Digi Trailblazers

Qualification Specification

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About NCC Education

NCC Education is a UK awarding body, active in the UK and internationally. Originally part of the UK National Computing Centre, NCC Education started offering IT qualifications in 1976 and from 1997 developed its portfolio to include Business qualifications, IT qualifications for school children and a range of Foundation qualifications.

With Centres around the world, NCC Education aims to employ the latest technologies for learning, assessment and support. NCC Education is regulated by Ofqual (the Office of Qualifications and Examinations Regulation, see www.ofqual.gov.uk) in England and Northern Ireland.

Why choose this qualification?

NCC Education's Digi-Trailblazers:

- is suitable for candidates at **Key Stage 3** of the English national curriculum (ages 11–14) as well as older (including adult) learners

- builds on students' understanding of **digital safety and security** while also allowing them to practise the application of computational thinking and problem-solving to produce exciting digital artefacts and computer programs

- prepares candidates to be the **next generation of digital innovators** – Digi-Trailblazers not only deepens students' understanding so that they can be critical consumers of hardware and software but also greatly improves their computational thinking, programming skills and ability to manage digital projects, which will continue to lay the foundation for them to become **active producers of new and imaginative software**.

- provides teachers with a **fresh and innovative syllabus** containing all the concepts, activities and resources to be able to deliver with confidence the new programming elements of the English national curriculum

- is **quality assured** by a UK awarding body with considerable expertise in providing high-quality IT/Computing qualifications and programmes

- sits within NCC Education's well-established suite of IT and Business qualifications, which are **recognised and valued** by employers and universities worldwide

Structure and Assessment for the Qualification

Assessment objectives

Digi-Trailblazers is assessed by a single two-part examination once candidates have completed their preparation. This single examination consists of a written theory component and a practical component. All Learning Outcomes are satisfied by this single examination.

The single examination's theoretical and practical component can be delivered independently to enable more flexible delivery (for ease of timetabling) and to provide candidates with the opportunity to engage with the assessment in two short sessions, to aid their concentration.

The written theoretical component of the single examination comprises multiple-choice questions (Part A), linked to the qualification's Learning Outcomes. The practical component (Part B) will require candidates to complete one or more tasks. The two parts of the assessment will allow candidates to demonstrate that they have met the qualification's Learning Outcomes – in other words, that they can successfully demonstrate their knowledge and comprehension of the subject matter in addition to computational problem-solving and practical skills.

Overview of Digi-Qualifications Assessment

Qualification	Examination: Theoretical Component (Part A)	Examination: Practical Component (Part B)
Level 1 – Digi-Explorers	30 minutes	30 minutes
Level 2 – Digi-Navigators	45 minutes	45 minutes
Level 3 – Digi-Trailblazers	45 minutes	45 minutes

An examination is a time-constrained assessment that will take place on a specified date and usually in an NCC Education Approved Centre. In the above table, 'Theoretical Component' refers to questions which require candidates to recall relevant information and write or type answers into an answer booklet. 'Practical Component' refers to a computer (lab) based task or tasks which require candidates to individually produce a particular digital artefact or artefacts.

An examination mark is calculated by combining marks awarded to candidates in the theoretical and practical sections of the single examination. Theoretical and practical components are equally weighted (50%).

NCC Education Centres can provide candidates with a specimen examination paper and marking scheme, past examination papers and marking schemes will also be available.

Examinations are marked by the centre and NCC Education moderates all assessment components (Part A and Part B). For practical questions which require candidates to produce a digital artefact, Centre staff are required to record marks for candidates' work according to the marking scheme guidance issued by NCC Education.

Accessibility of Assessment

We review our guidelines on assessment practices to ensure compliance with equality law and to confirm assessment for our components is fit for purpose.

Reasonable Adjustments and Special Consideration

NCC Education is committed to providing reasonable adjustments and special consideration so as to ensure disabled candidates, or those facing exceptional circumstances, are not disadvantaged in demonstrating their knowledge, skills and understanding.

Further information on NCC Education's arrangements for giving reasonable adjustments and special consideration can be found in the NCC Education *Reasonable Adjustments and Special Considerations Policy*.

Supervision and Authentication of Assessment

NCC Education Approved Centres are required to organise all assessment activity for this specification according to NCC Education's Policies and Advice.

Candidates' identity and the authenticity of their work for the practical component (Part B) is verified and NCC Education moderates the examination papers (Part A) and the artefacts (Part B) to ensure that the marking carried out is fair and reflects the standard achieved by candidates, relevant to the specification Learning Outcomes and Assessment Criteria. Detailed guidance on this process and how candidate work must be submitted to NCC Education is given in NCC Education's *Examination Guidelines* and *Moderation Manual*.

Administration

Assessment Cycles

Four assessment cycles are offered throughout the year, in March, June, September and December.

Examination dates and submission deadlines are published in the NCC Education *Activity Schedule,* which is provided to Centres by NCC Education Centre Support. It is also available on *Connect,* NCC Education's student registration system.

The *Activity Schedule* also gives the key dates for registering candidates for assessment cycles, and the dates when Centres can expect to receive assessment documentation and the assessment results from NCC Education.

Language of Assessment

All assessment is conducted in English.

Candidates

NCC Education's qualifications are available to those Centre candidates who satisfy the entry requirements as stated in this specification.

Qualification and Unit Entry Requirements

Entry Requirements
The Digi-Trailblazers syllabus and assessment is suitable for candidates aged 11–14 (at Key Stage 3 of the English national curriculum) as well as older (including adult) learners.   It is expected that candidates who are non-native English speakers are able to cope with the demands of preparing for and taking the Digi-Trailblazers assessment in English.

Candidate Entry

Candidates are registered by Approved Centres for assessment via NCC Education's *Connect* system and according to the deadlines for registration provided in the *Activity Schedule.*

Further details can be found in NCC Education's *Centre Handbook.*

Syllabus

Syllabus overview

The Digi-Trailblazers syllabus contains the following topics, topic sections and Learning Outcomes. Syllabus topics may be covered in any order (as best suits the requirements of the candidates and their wider curriculum).

Syllabus content		
Topic	**Syllabus Section**	**Learning Outcomes**
Digital Safety and Security	Using Computers Safely and Security	• Know how to work safely and securely. • Know how to report concerns about online safety or security.
	Keeping Yourself and Your Friends Safe Online	• Understand the consequences to users of not using technology safely, respectfully, responsibly and securely. • Know how to work respectfully and responsibly online.
Solving Problems with Algorithms	Understanding and Developing Algorithms	• Understand that there are different types of algorithm. • Know how to develop algorithms that fulfil a range of functions.
	Comparing and Evaluating Algorithms	• Understand that a single problem can be solved by using several different algorithms.
Computer Instructions and Data Types	Storing and Executing Computer Instructions	• Understand how instructions are stored and executed within a computer system.
	Representing and Manipulating Different Types of Data	• Understand how different data types can be represented and manipulated.
Designing and Developing Computer Programs	Designing Computer Programs	• Know how to create plans that outline the steps that a computer program will need to follow in order to solve a problem. • Understand programming terminology.
	Creating Computer Programs	• Know how to write in code using appropriate data structures.
	Testing and Improving a Computer Program	• Know how to correct errors in syntax and meaning in a program.
Exploring Computer Logic and Number Representation	Boolean Logic and its Uses	• Understand the purpose and application of Boolean logic.
	Binary Numbers and Calculations	• Understand the term binary. • Know how to convert binary and decimal numbers.

Computational Thinking	Understanding Computer Models and Simulations	• Understand that there are different types of computer models and simulations.
	Designing Computer Models and Simulations	• Understand that computer models can be used to break down tasks and problems into manageable parts. • Know how to design and construct computer models and simulations that represent real-world problems.
	Using and Evaluating Computer Models	• Know how to use computer models and understand how they model problems and systems. • Assess the accuracy and make improvements to computer models that represent real-world problems and physical systems.
Discovering How Computer Hardware and Software works	Computer Components and Peripherals	• Understand that there are different types of computer system. • Understand how internal hardware components work and communicate with each other.
	Understanding How Software Works	• Understand the functions of different types of software. • Understand the interaction between hardware and software components.
	Discovering How Computers Communicate With Other Systems	• Understand the interaction between a computer system and a network.
Managing a Digital Project	Collecting and Analysing Data	• Understand how to use appropriate methods and devices to collect and analyse data.
	Presenting Data Digitally	• Know how to present information clearly and effectively for a designated target audience.
Developing a Digital Artefact	Designing a Digital Artefact	• Know how to design a digital artefact for a particular target audience.
	Creating a Digital Artefact	• Understand how to use appropriate techniques and technologies to create a digital artefact.
	Reusing or Repurposing a Digital Artefact	• Understand how to revise or repurpose a digital artefact.

Results and Certificates

An overall numerical mark is awarded to candidates. Candidates who obtain an overall examination mark of 50% or above are classed as a *pass*. All candidates who obtain marks below 50% are classed as *failed* in the examination.

After each assessment cycle, results slips are issued (in electronic format) which detail the final mark. Certificates are then dispatched to Centres.

Further Information

For more information about any of NCC Education's products, please contact customer.service@nccedu.com or, alternatively, visit www.nccedu.com to find out more about our suite of high-quality British qualifications.

Appendix 1 Qualification Documentation

The following NCC Education documentation has been referred to in this specification:

- Reasonable Adjustments and Special Considerations Policy

- Marking and Moderation Manual

- Activity Schedule

- Centre Handbook

All documentation, together with access to NCC Education's online resources, is available to Centres and (where applicable) candidates who have registered for assessment.