or identify adjustments, changes or additions that would improve the topic or activity based on additional information or experience
Use	Take or apply an item, resource or piece of information as required

4. Quality Assurance

As the portfolio of evidence is assessed by the centre's assessor, the centre must operate an internal quality assurance process. This ensures that qualification standards are being applied consistently within a centre through training, standardisation, sampling of marking and feedback.

4.1 Internal quality assurance

Centres should refer to the online Centre Handbook for further guidance on staffing requirements.

A centre's internal quality assurance process is led by the Internal Quality Assurer (IQA), who is responsible for identifying and promoting best practices in teaching, learning, and assessment. They are responsible for:

- monitoring assessment practices to ensure they meet our standards.
- sampling assessment decisions and learner work to verify accuracy and consistency.
- observing assessors and tutors, providing feedback and support for improvement.
- facilitating standardisation meetings to align assessment practices across teams.
- supporting assessors with professional development and guidance.
- identifying and promoting best practices in teaching, learning, and assessment.
- handling appeals and complaints related to assessment outcomes.
- maintaining detailed records for audits and external quality assurance visits.

The portfolio of evidence is subject to internal quality assurance whereby a centre regularly samples and evaluates its assessment practices and decisions, and acts on the findings to ensure consistency and fairness.

To ensure the integrity of the internal quality assurance process, Internal Quality Assurers (IQAs) must not quality assure work that they have assessed.

Assessors must ensure fair assessment and equality of opportunity for the learner within the assessment process. In order to ensure that the assessor is making judgements that are consistent with the rest of the assessment team, they must meet regularly with other assessors and internal quality assurers to discuss assessment decisions.

4.2 Sampling

Sampling is a key element of the internal quality assurance process whereby the IQA:

- uses a risk-based approach to determine what to sample and when.
- checks the quality and consistency of each assessor's decisions.
- maintains a common standard of marking within the centre over time.
- applies methods like vertical sampling (same unit across assessors), horizontal sampling (multiple units from one learner), and diagonal sampling (across units and learners).
- ensures sampling covers all units over time, not just at the end of the assessment process.

4.3 Internal standardisation

Internal standardisation is a collaborative process by which tutors and assessors within a centre consider work that they have assessed and, using pre-determined criteria, reach a common agreement on standards as being typical of work at a particular level or grade by comparing samples and providing peer evaluation.

The process of internal quality assurance provides an opportunity for assessors to receive feedback and support, which can help improve their assessment skills. It fosters a culture of continuous improvement and professional development among teaching and assessment staff.

Standardisation will be facilitated by the Centre's IQA and should include all those involved in assessing learner evidence. Centre standardisation events should be held at regular intervals. Centres will be required to keep records of each internal standardisation event, including the date, attendees and notes on any outcomes and actions. Centres will be required to store these records securely for three years, and Gateway Qualifications may ask to see them as part of the centre's quality assurance and monitoring activities.

4.4 External quality assurance

The external quality assurance process for this qualification takes a risk-based approach where external monitoring visits are carried out to review the internal quality systems of centres against key quality standards.

External quality assurance falls into two categories, the first being the quality assurance of the centre's policies and procedures (Centre monitoring) as detailed below, with the second being external sampling of the assessment decisions at qualification level.

4.5 Centre Monitoring

Centre monitoring is undertaken by an External Quality Assurer (EQA) allocated to the centre. The EQA plays a critical role in the Gateway Qualifications approach to centre assessment standards scrutiny as they are responsible for:

- Validating the centre's procedures for delivery of qualifications and assessment.
- Completing reports for each visit with clear action points where needed.
- Carrying out an annual compliance visit.
- Risk rating centres on the above.

The EQA will carry out an initial risk assessment at the centre recognition stage and then annually on an ongoing basis and will give a high/medium/low-risk.

The EQA will arrange the annual quality monitoring visits. These visits:

- Monitor the centre's compliance with the centre recognition terms and conditions by reviewing programme documentation and meeting managers and centre staff.
- Identify any staff development needs.
- Ensure that all procedures are being complied with through an audit trail, and make sure that the award of certificates of achievement to learners is secure.

The EQA will contact the centre in advance of a visit. However, Gateway Qualifications reserves the right to undertake unannounced visits, including during assessment times.

4.6 Quality assuring centre assessment decisions

The external quality assurance process for this qualification involves a risk-based approach where sampling of assessment decisions and internal quality assurance activity to ensure that qualification standards are maintained.

An External Quality Assurer (EQA) will be allocated to the centre to sample the centre's assessment decisions, who will consider whether the sample provides evidence of the following:

- that the standard set out in the units is evidenced and assessment decisions are applied consistently.
- appropriate teaching, stimulus, support, or learning materials and resources.
- an appropriate internal quality assurance strategy and sampling plans.
- appropriate and consistent feedback provided by the assessor to the learner, and by the IQA to the assessor.

A report will be completed by the EQA and made available to the Centres once the sampling activity has been completed.

4.7 Malpractice and Maladministration

Malpractice is any deliberate activity, neglect, default or other practice that compromises the integrity of the assessment process and/or the validity of certificates. It covers any deliberate actions, neglect, default or other practice that compromises or could compromise:

- the assessment process
- the integrity of a regulated qualification
- the validity of a result or certificate
- the reputation and credibility of Gateway Qualifications
- the qualification to the public at large

Centre staff should be familiar with the Malpractice and Maladministration Policy and Procedure.

4.8 Direct claim status

Direct claim status (DCS) is a status given to centres on an individual qualification basis and allows centres to claim certification without waiting for an external quality assurance activity to take place.

DCS is permitted for this qualification. Refer to the Direct Claims Status page for further details.

4.9 Recognition of prior learning

Recognition of Prior Learning enables recognition of achievement from a range of activities through the knowledge, understanding or skills that learners already possess and so do not need to develop these through a course of learning.

The use of RPL is permitted for this qualification.

4.10 Reasonable adjustments and special considerations

Reasonable adjustments are centre permitted, for details on this Centres should refer to the Reasonable Adjustments and Special Considerations Centre Guidance

For learners who require special consideration at the point of assessment, complete a Special Consideration Request Form.

4.11 Appeals

Learners who wish to appeal about their assessment results or a decision affecting their learning should either be supported by their Centre or should have exhausted their Centre's own appeals process before appealing to Gateway Qualifications. In the latter case, learners must provide Gateway Qualifications with evidence that they have first appealed to their Centre.

Centres and learners should refer to the Appeals policy for further information.

5. Glossary of terms

This section provides a concise compilation of frequently used terms and acronyms within our organisation and the broader educational context.

Term	Definition
Guided Learning Hours (GLH)	Is the amount of direct contact time a Learner has with immediate guidance or supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training. This cannot be unsupervised study, preparation for study or time used for assessments.
Total Qualification Time (TQT)	Is the number of notional hours which represents an estimate of the total amount of time that could be reasonably expected to be required for a Learner to achieve and demonstrate the achievement of the level of attainment necessary for the award of the qualification. Total Qualification Time is comprised of the following two elements: • the number of hours which an awarding organisation has assigned to a qualification for Guided Learning, and • an estimate of the number of hours a Learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place by – but, unlike Guided Learning, not under the Immediate Guidance or Supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

gateway qualifications

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