

QUALIFICATION SPECIFICATION

gateway
qualifications



Advanced Data Analytics with
Artificial Intelligence - Low Code

Access to HE

Apprenticeships

Digital

Employability &
Enterprise

English & Maths

ESOL

Personal & Social
Development

Professional
Development

Vocational

Qualification Specification:
Gateway Qualifications Level 4 Award in Advanced Data Analytics with
Artificial Intelligence – Low Code

This qualification specification covers the following qualification:

Qualification Number	Qualification Title
610/6306/X	Gateway Qualifications Level 4 Award in Advanced Data Analytics with Artificial Intelligence – Low Code

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 Award in Advanced Data Analytics with Artificial Intelligence – Low Code.

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](https://www.gatewayqualifications.org.uk)

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Introduction

As organisations increasingly seek to unlock the value of data, the ability to move beyond basic analysis and build scalable, automated solutions is becoming essential. The Level 4 Award in Advanced Data Analytics with Artificial Intelligence – Low Code has been developed to meet this demand, empowering learners to apply low-code techniques, programming fundamentals, and AI-assisted tools to real-world data challenges.

This qualification builds on foundational data literacy and introduces learners to practical skills in Python, SQL, and machine learning. It supports progression into roles where data modelling, workflow automation, and insight generation are central to business success. Learners will work with real and simulated datasets to develop dashboards, automate processes, and evaluate the ethical use of AI in analytics.

The Level 4 Award in Advanced Data Analytics with Artificial Intelligence – Low Code has been developed in partnership with Code Institute.

Qualification Overview

1.1 Qualification purpose

The Level 4 Award in Advanced Data Analytics with Artificial Intelligence - Low Code is designed for professionals who already use no-code tools and want to deepen their capabilities with low-code techniques and gain a solid grounding in programming in industry-leading languages such as Python and SQL. It is equally suited to those currently in employment and to individuals who are reskilling, between jobs, or seeking their first role in data.

For employed learners, the award is applied, hands-on, and focused on immediate workplace impact. Participants use real datasets to clean, transform, model, and visualise insights, developing low-code solutions that automate workflows, improve data quality, and deliver dashboards that support faster and more reliable decision-making.

For those who are unemployed or reskilling, the award provides the same practical and employer-driven skills through curated datasets and simulated business scenarios. Learners can apply techniques to examples from industries they know, such as retail, manufacturing, or services, building a portfolio that strengthens employability and demonstrates the ability to transfer prior experience into data analytics contexts.

This qualification is also designed to augment the skills of professionals in other fields, enabling them to move beyond the limitations of no-code approaches. It gives roles such as finance professionals, digital marketers, HR analysts, or operations managers the ability to automate data preparation, manage larger and more complex datasets, and create refreshable dashboards that directly inform business decisions. Generative AI is introduced as an assistive capability throughout, supporting tasks such as code troubleshooting, hypothesis generation, data cleaning, SQL query creation, model selection, and ethical risk mitigation. Learners are encouraged to evaluate the appropriate use of AI in practice, enhancing productivity and confidence.

By successfully achieving this qualification, learners will gain the confidence to work with data effectively, automate analysis workflows using low-code tools, and communicate insights clearly. The award provides a strong foundation for progression into more advanced qualifications in data analytics with AI, or into digitally enabled roles where programming, data management, and intelligent automation are used to drive decision-making and operational efficiency.

1.2 Aims and objectives

The aims and objectives of the qualification are to:

- Build learners' confidence and fluency in using low-code tools and introductory Python for data tasks
- Develop competence in statistics, machine learning, and ethical data practice
- Strengthen analytical thinking and business communication skills
- Introduce key database and data pipeline techniques with SQL
- Enable learners to use AI-supported tools to accelerate insight generation and improve analysis workflows.
- Prepare learners for progression into further data education or digitally-enabled employment.

1.3 Key Information

Qualification summary	
Qualification title	Gateway Qualifications Level 4 Award in Advanced Data Analytics with Artificial Intelligence - Low Code
Qualification type	VRQ
Qualification number	610/6306/X
Learning aim reference number	6106306X
Level	4
Guided learning hours (GLH)	45
Total qualification time (TQT)	70
Credit value	7
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 Qualifications Wales for use in Wales.

1.4 Entry requirements

Learners are expected to have experience using spreadsheets and no-code analytics tools. They should also have a solid grounding in basic statistical techniques, including:

- descriptive statistics
- basic probability
- fundamental data handling techniques
- the fundamentals of data visualisation

If learners wish to progress to this qualification without taking the Award in Foundations of Data Analytics with Artificial Intelligence - No Code, they must demonstrate suitable prior experience or learning and be proficient at least to a Level 2 in English and Maths.

The award is suited both to those in employment, where skills can be applied directly to workplace data and decision making, and to those reskilling, between jobs, or seeking their first data-related role. In the latter case, learners can work with curated datasets and simulated business examples to demonstrate their capability and build a portfolio that supports employability.

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 Advanced Data Analytics with Artificial Intelligence with Low Code.

Successful completion of the Level 4 Award in Advanced Data Analytics with Artificial Intelligence – Low Code will allow learners to progress onto:

- Gateway Qualifications Level 4 Certificate in Professional Practice in Data Analytics with Artificial Intelligence
- Gateway Qualifications Level 4 Diploma in Data Analytics with Artificial Intelligence
- Other Level 4 and 5 qualifications in Data Analysis/Analyst
- Level 4 Data Analyst apprenticeship
- Level 4 Business Analysis apprenticeship
- Entry-level support roles in data-enabled teams (e.g., business support, marketing, administration)

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 both mandatory units.

Mandatory units

Unit	Unit title	Unit reference	Credit value	GLH
Unit 01	Foundations of Data Analytics with Python	K/651/7409	3	20
Unit 02	Databases with SQL, Ethics and Machine Learning	D/651/7414	4	25

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 through 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 countersign 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 – Foundations of Data Analytics with Python

Unit Reference:	K/651/7409
Unit Summary:	This unit introduces learners to the foundational concepts and practical skills needed to perform data analytics using Python. Learners will explore core statistical ideas, basic programming techniques, and essential methods for preparing and transforming data for analysis.
GLH:	20
Credit Value:	3
Grading Method:	Pass/Fail

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	The learner can:
1. Be able to demonstrate core Python programming skills for data analytics.	1.1. Clarify the use of Python variables, data types, and control structures 1.2. Apply basic operations 1.3. Explain how data structures and libraries like NumPy and Pandas are used for data manipulation and analysis.
2. Be able to apply statistical concepts and techniques to explore and interpret data..	2.1 Analyse data and apply appropriate statistical concepts to practical scenarios 2.2 Demonstrate an understanding of descriptive and inferential techniques and their use in real-world data problems.
3. Be able to demonstrate data handling in the context of data science.	3.1 Explain how effective data handling contributes to accurate analysis and model development. 3.2 Demonstrate proficiency in data cleaning, feature engineering, and data transformation. 3.3 Classify different data preprocessing methods.

Unit 02 – Databases with SQL, Ethics and Machine Learning

Unit Reference:	D/651/7414
Unit Summary:	This unit introduces learners to key concepts and practical skills in working with databases using SQL, alongside an understanding of ethical and responsible data use. Learners will develop the ability to store, retrieve and manage data using SQL queries, and will explore the importance of data privacy, governance, and clear communication when handling information.
GLH:	25
Credit Value:	4
Grading Method:	Pass/Fail

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	The learner can:
1. Be able to demonstrate effective data management techniques.	1.1 Explain how an SQL database can be used to manage data. 1.2 Classify SQL statements used for data manipulation and aggregation. 1.3 Demonstrate the ability to execute SQL queries to retrieve and manipulate data. 1.4 Explain the role of database relationships. 1.5 Classify different join types, including Left, Right, Inner & Outer Join. 1.6 Explain the syntax, structure, and common data types used in SQL to support effective interaction with relational databases.
2. Be able to demonstrate knowledge of key machine learning principles and apply models using Python.	2.1. Demonstrate an understanding of machine learning concepts, algorithms, and their applications. 2.2. Develop practical skills in implementing and evaluating machine learning models using Python.
3. Understand the significance of data standards, legal and regulatory frameworks for responsible data use.	3.1. Describe the importance of data standards, legal frameworks, and regulatory compliance. 3.2. Explain their role in ensuring ethical, secure, and responsible data handling.
4. Be able to design and execute a basic data analysis project.	4.1. Demonstrate the ability to plan, execute, and document a complete data analysis project. 4.2. Communicate complex technical information clearly and concisely to both technical and non-technical stakeholders.

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	<p>4.3. Generate meaningful visualisations and insights from data using appropriate statistical concepts.</p> <p>4.4. Draw conclusions based on data insights to justify an informed business decision.</p>
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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
Clarify	Explain the information in a clear, concise way, showing depth and understanding
Classify	Organise according to a specific criteria
Communicate	Convey, receive or exchange spoken or written information
Demonstrate	Apply skills in a practical situation and/or show a detailed understanding of the topic
Describe	Provide a broad range of detailed information about the topic or item in a logical way
Develop	Identify, build and extend a topic, plan or idea
Draw conclusions	Make a final decision or judgment based on reasons which could lead to recommendations
Explain	Apply reasoning to account for how something is or to show understanding of underpinning concepts; responses could include examples to support the reasons
Generate	Create/produce ideas

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)	<p>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.</p> <p>Total Qualification Time is comprised of the following two elements:</p> <ul style="list-style-type: none">• 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.



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