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SIAS Qualification Specification

SIAS Level 2 Award in the Introduction to Carbon Capture and Storage

Qualification Number: 610/7168/7

Operational Start Date: 7th March 2026

Contents

Version History.....	3
Introduction	4
Welcome to SIAS.....	4
Feedback	4
About this Specification	4
Centre Recognition and Qualification Approval	4
About this Qualification	5
Key Facts	5
Qualification Objective	5
Entry Requirements	5
Recognition of Prior Learning	5
Qualification Structure.....	6
Total Qualification Time (TQT) and Guided Learning Hours (GLH).....	6
Grading.....	7
Delivery and Assessment	7
Geographical Coverage	7
Use of Language.....	7
Progression Opportunities	7
Assessment Guidance	7
ID requirements	8
Centre Requirements.....	8
Tutor/Trainer requirements	9
Continuing Professional Development (CPD)	9
Quality Assurance Guidance	9
External Quality Assurance	9
Equality and Diversity	9
Reasonable Adjustments and Special Considerations	10
Health and Safety.....	10
Qualification Content.....	11
Unit 1: Introduction to Carbon Capture and Storage Systems and the UK CCS Landscape	11
Resources.....	13
Further Information	14

Version History

This is a live document and as such will be updated when required. It is the responsibility of the approved centre to ensure the most up-to-date version of the Qualification Specification is in use.

Version	Date	Comments
1.0	07/03/2026	First published

Introduction

Welcome to SIAS

SIAS is an Awarding Organisation regulated in England by the Office of Qualifications and Examinations Regulation (Ofqual) and in Northern Ireland by the Council for Curriculum, Examination and Assessment Regulation (CCEA Regulation).

We exist to drive positive change, and across STEM industries globally, we empower learners to achieve their full potential.

As the leading Awarding Organisation for the technical science, manufacturing, engineering and low carbon sectors, we are disrupting through innovative and collaborative approaches.

Our mission is to deliver transformational experiences and solutions that support the skills agenda.

Feedback

Customer experience and feedback is very important to us. We're always open to suggestions when it comes to enhancing and improving our services. If you have any comments or feedback on our services or products, please contact our team at info@siasuk.com or call us on 01925 515211.

About this Specification

This document has been developed to provide information for learners and centres undertaking, delivering or quality assuring this qualification.

Centre Recognition and Qualification Approval

To deliver this qualification, the centre must be recognised by SIAS.

Recognised centres must apply for approval for each qualification they intend to offer. Qualification approval must be obtained prior to conducting any learner assessments.

For details of our centre recognition and qualification approval process, visit our website or contact us at info@siasuk.com.

About this Qualification

Key Facts

Qualification Title	SIAS Level 2 Award in the Introduction to Carbon Capture and Storage
Qualification Number	610/7168/7
Guided Learning Hours (GLH)	8
Total Qualification Time (TQT)	10
Assessment Methods	Multiple Choice Question Examination
Operational Start Date	7 th March 2026
Review Date	28 th February 2029
Operational End Date	-
Certification End Date	-
Regulation	This qualification is regulated by Ofqual

Qualification Objective

The SIAS Level 2 Award in the Introduction to Carbon Capture and Storage has been mapped to the Carbon Capture Skills Framework and provides learners with an introductory understanding of the Carbon Capture and Storage (CCS) industry, including its role in achieving the UK's net-zero targets, supporting industrial decarbonisation, and relevant legislative frameworks.

Learners will develop knowledge of the CCS value chain, including the processes of carbon capture, compression, transport, and storage, as well as its application across key sectors.

Entry Requirements

This qualification is available for learners aged 16+.

There are no formal entry requirements for the SIAS Level 2 Award in the Introduction to Carbon Capture and Storage. However, learners should have a basic understanding of English and mathematics.

Centres should take reasonable steps to ensure learners are able to complete this qualification, for example by carrying out an initial assessment to confirm they can work at the appropriate level.

Recognition of Prior Learning

Recognition of Prior Learning (RPL) is the process of recognising previous, informal or experiential learning so that the learner avoids having to repeat learning or assessment within a new qualification. SIAS supports the use of RPL and centres must work to the principles included in the SIAS RPL Policy which is available on the SIAS website. This policy should be reviewed alongside this guide and all other relevant SIAS qualification documentation.

Qualification Structure

To achieve the SIAS Level 2 Award in the Introduction to Carbon Capture and Storage, learners must achieve the following:

- One mandatory unit contained in the table below.

Ofqual Unit reference	Unit title	Level	GLH	TQT
K/651/9902	Introduction to Carbon Capture and Storage Systems and the UK CCS Landscape	2	8	10
TOTAL		2	8	10

Total Qualification Time (TQT) and Guided Learning Hours (GLH)

Note: Values for Total Qualification Time, including Guided Learning Hours, are calculated by considering the different activities that learners would typically complete to achieve and demonstrate the learning outcomes of a qualification. They do not include activities which are required by a learner's teacher based on the requirements of an individual learner and/or cohort. Individual learners' requirements and individual teaching styles mean there will be variation in the actual time taken to complete a qualification. Values for Total Qualification Time, including Guided Learning, are estimates.

Some examples of activities which can contribute to Total Qualification Time include:

- Independent and unsupervised research/learning
- Unsupervised compilation of a portfolio of work experience
- Unsupervised e-learning
- Unsupervised e-assessment
- Unsupervised coursework
- Watching a pre-recorded podcast or webinar
- Unsupervised work-based learning
- All guided learning.

Some examples of activities which can contribute to Guided Learning include:

- Classroom-based learning supervised by a teacher
- Work-based learning supervised by a teacher
- Live webinar or telephone tutorial with a teacher in real time
- E-learning supervised by a teacher in real time
- All forms of assessment which take place under the immediate guidance or supervision of a lecturer, supervisor, tutor or other appropriate provider of education or training, including where the assessment is competence-based and may be turned into a learning opportunity.

Grading

This qualification is assessed as a pass/fail.

Delivery and Assessment

Geographical Coverage

This qualification is regulated in England.

Use of Language

All learners must be assessed in English unless the qualification specification states that another language will be accepted.

Progression Opportunities

Upon successfully completing this qualification, learners may progress to further development and training in carbon capture and storage, for example the SIAS Level 3 Award in Carbon Capture and Storage Safety.

Assessment Guidance

All SIAS assessments will be accessible and produce results that are valid, reliable, transparent and fair.

Centres should have systems in place to verify a learner is ready to undertake their assessment.

Centres must ensure that no part of the assessment of a learner including internal quality assurance and invigilation, is conducted by anyone with a personal interest in the assessment outcome.

The SIAS Level 2 Award in the Introduction to Carbon Capture and Storage contains 1 mandatory knowledge unit.

Unit No.	Unit title
1	Introduction to Carbon Capture and Storage Systems and the UK CCS Landscape

These units are assessed as follows:

Unit	Set by	Marked by	Assessment Method	Pass Requirement	Grading
Unit 1	SIAS	SIAS	MCQ examination Duration: 45 minutes Number of questions: 25	68%	Pass/Fail

Overall Award	SIAS	SIAS	One MCQ examination	Unit 1 must be passed	Pass/Fail
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Multiple-choice Question Examinations

The multiple-choice question examination set out in the table above is externally set and marked by SIAS. This assessment is available paper-based or online through the SIAS XAMS platform.

The multiple-choice question examination must be undertaken in controlled conditions. This means:

- learners must complete the assessment unaided
- books and other training aids must not be accessed by the learners
- all assessments must be invigilated to maintain authenticity and security.

ID requirements

It is the responsibility of the centre to have systems in place to ensure that the person taking an assessment is the person they are claiming to be. All centres are therefore required to ensure that each learner's identification is checked before they undertake the assessment.

SIAS recommends the following as proof of a learner's identity:

- a valid passport (any nationality)
- a photocard driving licence
- another photographic ID card, e.g. employee ID card, student ID card, travel card etc.

Centre Requirements

All SIAS centres must be approved by SIAS to deliver the qualification(s) they wish to offer. This is to ensure centres have the processes and resources in place to deliver the qualification(s). Further information can be found in the SIAS Centre Handbook.

When a centre applies to offer a qualification, they will need to provide evidence that they have sufficient resources and infrastructure in place for delivery of that qualification:

- evidence of staff competence and knowledge
- details of available resources.

For the SIAS Level 2 Award in the Introduction to Carbon Capture and Storage, centres are responsible for ensuring that their trainers are:

- occupationally competent and knowledgeable in the role they are carrying out
- have current experience of training as appropriate to the role they are carrying out
- have access to appropriate training and support.

Information regarding the induction and continuing professional development must be made available to SIAS by centres through the external quality assurance process.

Tutor/Trainer requirements

For the SIAS Level 2 Award in the Introduction to Carbon Capture and Storage tutors/trainers are required to demonstrate they:

- have relevant occupational knowledge and competence
- hold a recognised education and training qualification or have equivalent training experience
- have completed recent, relevant CPD activities for the subject area.

Evidence includes:

- CV and relevant occupational qualifications and experience
- Up-to-date CPD record.

SIAS recommends as best practice for tutors/trainers to hold or be working towards a relevant education and training qualification. This includes:

- Level 3 Award in Education and Training or equivalent including Preparing to Teach in the Lifelong Sector (PTLLS), L4 Certificate in Education and Training, L5 Diploma in Education and Training, CertEd/PGCE.

Where this is not the case, SIAS will look at alternative sources of evidence for training competence, such as professional qualifications, relevant work experience or internal training records. For further guidance, please contact us.

Continuing Professional Development (CPD)

Centres are expected to support their staff, ensuring that their subject knowledge remains current and is up to date with best practice.

Quality Assurance Guidance

All SIAS qualifications require centres to have in place a robust mechanism for the quality assurance of training delivery and invigilated assessment arrangements.

External Quality Assurance

External quality assurance will be undertaken by SIAS. Centres will be required to provide documentation and other evidence to support this process upon request. Please refer to our Centre Handbook for further details.

Equality and Diversity

Delivery of SIAS qualifications must comply with equality and diversity legislation. Learners should not experience any barriers to achievement in respect of:

- Age

- Disability
- Gender
- Gender reassignment
- Marriage and civil partnerships
- Pregnancy and maternity
- Race
- Religion and belief
- Sexual orientation.

Reasonable Adjustments and Special Considerations

Reasonable adjustments and special considerations are made in assessments for learners with disabilities, specific needs or other extenuating circumstances to ensure they are not disadvantaged in any way. Requests for reasonable adjustments and special considerations must be made according to the SIAS Reasonable Adjustments and Special Consideration Policy.

Health and Safety

SIAS are committed to ensuring the safety and wellbeing of learners. Due to the nature of some of the sectors SIAS work in, there can be a high level of risk which we expect centres to manage effectively. Centres must take appropriate measures to assess and manage these risks and implement procedures so that qualifications are delivered safely, minimising risks to learners and those involved in the assessment process as much as possible. Working environments must comply with all required health and safety standards.

Qualification Content

Unit 1: Introduction to Carbon Capture and Storage Systems and the UK CCS Landscape

Unit Reference	K/651/9902	
Level	2	
GLH	8	
Aim	<p>This unit provides learners with an awareness of the CCS industry, including its role in achieving the UK’s net-zero targets, supporting industrial decarbonisation, and relevant legislative frameworks.</p> <p>Learners will develop knowledge of the CCS value chain, including the processes of carbon capture, compression, transport, and storage, as well as its application across key sectors.</p>	
Assessment Methodology	Multiple-Choice Question Examination	
Learning Outcomes	Assessment Criteria	
<i>The learner will:</i>	<i>The learner can:</i>	
1. Know the role, application, and impact of Carbon Capture and Storage (CCS) in supporting UK net-zero targets.	1.1	Recognise the importance of CCS in achieving the UK’s net-zero targets.
	1.2	Identify key UK legislation and strategies relevant to CCS, including: <ul style="list-style-type: none"> • The Energy Act • Net Zero Strategy.
	1.3	Identify the industrial sectors that use CCS.
	1.4	Recognise how CCS can help industrial sectors reduce and manage carbon dioxide emissions.
2. Understand common approaches to reducing industrial carbon emissions.	2.1	Identify the different decarbonisation approaches used in the CCS industry.
3. Know the key process steps of carbon capture and storage and how the system links together.	3.1	Identify the key process steps of the CCS value chain.
	3.2	Recognise how the main stages of CCS value chain link together to form a CCS system.

4. Understand the organisations, infrastructure, and regional clusters that support CCS deployment.	4.1	Identify the major CCS clusters in the UK.
	4.2	Identify key organisations that are involved in the regulation, delivery or oversight to support CCS deployment.
	4.3	Recognise the socio-economic benefits associated with regional CCS deployment.
5. Know the basic infrastructure, plant areas, equipment and control features of CCS operations.	5.1	Identify key infrastructure components for CCS.
	5.2	Recognise major CCS equipment.
	5.3	Identify common CCS plant areas and their general purpose.
	5.4	Identify how control systems are used to monitor and manage CCS processes.
6. Know the environmental factors that can affect the safe and reliable operation of CCS systems.	6.1	Identify environmental and climate-related risks that may affect the safe operation of CCS systems.
7. Understand why engagement with communities and stakeholders is important in CCS projects, including economic, social, and environmental benefits.	7.1	Recognise why engagement with local communities and stakeholders is important in CCS projects.
	7.2	Recognise how building trust and addressing perceived risks supports fair participation in CCS initiatives.
	7.3	Identify the benefits that CCS projects can deliver to local communities.
	7.4	Recognise engagement approaches that reflect community context and support long-term confidence in CCS deployment.

Resources

SIAS provides the following additional resources for this qualification:

- Centre Qualification Guide
- Qualification Learner Logbook
- Sample Assessment Material
- Externally Set Assessments

Please see below examples of sample assessment questions:

Sample Question 1

Which decarbonisation route can be used alongside CCS?

- A. Increasing fossil fuel use.
- B. Implementing hydrogen integration.
- C. Setting higher emission limits.
- D. Reducing monitoring.

Sample Question 2

How does CCS help manage emissions in industry?

- A. By increasing fuel switching alone.
- B. By reducing production volumes.
- C. By eliminating energy use.
- D. By capturing CO₂ before it is released to the atmosphere.

Further Information

For information about SIAS and general enquiries please see our website: www.siasuk.com
or contact:

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