Rewarding Learning

CCEA GCSE Specification in Information and Communication Technology (*Full Course*)

For first teaching from September 2010

For first assessment from January 2011
For first award in Summer 2012

Subject Code: 2650

information and communication technology

full course

Foreword

This booklet contains CCEA's General Certificate of Secondary Education (GCSE) ICT (Full Course) for first teaching from September 2010. We have designed this specification to meet the requirements of the following:

- GCSE Subject Criteria for ICT;
- GCSE Qualifications Criteria;
- Common Criteria for all Qualifications;
- GCSE Controlled Assessment Regulations for ICT; and
- GCSE Controlled Assessment Generic Regulations.

We will make the first full award based on this specification in summer 2012.

We are now offering this specification as a unitised course. This development increases flexibility and choice for teachers and learners.

The first assessment for the following units will be:

- Unit 1: January 2011
- Unit 2: January 2011
- Unit 3: summer 2012.

We will notify centres in writing of any major changes to this specification. We will also publish changes on our website at www.ccea.org.uk

The version on our website is the most up-to-date version. Please note that the web version may be different from printed versions.

Subject Code 2650
QAN 500/7946/3

Contents

1 Introduction

This specification sets out the content and assessment details for our GCSE ICT course. First teaching begins from September 2010, and we will make the first awards for this specification in 2012. You can view and download the latest version of this specification on our website at www.ccea.org.uk

The specification builds on the broad objectives of the Northern Ireland Curriculum. It is also relevant to key curriculum concerns in England and Wales.

This specification encourages learners to be inspired, moved and changed by following a broad, coherent, satisfying and worthwhile course of study. It helps learners gain an insight into related sectors. This specification prepares learners to make informed decisions about further learning opportunities and career choices.

1.1 Aims

This specification aims to encourage students to:

- become independent and discerning users of ICT who can make informed decisions about its use and are aware of its implications for individuals, organisations and society;
- acquire and apply creative and technical skills, knowledge and understanding of ICT in a range of contexts;
- develop ICT-based solutions to solve problems;
- develop their understanding of current and emerging technologies and the social and commercial impact of these technologies;
- develop their understanding of the legal, social, economic, ethical and environmental issues raised by ICT;
- recognise potential risks when using ICT, and develop safe, secure and responsible practice;
- develop the skills needed to work collaboratively; and
- evaluate ICT-based solutions.

1.2 Key features

The key features of the specification appear below:

- This is now a unitised specification. This means that students have the opportunity to sit Units 1 and 2 in the first year of teaching.
- This course offers opportunities to build on the skills and capabilities developed through the delivery of the Key Stage 3 curriculum in Northern Ireland.
- This is a practical, skills-based qualification.
- It is available at a single tier of entry.
- This qualification will provide entry to AS Level ICT, vocational training and employment.

1.3 Prior attainment

Students do not require previous ICT learning to sit this course. However, they should be competent in both literacy and numeracy to study at GCSE level.

1.4 Classification codes and subject combinations

Every specification is assigned a national classification code that indicates the subject area to which it belongs. The classification code for this qualification is 2650.

Progression to another school/college

Should a student take two qualifications with the same classification code, schools and colleges that they apply to may take the view that they have achieved only one of the two GCSEs. The same view may be taken if students take two GCSE qualifications that have different classification codes but have content that overlaps significantly. Students who have any doubts about their subject combinations should check with the schools and colleges that they wish to attend before embarking on their planned study.

Centres in England

Centres in England should also be aware that, for the purpose of the School and College Achievement and Attainment Tables, if a student enters for more than one GCSE qualification with the same classification code, only one grade (the highest) will count.

2 Specification at a Glance

The table below summarises the structure of this GCSE course:

Content	Assessment	Weighting	Availability
Unit 1: Tools and Applications	Controlled Assessment	30%	January and Summer
Unit 2: Using Multimedia and Games Technology	Controlled Assessment	30%	January and Summer
Unit 3: Theory **Understanding ICT Systems in Everyday Life and Its Implications for Individuals, Organisations, Society and the Wider World**	External Exam **(2 hours)** Terminal Synoptic	40%	Each Summer

At least 40 percent of the assessment (based on unit weightings) must be taken at the end of the course as terminal assessment.

3 Subject Content

We have divided the course into three units. The content of each, as well as the respective learning outcomes, appears below.

3.1 Unit 1: Tools and Applications

In this unit, students should be able to make appropriate use of a word processor/ desktop publishing package when required. This unit focuses on how to use different software packages to solve given problems.

Content	Learning Outcomes
Communications Software	Students should be able to: • identify a variety of communications software, including email, the internet, Virtual Learning Environments (VLEs), and mobile and wireless technology; • make appropriate use of a search engine to carry out simple and complex searches, showing discrimination of their evaluation of the value, accuracy, plausibility and bias of information; • use reasoned judgement to select relevant and accurate information; • select, modify and use a combination of text, graphics, sound and video; • send, receive and forward emails; • use the following appropriately: attachments, carbon copying and address book functions of an email package; • maintain, delete and store emails; • demonstrate and apply knowledge and understanding of video conferencing and evaluate it as a communications tool (students should have the opportunity to participate in or contribute to an electronic discussion or video conference); • evaluate and discuss the use of a Virtual Learning Environment; • evaluate and discuss the increasing use of wireless and mobile technologies; and • select appropriate communications tools to solve given user problems.

Content	Learning Outcomes
Presentation Package	Students should be able to: • understand the features provided in a presentation package and how these are used to present information; • develop a presentation that is fit for purpose and meets the needs of a target audience by: – planning effectively; – structuring and sequencing the presentation appropriately; – testing the presentation; and – evaluating the presentation; • explain the following features of presentation software: – text formatting; – graphics, pictures, sound and video insertion; – special effects; and – templates and master slides; • create a presentation using presentation software by: – formatting text; – inserting and positioning a combination of graphics, pictures, sound and video; – using special effects to enhance the presentation display; and – using templates and the master slide; • sequence and structure the presentation to meet user requirements by using: – buttons; – hyperlinks; and – timings to control or instruct the display sequence; • carry out a user test for a presentation produced by another student; and • evaluate a presentation by: – assessing its fitness for purpose in terms of the target audience; – commenting on the overall appearance of the presentation; – analysing how the use of technology has enhanced the presentation; – commenting on the ease of navigation; and – making suggestions for improvement.

Content	Learning Outcomes
Information Handling Package	Students should be able to: • understand the basic data structures and features of a database package; • develop a database that is fit for purpose and meets the needs of a target audience by: – planning effectively; – structuring the database appropriately; – testing the database; and – evaluating the database; • explain the following features of database software: – tables; – records; – information structure; – validation techniques; – linked tables; – key fields; – wizards; and – data importation; • create a database solution by: – creating tables; – creating, editing, deleting and updating records; – amending the structure; – using validation techniques; – linking tables; – using key fields; – using wizards; and – importing data in a variety of file formats; • produce information to meet user requirements by: – selecting, searching and sorting using two or more criteria; – using logical operators (for example <, >, =, <=, >=, AND, OR, BETWEEN); – creating and formatting reports; and – mail merging to select and sequence recipients for a mail shot; and • discuss how databases can be used to solve a given problem.

Content	Learning Outcomes
Information Handling Package (cont.)	Students should be able to: • carry out a user test for a database produced by another student; • evaluate a database by: – assessing its fitness for purpose in terms of the target audience; – commenting on the user-friendliness of data capture forms and outputs; – analysing the effectiveness of searching and sorting; and – making suggestions for improvement;
Spreadsheet Package	• understand the basic structures and functionality provided by spreadsheet software; • develop a spreadsheet that is fit for purpose and meets the needs of a target audience by: – planning effectively; – structuring the spreadsheet appropriately; – testing the spreadsheet; and – evaluating the spreadsheet; • explain the following features of spreadsheet software: – text, numbers and formulae; – cells, rows and columns; – conditional formatting and validation; – templates; – headers and footers; and – data importation; • create a spreadsheet solution by: – entering text, numbers and formulae; – formatting cells, rows and columns, including conditional formatting and validation; – replicating of formulae; – creation of a simple template for others to use; – using headers and footers appropriately; and – importing data in a variety of file formats.

Content	Learning Outcomes
Spreadsheet Package (cont.)	Students should be able to: • structure the spreadsheet to meet user requirements by using: – simple functions, absolute cell referencing and IF statements; and – modelling of data; • produce information to meet the user requirements by: – exporting charts and data and using linking and embedding; – creating, labelling and formatting charts; and – selecting areas of a spreadsheet for printing; • meet user requirements by creating a simple macro comprising a sequence of commands, for example to print a worksheet or navigate to another worksheet; • carry out a user test for a spreadsheet produced by another student; and • evaluate a spreadsheet by: – assessing its fitness for purpose in terms of the target audience; – commenting on the user-friendliness of data entry and effectiveness of graphs and charts produced; and – making suggestions for improvement.

3.2 Unit 2: Using Multimedia and Games Technology

In this unit, students have the opportunity to develop practical skills for designing websites and games. They also develop practical skills that will enable them to use graphics, digital video and sound effectively. This unit focuses on how to use the skills associated with visual communication technology to solve given problems.

Content	Learning Outcomes
Using Graphics	Students should be able to: • capture images using a range of devices, including a digital camera, mobile phone and scanner; • demonstrate how images are transferred from source to software for manipulation using the following methods: – upload via cables; – wireless transfer; and – transfer directly from flash media; • use image manipulation tools efficiently to: – create and edit digital images; – apply effects to digital images; – integrate images and text appropriately; and – evaluate their own graphic; • prepare graphics for use in a website by selecting the appropriate: – file format, including jpeg and gif; and – image resolution; • prepare a graphic for use in a game by selecting the appropriate file format and image resolution; • describe the impact of image resolution and file size on graphic performance when used in websites, games and digital video; • describe the difference between vector-based and bitmap graphics; • evaluate different types of graphics for a range of uses; and
Using Digital Video and Sound	• use digital video editing tools efficiently to capture and import digital video and sound for manipulation;

Content	Learning Outcomes
Using Digital Video and Sound (cont.)	Students should be able to: • plan a digital video using appropriate storyboarding that shows: – the timeline for the digital video (not to exceed 20 seconds); – title screen and credits; – the audio files they plan to use across the digital video timeline; – the audio effects they plan to use across the digital video timeline; – durations of individual digital video clips; and – transitions and video effects they plan to apply to individual digital video clips; • explain the following features of editing software: – transitions; – movie effects; – splitting, trimming and clip positioning; – title screens and credits; – audio effects; and – export tools; • develop, structure and sequence a digital video to meet user requirements by: – using transitions and movie effects; – splitting, trimming and combining digital video clips; – creating title screens and credits; – adding audio effects to video clips; – preparing digital video and sound for sharing on the internet; and – evaluating their use of video editing software; • describe how export settings and file formats differ when preparing a digital video for distribution: – online; and – on DVD/CD; and • select the most appropriate settings when preparing digital video for distribution.

Content	Learning Outcomes
Games Technology	Students should be able to: • understand how games are developed to satisfy particular needs; • describe current trends in computer gaming: personal computer, games consoles and online; • explain the following game genres: – role play games (RPG); – action; – adventure; and – puzzles; • explain the following aspects of game play: – rules; – scoring; and – controls; • create a proposal for a computer game that includes: – a storyboard; – the game genre; – game play; and – descriptions of the target audience; • create, sequence and develop programming instructions to produce a game; • make effective use of software to create a game that provides: – simple user interaction including click and/or rollover events; – user feedback in the form of messages; – graphics in an appropriate format; – the user with two alternative pathways through the game; and – a help facility; • provide a user guide that contains clear, step-by-step instructions for using the game; and • carry out a user test for a game that another student has produced.

Content	Learning Outcomes
Games Technology (cont.)	Students should be able to: • evaluate a game by commenting on the: – suitability of the user interface; – suitability of the graphics for the audience; – accuracy of the score counter; and – effectiveness of the solution in terms of user requirements;
Using Multimedia Assets	• understand how websites are developed to satisfy particular needs; • plan a website for a given audience and purpose by developing a storyboard that shows: – an overall navigation plan for a website containing at least six pages; – the layout and outline content of each of the web pages; – the position and function of digital assets, such as graphics, video, sound and animation on each of the web pages; – the colour scheme to be used on each web page; and – the navigation links between pages; • create a development plan that identifies the sequence in which they will implement their website plan; and • explain the following features of web authoring software: – a site management tool; – page formatting; – text formatting; – links: hyperlinks (buttons and text), hotspots, links from images and external links; – layout tools, including either frames or tables; – multimedia components, including video, graphics, animation and sound; – document links; and – navigation menus.

Content	Learning Outcomes
Using Multimedia Assets (cont.)	Students should be able to: • create a website using web authoring software by: – using a site management tool; – implementing consistent file and folder naming conventions; – formatting pages; – formatting text, including style and colour; – creating links, including hyperlinks (buttons and text), hotspots, links from images and external links; – using layout tools, including either frames or tables; – incorporating multimedia components, including video, graphics, animation and sound that have been optimised for use on a website; – creating document links (students must include two downloadable documents, one of which should be editable and the other should be in portable document format (pdf)); – following accessibility standards; and – creating consistent navigation menus across pages; • carry out a user test for a website produced by another student; • evaluate a website by commenting on: – comparative download time for multimedia web pages; – successful and broken hyperlinks; – ease of navigation; and – effectiveness of the solution in terms of user requirements; and • demonstrate an awareness of mobile gaming.

3.3 Unit 3: Understanding ICT Systems in Everyday Life and Its Implications for Individuals, Organisations, Society and the Wider World

This unit is about acquiring the knowledge and understanding of ICT systems, how they work and how they are applied to everyday life. Students should be able to expand all acronyms and initialisms associated with the following areas.

Content	Learning Outcomes
Knowledge of ICT Components	**Hardware** Students should be able to: • identify external component parts of a typical home PC from a photograph or diagram;
Input and Output	• compare input and output devices in terms of costs, quality, speed and suitability for specific applications: – Input devices: keyboard, mouse, joystick, tracker pad, touch screen, microphone, scanner, digital camera and graphics digitiser; and – Output devices: monitors, printers (including impact, laser, ink-jet and plotter printers) and speakers;
Storage	• compare the following storage devices in terms of storage capacity, cost, speed of data retrieval and suitability for specific purposes: – Hard disk; – DVD; – CD-RW; – CD-ROM/CD-R; – Blu-ray; – tape streamer; – Flash media; and – network storage vs local storage;
Memory	• describe the purpose of ROM, RAM and cache as well as the impact of each on computer performance;
System Software	**Software** • describe the purpose and functions of an operating system; and • identify the main features of a GUI.

Content	Learning Outcomes
Data and Information Gathering Data Data Checking Data Portability **Digital Communication Methods** Data Networks	Students should be able to: • understand the difference between information and data; • discuss features important in form design, such as use of tick boxes, colour, font, position and instructions; • identify advantages and disadvantages of, and applications for, OMR and OCR; • demonstrate knowledge and understanding of data verification and validation techniques; • identify the most suitable data validation techniques for given situations from type, range, presence and length; • explain the purpose of a check digit; • understand the need for data compression and the software needed to compress/decompress data; • identify common file types, such as jpeg, mpeg, gif, txt, csv, rtf, mp3, mp4, MIDI, pdf, html and zip; • identify the main differences between LAN and WAN; • identify the advantages of using a network over stand alone computers; • describe the function of the following network resources: – network interface card; – network cables; – switch; and – router; and • describe the need for network communication protocols.

Content	Learning Outcomes
Digital Communication Methods (cont.) Digital Communication Security Mobile Digital Communication Internet and Intranet	Students should be able to: • demonstrate knowledge and understanding of basic network security measures, for example passwords, access levels and encryption; • identify the measures that can be taken to protect information systems from misuse: virus protection, firewalls and backing-up data on a LAN and a stand alone computer; • identify the characteristics of a secure password; • demonstrate knowledge and understanding of the increasing use of mobile communication devices, including laptops, PDAs and mobile phones; • evaluate the technologies that support mobile communication, including Bluetooth, 3G and Wi-Fi; • identify the differences between an intranet and the internet; • describe the typical services provided by an ISP; • describe the features provided by a typical web browser, including the components of a URL; • define bandwidth and its impact on internet access; • evaluate ASDL and fibre-optic data transfer technologies in terms of cost and speed; • describe the hardware and software required to access online services, including video conferencing; and • describe means of digital communication and their advantages/disadvantages: – emailing; – facsimile transmission; – voiceover internet protocol (VoIP); and – online collaboration through video conferencing, instant messaging and bulletin boards/discussion forums.

Content	Learning Outcomes
Digital Communication Methods (cont.) Internet Services	Students should be able to: • demonstrate knowledge and understanding of the following internet services and describe the advantages and disadvantages to both the customer and the vendor: – shopping and banking, including the identification and use of secure websites and encryption measures; – discussion boards and social networking; and – downloading and streaming of music and video;
Applications of ICT	• discuss how ICT solutions are developed to meet different needs and requirements;
Electronic Monetary Processing	• demonstrate and apply knowledge and understanding of: – EFTPOS and identify the advantages and disadvantages to the customer and the vendor; – the operation of a typical ATM in terms of facilities offered; – a typical POS system used in a supermarket; – the use of chip and PIN; and – the use of barcode technology;
Billing Systems	• demonstrate knowledge and understanding of how utility bills are produced, for example electricity bills;
Virtual Reality and Simulation	• describe the differences between virtual reality and simulation; • demonstrate and apply knowledge and understanding of how virtual reality is used in training and gaming;
Computer Control and Data Logging	• demonstrate and apply knowledge and understanding of computer control systems for the home and traffic control. This should be considered in terms of input, process output and feedback; and
Education	• discuss the impact of ICT in schools, including the use of: – filters to control access to web content; and – an intranet to facilitate learning both inside and outside the classroom.

Content	Learning Outcomes
Applications of ICT (cont.) Education (cont.)	Students should be able to: • identify the advantages of using the following tools in education: – VLEs (including computer-based automated assessment and working collaboratively); – interactive whiteboards; – CAL software; and – electronic conferencing;
Employment	• describe the increasing impact of ICT on employment, including training of employees, job displacement and job opportunity in the ICT/computing sector; • define teleworking and identify the advantages and disadvantages of teleworking for the employer and employee;
Leisure	• demonstrate knowledge and understanding of: – social networking (to include safe, secure and responsible practices when using ICT); – creating and downloading music and video (including podcasts and video streaming); and – digital TV (including services offered);
Globalisation	• discuss how ICT has enabled globalisation (for example the ability to contact others in any part of the world day or night or purchase goods from anywhere in the world without leaving the house);
Health and Safety	• demonstrate knowledge and understanding of health and safety including RSI, ergonomics, ELF radiation and eyestrain; • identify measures taken by both the employee and employer to promote good health and safety practice in the workplace;
Legal Implications	• demonstrate knowledge and understanding of the Computer Misuse Act; and • describe the terms *hacker*, *virus* and *spyware* and how these relate to the Computer Misuse Act.

Content	Learning Outcomes
Applications of ICT (cont.) Legal Implications (cont.)	Students should be able to: • demonstrate and apply knowledge and understanding of: – the Copyright Designs and Patents Act and identify typical breaches of the Act, including software piracy and software licensing; – the Data Protection Act; – the eight principles of the Data Protection Act; and – the rights of the data subject and the responsibilities of the data controller and Information Commissioner in ensuring the Data Protection Act is enforced;
Environmental Implications of ICT	• explain the following environmental issues associated with ICT: the disposal and recycling of hardware and consumables to minimise adverse effects to the environment; and • understand the carbon footprint associated with ICT.

4 Scheme of Assessment

4.1 Assessment opportunities

You can see the availability of the examination and controlled assessment in Section 2 of this specification.

Candidates studying unitised GCSE qualifications must complete at least 40 percent of the overall assessment requirements as terminal assessment.

Candidates can choose to resit individual assessment units once. The better result for each assessment unit counts towards the GCSE qualification, as long as the 40 percent terminal arrangement is satisfied. Results for individual assessment units remain available to count towards a GCSE qualification until we withdraw the specification.

4.2 Assessment objectives

Below are the assessment objectives for this specification. Candidates must:

- recall, select and communicate their knowledge and understanding of ICT;
- apply knowledge, understanding and skills to produce ICT-based solutions; and
- analyse, evaluate, make reasoned judgements and present conclusions.

4.3 Assessment objective weightings

The table below sets out the assessment objectives for each assessment component and the overall GCSE qualification:

Assessment Objective	Component Weighting			Overall Weighting
	Controlled Assessment		External Assessment	
	Unit 1	Unit 2	Unit 3	
AO1	5%	5%	15%	25%
AO2	20%	20%	10%	50%
AO3	5%	5%	15%	25%
Total Weighting	**30%**	**30%**	**40%**	**100%**

4.4 Quality of written communication

In GCSE ICT, candidates must demonstrate their quality of written communication. In particular, candidates must:

- ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear;
- select and use a form and style of writing appropriate to their purpose and to complex subject matter; and
- organise information clearly and coherently, using specialist vocabulary where appropriate.

Examiners and teachers assess the quality of candidates' written communication in their responses to questions and tasks requiring extended writing. They assess the quality of written communication within all assessment objectives and examination components in this specification.

4.5 Reporting and grading

We report the results of individual assessment units on a uniform mark scale that reflects the assessment weighting of each unit. We determine the grades awarded by aggregating the uniform marks that candidates obtain on individual assessment units.

We award GCSE qualifications on an eight grade scale from A*–G, with A* being the highest. If candidates fail to attain a grade G or over, we report their results as unclassified (U).

We report the results of individual assessment units on a uniform mark scale that reflects the assessment weighting of each unit. We determine the grades awarded by aggregating the uniform marks obtained on individual assessment units.

We award grades that match the grade descriptions published by the regulatory authorities (see Section 5).

5 Grade Descriptions

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content in the specification; they are not designed to define that content.

The grade awarded depends in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of candidates' performance in the assessment may be balanced by better performances in others.

Grade	Description
A	Candidates can recall, select and communicate a thorough knowledge and understanding of a broad range of ICT, including the impact of social and commercial use. They apply knowledge, understanding and skills to a variety of situations, selecting and using a range of ICT tools efficiently to solve problems and produce effective ICT-based solutions. They manipulate and process data efficiently and effectively. They effectively model situations, sequence instructions, interpret information and creatively explore and develop ideas. They work systematically and understand and adopt safe, secure and responsible practices. They systematically analyse problems, identifying needs and opportunities. They critically analyse and evaluate the way they and others use ICT. They iteratively review their work and make improvements where appropriate. They use ICT to communicate effectively, demonstrating a clear sense of purpose and audience.
C	Candidates must recall, select and communicate a good knowledge and understanding of ICT, including the impact of its social and commercial use. They apply knowledge, understanding and skills in a range of situations, applying ICT tools appropriately to address problems and provide ICT-based solutions. They select information and process data. They model situations, sequence instructions, select and use information, and explore ideas. They work using safe, secure and responsible practices. They analyse ways of addressing needs using ICT. They review and evaluate the way they and others use ICT. They review their work and make improvements where appropriate. They use ICT to communicate, demonstrating consideration of purpose and audience.

Grade	Description
F	Candidates recall, select and communicate a basic knowledge and understanding of aspects of ICT, including its use in the wider world. They apply limited knowledge, understanding and skills to address simple problems and create basic solutions using ICT tools. They select and present data and information, and use simple models and instructions. They demonstrate some awareness of the need for safe, secure and reasonable practices. They respond to needs using ICT. They sometimes review and provide comments on the way they and others use ICT. They make simple modifications to their work in the light of progress. They use ICT to communicate, demonstrating limited awareness and purpose to audience.

6 Guidance on Assessment

6.1 External assessment

This qualification has 40 percent external assessment. It is assessed through one **two-hour** paper, and the external assessment is synoptic.

6.2 Controlled assessment review

We will review our controlled assessment tasks every year to ensure that they continue to set an appropriate challenge and remain valid, reliable and stimulating. We have designed them to support good teaching and learning and to be more manageable for candidates and teachers.

6.3 Skills assessed by controlled assessment

The following skills must be assessed through controlled assessment:

- Manipulate and process data, develop information, model situations and explore ideas.
- Adopt safe, secure and responsible practice.
- Iteratively review, modify and evaluate the effectiveness of their own and others' use of ICT.

In addition, we may externally assess elements of all these skills.

6.4 Level of control

Rules for controlled assessment in GCSE ICT are defined for the three stages of the assessment:

- task setting;
- task taking; and
- task marking.

6.5 Task setting

The level of control for task setting is high. This means that we set the task.

There are three tasks for Unit 1 and two tasks for Unit 2. Candidates must complete all tasks.

The controlled assessments provide centres with the opportunity to put the tasks in contexts that best suit their specific circumstances. This includes the availability of and access to resources and software.

We review all controlled assessments every two years to ensure that they do not become predictable.

6.6 Task taking: Unit 1

The level of control for task taking is medium.

Areas of Control	Detail of Control
Authenticity	Research can be carried out under limited control. All other elements of the tasks must be completed under informal supervision.
Feedback	Teachers must guide and supervise candidates in relation to the following: • monitoring progress; • preventing plagiarism; • ensuring compliance with health and safety requirements; • ensuring work is completed in accordance with the specification requirements; and • ensuring work can be assessed in accordance with the procedures and marking criteria. Candidates should reach their own conclusions. While teachers can provide feedback to candidates, they must clearly record the nature of any guidance and the details of any feedback they give. Any advice to individual candidates over and above that given to the class as a whole must be recorded on documentation that we provide. Centres must ensure that the work submitted for final assessment is the candidates' own.
Time Limit/Word Limit	Task 1: **9 hours** Task 2: **6 hours** Task 3: **7 hours 30 mins**
Collaboration	Candidates must complete all tasks independently. The final work submitted must be solely that of the candidate.
Resources	Candidates' access to resources is determined by those available to the centre. Centres should limit candidates' access to those needed for the task. Candidates must reference any resources that they access via the internet.

6.7 Task taking: Unit 2

The level of control for task taking is medium.

Areas of Control	Detail of Control
Authenticity	The research elements of the tasks can be completed under informal supervision. All other elements of the tasks must be completed under informal supervision.
Feedback	Teachers must guide and supervise candidates in relation to the following: • monitoring progress; • preventing plagiarism; • ensuring compliance with health and safety requirements; • ensuring work is completed in accordance with the specification requirements; and • ensuring work can be assessed in accordance with the procedures and marking criteria. Candidates should reach their own conclusions. While teachers can provide feedback to candidates, they must clearly record the nature of any guidance and the details of any feedback they give. Any advice to individual candidates over and above that given to the class as a whole must be recorded on documentation that we provide. Centres must ensure that the work submitted for final assessment is the candidates' own.
Time Limit/Word Limit	Task 1: **11 hours** Task 2: **11 hours 30 mins**
Collaboration	Candidates must complete all tasks independently. The final work submitted must be solely that of the candidate.
Resources	Candidates' access to resources is determined by those available to the centre. Centres should limit candidates' access to those needed for the task. Candidates must reference any resources that they access via the internet.

6.8 Task marking

Teachers mark the controlled assessment tasks using assessment criteria that we provide. They should use professional judgement to select and apply the criteria in each successive mark band appropriately and fairly to candidates' work. They should follow a 'best fit' approach when selecting a candidate's mark, making allowance for balancing strengths and weaknesses within each response.

Teachers must ensure that the work they mark is the candidate's own. For up-to-date advice on plagiarism or any other incident in which candidate malpractice is suspected, please refer to the Joint Council for Qualifications' *Suspected Malpractice in Examinations and Assessments: Policies and Procedures* on the JCQ website: www.jcq.org.uk

6.9 Internal standardisation

Centres with more than one teaching group must carry out internal standardisation of the controlled assessment tasks before submitting them to us. This is to ensure, as far as possible, that each teacher has applied the assessment criteria consistently when marking assessments.

As a result of internal standardisation, it may be necessary to adjust an individual teacher's marking. This is to bring assessments into line with other teachers in the centre and to match the standards established at the agreement trial. Where adjustment is necessary, the total/final mark recorded on the Candidate Record Sheet should be amended.

6.10 Moderation

Centres must submit their marks and samples to us by May in any year. We may adjust a centre's marking. This is to bring the assessment of the candidates' work into line with our agreed standards.

We issue full instructions at the appropriate time on:

- the details of moderation procedures;
- the nature of sampling; and
- the dates by which marks and samples have to be submitted to us.

Teachers and centre staff may contact us at any stage if they require advice, assistance or support regarding any aspect of internal assessment. We provide moderators to support groups of centres or to contact individual centres to discuss issues arising from the controlled assessments.

7 Links

7.1 Support

We provide the following resources to support this specification:

- our website;
- a subject microsite within our website;
- specimen papers and mark schemes; and
- controlled assessment tasks.

Some support material from the previous specification may also remain useful.

We intend to expand our range of support to include the following:

- past papers;
- mark schemes;
- Chief Examiner's reports;
- Principal Moderator's reports;
- schemes of work;
- centre support visits;
- support days for teachers;
- agreement trials;
- controlled assessment guidance for teachers;
- controlled assessment guidance for candidates;
- a resource list; and
- exemplification of standards.

You can find our Annual Support Programme of events and materials for ICT on our website at www.ccea.org.uk

7.2 Curriculum objectives

This specification addresses and builds upon the broad curriculum objectives for Northern Ireland, England and Wales. In particular, it enables students to:

- develop as individuals and contributors to the economy, society and environment (for example, students will understand how ICT has enabled globalisation);
- progress from the Key Stage 3 Northern Ireland Curriculum requirements;
- address spiritual, moral, ethical, social, legislative (including equality and disability discrimination), economic and cultural issues (for example by examining accessibility standards when developing multimedia solutions);
- address sustainable development, health and safety considerations and European developments, for example by:
  - examining the health and safety and legal implications of ICT; and
  - developing safe, secure and responsible practices when using ICT (social networking, etc.); and
- examine the environmental issues associated with ICT (for example the disposal and recycling of hardware and consumables to minimise adverse affects to the environment).

For further guidance on how this specification enables progression from the Northern Ireland Curriculum at Key Stage 3, go to our subject microsite, which you can access at www.ccea.org.uk

7.3 Integration of skills

7.31 Functional elements

This specification provides opportunities for students to develop the application of skills to 'real-life contexts'. These skills are embedded within this specification. Students will have the opportunity to:

- use ICT systems;
- find and select information; and
- develop, present and communicate information.

7.32 Key Skills

This specification provides opportunities for students to develop and generate evidence for assessing the following nationally recognised Key Skills:

- Application of Number
- Communication
- Improving Own Learning and Performance
- Information and Communication Technology
- Problem-Solving
- Working with Others.

You can find details of the current standards and guidance for each of these skills on our website at www.ccea.org.uk

7.4 Examination entries

Entry codes for this subject and details on how to make entries are available on our Examinations Administration Handbook microsite, which you can access at www.ccea.org.uk

Alternatively, you can telephone our Examination Entries, Results and Certification team using the contact details provided in this section.

7.5 Equality and inclusion

We have considered the requirements of equalities legislation in developing this specification.

GCSE qualifications often require the assessment of a broad range of competences. This is because they are general qualifications and, as such, prepare students for a wide range of occupations and higher level courses.

The revised GCSE and qualification criteria were reviewed to identify whether any of the competences required by the subject presented a potential barrier to any students with disabilities. If this was the case, the situation was reviewed again to ensure that such competences were included only where essential to the subject. The findings of this process were discussed with disability and equality groups and with people with disabilities.

During the development process, we carried out an equality impact assessment. This was to ensure that we identified any additional potential barriers to equality and inclusion. Where appropriate, we have given consideration to measures to support access and mitigate against barriers.

Reasonable adjustments are made for students with disabilities in order to reduce barriers to access assessments. For this reason, very few students will have a complete barrier to any part of the assessment.

It is important to note that where access arrangements are permitted, they must not be used in any way that undermines the integrity of the assessment. **Information on reasonable adjustments is available in the Joint Council for Qualifications' document *Access Arrangements and Special Consideration: Regulations and Guidance Relating to Candidates Who Are Eligible for Adjustments in Examinations.***

7.6 Contact details

The following list provides contact details for relevant staff members and departments:

- Specification Support Officer: Nuala Braniff
  (telephone: (028) 9026 1200, extension 2292, email: nbraniff@ccea.org.uk)

- Officer with Subject Responsibility: Catriona Skelton
  (telephone: (028) 9026 1200, email: cskelton@ccea.org.uk)

- Examination Entries, Results and Certification
  (telephone: (028) 9026 1262, email: entriesandresults@ccea.org.uk)

- Examiner Recruitment
  (telephone: (028) 9026 1243, email: appointments@ccea.org.uk)

- Distribution (past papers and support materials)
  (telephone: (028) 9026 1242, email: cceadistribution@ccea.org.uk)

- Support Events Administration
  (telephone: (028) 9026 1401, email: events@ccea.org.uk)

- Information Section (including Freedom of Information requests)
  (telephone: (028) 9026 1200, email: info@ccea.org.uk)

- Business Assurance (appeals)
  (telephone: (028) 9026 1244, email: appealsmanager@ccea.org.uk).

Appendix 1

Glossary of Terms for Controlled Assessment Regulations

Term	Definition
Component	A discrete, assessable element within a controlled assessment/qualification that is not itself formally reported and for which the awarding body records the marks May contain one or more tasks
Controlled assessment	A form of internal assessment where the control levels are set for each stage of the assessment process: task setting, task taking, and task marking
External assessment	A form of independent assessment in which question papers, assignments and tasks are set by the awarding body, taken under specified conditions (including detailed supervision and duration) and marked by the awarding body
Formal supervision (High level of control)	The candidate must be in direct sight of the supervisor at all times. Use of resources and interaction with other candidates is tightly prescribed.
Informal supervision (Medium level of control)	Questions/tasks are outlined, the use of resources is not tightly prescribed and assessable outcomes may be informed by group work. Supervision is confined to: • ensuring that the contributions of individual candidates are recorded accurately; and • ensuring that plagiarism does not take place. The supervisor may provide limited guidance to candidates.
Limited supervision (Low level of control)	Requirements are clearly specified, but some work may be completed without direct supervision and will not contribute directly to assessable outcomes.
Mark scheme	A scheme detailing how credit is to be awarded in relation to a particular unit, component or task Normally characterises acceptable answers or levels of response to questions/tasks or parts of questions/tasks and identifies the amount of credit each attracts May also include information about unacceptable answers

Term	Definition
Task	A discrete element of external or controlled assessment that may include examinations, assignments, practical activities and projects
Task marking	Specifies the way in which credit is awarded for candidates' outcomes Involves the use of mark schemes and/or marking criteria produced by the awarding body
Task setting	The specification of the assessment requirements Tasks may be set by awarding bodies and/or teachers, as defined by subject-specific regulations. Teacher-set tasks must be developed in line with awarding body specified requirements.
Task taking	The conditions for candidate support and supervision, and the authentication of candidates' work Task taking may involve different parameters from those used in traditional written examinations. For example, candidates may be allowed supervised access to sources such as the internet.
Unit	The smallest part of a qualification that is formally reported and can be separately certificated May comprise separately assessed components

COUNCIL FOR THE **CURRICULUM EXAMINATIONS** AND **ASSESSMENT** 29 Clarendon Road, Clarendon Dock, Belfast BT1 3BG
✆ +44 (0)28 9026 1200 +44 (0)28 9026 1234 +44 (0)28 9024 2063 info@ccea.org.uk www.ccea.org.uk

Rewarding Learning