



## CCEA GCSE Specification in Construction and the Built Environment

For first teaching from September 2009

For first award in Summer 2011

Subject Code: 0006

# construc tion *and the Built Environment*



## Foreword

This booklet contains CCEA's General Certificate of Secondary Education (GCSE) Construction for first teaching from September 2009. We have designed this specification to meet the requirements of the following:

- GCSE Subject Criteria for Construction and the Built Environment;
- GCSE Qualifications Criteria;
- Common Criteria for all Qualifications;
- GCSE Controlled Assessment Regulations for Construction and the Built Environment; and
- GCSE Controlled Assessment Generic Regulations.

We will make the first full award based on this specification in summer 2011.

The first assessment for the following unit will be available in summer 2010:

- Unit 1: Construction Industry for the 21st Century.

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](http://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.

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You may download further copies of this publication from [www.ccea.org.uk](http://www.ccea.org.uk)

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## 1 Introduction

This specification sets out the content and assessment details for our GCSE Construction and the Built Environment course. First teaching begins from September 2009, and we will make the first awards for this specification in 2011. You can view and download the latest version of this specification on our website at [www.ccea.org.uk](http://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.

### 1.1 Aims

This specification aims to:

- provide students with a broad background and core knowledge of the construction industry;
- encourage a student-centred approach to learning and give students the opportunity to apply their developing knowledge in relevant, enjoyable and work-related contexts for craft operations and for Computer Aided Design (CAD) projects;
- provide students with opportunities to progress into further education, training or employment in the construction industry;
- motivate students and help them achieve success by providing opportunities for them to apply their knowledge in work-related situations and contexts;
- help students to develop and practise the key transferable skills that are important in working life; and
- research the materials used in the construction of domestic and commercial buildings.

### 1.2 Key features

The key features of the specification appear below:

- This specification is unitised. Students have the opportunity to sit Unit 1 in the first year of teaching.
- The course offers opportunities to build on the skills and capabilities developed through the delivery of the Key Stage 3 curriculum in Northern Ireland.
- It provides students with a broad background and core knowledge of the construction industry.
- It encourages students to develop craft, CAD and technical skills, knowledge and understanding of the construction industry.
- It encourages a student-centred approach to learning and provides students with the opportunity to apply their developing knowledge in relevant, enjoyable and work-related contexts.
- The specification helps to raise achievement amongst a wider range of learners due to its high practical and kinaesthetic content.
- It helps students to make informed choices about their careers and how they will progress.
- It encourages students to develop and practise the key transferable skills and to have a positive attitude towards sustainable construction techniques.

### **1.3 Prior attainment**

Students choosing this course do not need to have any previous experience of the construction industry.

### **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 0006.

#### **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
<b>Unit 1: The Construction Industry for the 21st Century</b>	<b>External Assessment</b>  There is <b>one</b> written assessment. It is externally set and externally marked.  <b>1 hour 30 minutes</b>  The paper requires students to answer questions based on pre-release materials.	40%	Every January (beginning in 2011)  Every Summer (beginning in 2010)
<b>Unit 2: The Construction Craft Project</b>	<b>Controlled Assessment</b>  Students carry out <b>one</b> craft project under controlled conditions. They produce an allied craft project folder. The teacher assesses the project and we moderate it.	30%	Every Summer (beginning in 2011)
<b>Unit 3: Computer Aided Design in Construction</b>	<b>Controlled Assessment</b>  Students produce a portfolio of work under controlled conditions. The teacher assesses the portfolio and we externally moderate it.	30%	Every Summer (beginning in 2011)

**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 unit and its respective learning outcomes appear below.

#### 3.1 Unit 1: The Construction Industry for the 21<sup>st</sup> Century

The construction industry in the 21<sup>st</sup> century combines the use of modern and traditional processes and materials. This industry influences, and is influenced by, the society, economy and environment in which we live. The materials and processes are governed by regulation and legislation.

This unit is a comprehensive introduction to the construction industry. Students have an opportunity to gain knowledge and understanding of the main types of construction, related employment, and the resources used in the building environment. They are expected to demonstrate their knowledge and understanding of, and be able to evaluate, the main social, economic and environmental considerations relating to construction. The unit gives students an opportunity to explore, understand and apply their learning in the context of domestic and commercial buildings.

Students are assessed on all of this unit's content through **one** written external examination. The examination lasts **1 hour 30 minutes**. In the paper, students are expected to answer questions based on pre-release material.

Content	Learning Outcomes
<b>Introduction to the Built Environment</b>	Students should be able to: <ul style="list-style-type: none"> <li>• define what the built environment is;</li> <li>• identify the main stages of the construction cycle:               <ul style="list-style-type: none"> <li>– planning;</li> <li>– design;</li> <li>– tendering;</li> <li>– construction process;</li> <li>– handover; and</li> <li>– evaluation; and</li> </ul> </li> <li>• identify low-rise buildings:               <ul style="list-style-type: none"> <li>– residential, such as houses and apartments;</li> <li>– commercial, such as shops and offices;</li> <li>– industrial, such as warehouses and factories;</li> <li>– agricultural, such as farms and outbuildings; and</li> <li>– community, such as schools, hospitals, libraries, health centres, cinemas, churches and sports amenities.</li> </ul> </li> </ul>



Content	Learning Outcomes
<p><b>Employment in the Construction Industry (cont.)</b></p> <p><b>Economic Resource Considerations</b></p> <p><b>Health and Safety</b></p>	<p>Students should be able to:</p> <ul style="list-style-type: none"> <li>• demonstrate a knowledge and understanding of the main craft operations in the sector:               <ul style="list-style-type: none"> <li>– bricklayer;</li> <li>– electrician;</li> <li>– joiner;</li> <li>– plasterer;</li> <li>– plumber; and</li> <li>– tiler;</li> </ul> </li> <li>• demonstrate a knowledge and understanding of the main factors associated with construction:               <ul style="list-style-type: none"> <li>– costing;</li> <li>– planning;</li> <li>– plant labour and materials; and</li> <li>– social and environmental considerations;</li> </ul> </li> <li>• analyse the impact of the construction industry on society, the economy and the environment using two varying contexts from local, European and/or global;</li> <li>• analyse the impact of society, the economy and the environment on the construction industry using two varying contexts from local, European and/or global;</li> <li>• identify the risks for employers, employees and the public in relation to construction and the built environment; and</li> <li>• show an awareness of the steps that can be taken to mitigate against the risks:               <ul style="list-style-type: none"> <li>– information;</li> <li>– procedure;</li> <li>– risk assessments; and</li> <li>– subsequent action.</li> </ul> </li> </ul>

Content	Learning Outcomes
<p><b>Health and Safety (cont.)</b></p> <p><b>Construction Technology</b></p>	<p>Students should be able to:</p> <ul style="list-style-type: none"> <li>• demonstrate a knowledge and understanding of the health and safety regulations in the construction industry, in particular: <ul style="list-style-type: none"> <li>– ‘Working at Height’ and other legislation relevant to, for example scaffolding and ladders;</li> <li>– electricity to be used on site and overhead power cables;</li> <li>– trench excavating;</li> <li>– site safety signs; and</li> <li>– Personal Protective Equipment (PPE);</li> </ul> </li> <li>• demonstrate a knowledge and understanding of the main materials used in domestic buildings and be able to understand the properties and functions of these materials: <ul style="list-style-type: none"> <li>– materials used in external walls;</li> <li>– materials used in roof structure and joinery components;</li> <li>– materials used for internal finishes;</li> <li>– materials used in plumbing; and</li> <li>– materials used for insulation;</li> </ul> </li> <li>• interpret drawings of simple commercial and domestic buildings, including: <ul style="list-style-type: none"> <li>– identifying different elevations and how they relate to the plan and/or drawing;</li> <li>– reading dimensions from the drawing, for example running dimensions, individual dimensions, floor area and wall area;</li> <li>– using a scale rule to lift accurate measurements from plans; and</li> <li>– interpreting the structural make-up of the external structure from sectional drawings; and</li> </ul> </li> <li>• produce free-hand sketches to communicate and explain their responses to a given scenario.</li> </ul>



Content	Learning Outcomes
<p><b>Sustainable Development (cont.)</b></p>	<p>Students should be able to:</p> <ul style="list-style-type: none"> <li>• demonstrate a knowledge and understanding of the various renewable energies that can be used as alternatives to fossil fuels, including:                             <ul style="list-style-type: none"> <li>– geothermal;</li> <li>– wind turbines;</li> <li>– solar panels; and</li> <li>– biomass;</li> </ul> </li> <li>• explain the advantages and disadvantages of renewable energy;</li> <li>• identify how each type of renewable energy can be used in construction and the built environment;</li> <li>• evaluate renewable energies as alternatives to fossil fuels using examples from local, European and/or global contexts;</li> <li>• demonstrate a knowledge and understanding of the need to reduce the environmental impact when sourcing building materials; and</li> <li>• demonstrate a knowledge and understanding of the methods used to reduce the environmental impact of building materials, including:                             <ul style="list-style-type: none"> <li>– modern quarrying practice;</li> <li>– recycling;</li> <li>– reusing; and</li> <li>– site waste management.</li> </ul> </li> </ul>

### 3.2 Unit 2: The Construction Craft Project

We provide centres with a number of comparable craft theme projects each year. Students must complete a craft project based on **one** of the following craft themes:

- timber;
- brick;
- plaster; or
- pipes.

The craft project is made up of a **craft folder** and a **craft product**. This unit is worth 30 percent of the total weighting for the subject and is marked out of **60 marks (15 marks** are available for the craft folder and **45 marks** are available for the craft product).

The assessment criteria are available in Appendix 1.

Students must present **all** of the following associated evidence in their craft folder:

- the production stages (for example a flow diagram);
- a list of the materials and tools required;
- a simple costing;
- health and safety requirements; and
- an evaluation of their own work.

We test elements of this unit in the external assessment.

Content	Learning Outcomes
<b>The Craft Project</b>	<p>Students should be able to:</p> <ul style="list-style-type: none"> <li>• complete a suitable craft project that reflects one of the main craft occupations in the construction industry;</li> <li>• demonstrate a knowledge and understanding of what constitutes the craft folder; and</li> <li>• demonstrate a knowledge and understanding of how to produce the following:                             <ul style="list-style-type: none"> <li>– a production flow diagram;</li> <li>– a resource list;</li> <li>– a resource costing; and</li> <li>– a health and safety overview.</li> </ul> </li> </ul>

Content	Learning Outcomes
<p><b>The Craft Project (cont.)</b></p>	<p>Students should be able to:</p> <ul style="list-style-type: none"> <li>• demonstrate a knowledge and understanding of how to select the most appropriate materials for a chosen craft theme: <ul style="list-style-type: none"> <li>– timber;</li> <li>– brick;</li> <li>– plaster; and</li> <li>– pipes;</li> </ul> </li> <li>• demonstrate a knowledge and understanding of how to select the most appropriate tools for a chosen craft, for example: <ul style="list-style-type: none"> <li>– hand tools; and</li> <li>– power tools;</li> </ul> </li> <li>• demonstrate a knowledge and understanding of how to adhere to health and safety when using tools and materials appropriate to the craft project;</li> <li>• demonstrate a knowledge and understanding of how to follow the correct construction methods for a chosen craft;</li> <li>• demonstrate a knowledge and understanding of how to use appropriate joints, fixings, components and processes for a chosen craft;</li> <li>• demonstrate a knowledge and understanding of the quality controls and issues related to a chosen craft; and</li> <li>• evaluate their own work in relation to their chosen craft project.</li> </ul>

### 3.3 Unit 3: Computer Aided Design in Construction

This unit enables students to participate in practical aspects of construction. It is worth 30 percent of the total weighting for the subject. All construction details that students present should follow the current building regulation standards and health and safety legislation. The students' presentation of all drawings should comply with BS1192. This unit draws on the skills and knowledge that the students develop and apply in Units 1 and 2.

Content	Learning Outcomes
<p><b>Introduction to Computer Aided Design</b></p> <p><b>Set Up a Drawing Environment Appropriately</b></p> <p><b>Activate an Industrial Standard CAD Package to Create Simple Two-Dimensional Drawings Related to Construction</b></p> <p><b>Use the Modification Commands within an Industrial Standard CAD Package</b></p>	<p>Students should be able to:</p> <ul style="list-style-type: none"> <li>• know what computer aided design (CAD) is and how it can be used within construction and the built environment;</li> <li>• set up a drawing environment appropriately so that all dimensions can be entered full size and plotted to scale;</li> <li>• use the following CAD commands: <ul style="list-style-type: none"> <li>– line;</li> <li>– circle;</li> <li>– arc;</li> <li>– ellipse;</li> <li>– polyline; and</li> <li>– rectangle;</li> </ul> </li> <li>• draw a range of basic building components (including isometric drawings), for example a: <ul style="list-style-type: none"> <li>– brick wall;</li> <li>– concrete sill;</li> <li>– window; or</li> <li>– door;</li> </ul> </li> <li>• use the following commands: <ul style="list-style-type: none"> <li>– trim;</li> <li>– stretch;</li> <li>– break;</li> <li>– extend; and</li> <li>– scale.</li> </ul> </li> </ul>

Content	Learning Outcomes
<p><b>Create Hatch Patterns</b></p> <p><b>Retrieve and Plot a Drawing to Scale</b></p> <p><b>Produce Two-Dimensional Sectional Drawings that Conform to Current Building Regulation Standards</b></p> <p><b>Produce Drawings of a Variety of Components</b></p> <p><b>Draw a Floor Plan and an Elevation of a Domestic Dwelling and Plot to Scale</b></p>	<p>Students should be able to:</p> <ul style="list-style-type: none"> <li>• create hatch patterns to show the different materials used for building components, including: <ul style="list-style-type: none"> <li>– roof tiles;</li> <li>– insulation;</li> <li>– block or brick work;</li> <li>– hardcore; and</li> <li>– concrete;</li> </ul> </li> <li>• demonstrate a knowledge and understanding of how to retrieve and plot a drawing to scale;</li> <li>• produce annotated dimensional drawings that conform to appropriate standards and conventions and show typical sectional details, including the following: <ul style="list-style-type: none"> <li>– a strip foundation;</li> <li>– a window sill;</li> <li>– a concrete or metal lintel; and</li> <li>– a door jamb;</li> </ul> </li> <li>• demonstrate a knowledge and understanding of how to draw and produce a range of components, including a: <ul style="list-style-type: none"> <li>– window;</li> <li>– door (in plan or elevation);</li> <li>– kitchen sink; and</li> <li>– kitchen unit (in plan);</li> </ul> </li> <li>• demonstrate a knowledge and understanding of elevations and plans;</li> <li>• draw a floor plan and an elevation of a domestic dwelling to suitable scale using the components that they have previously made and stored using an appropriate library;</li> <li>• demonstrate a knowledge and understanding of how to plot and print work to a suitable scale;</li> <li>• evaluate a given brief and make reasoned judgements;</li> <li>• produce an appropriate drawing output; and</li> <li>• save their completed work using an appropriate title in an easily accessible electronic format.</li> </ul>

## 4 Scheme of Assessment

### 4.1 Assessment opportunities

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

Candidates can resit individual assessment units once. The better result for each assessment unit will count towards the GCSE qualification. 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 of construction and the built environment and understanding of a range of contexts (AO1);
- apply skills, knowledge and understanding in a variety of contexts and in planning and carrying out investigations and tasks (AO2); and
- analyse and evaluate evidence, make reasoned judgements and present conclusions (AO3).

### 4.3 Assessment objective weightings

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

Assessment Objective	Unit Weighting			Overall Weighting
	Unit 1	Unit 2	Unit 3	
<b>AO1</b>	20–30%	5%	—	25–35%
<b>AO2</b>	0–10%	20%	25%	45–55%
<b>AO3</b>	5–15%	5%	5%	15–25%
<b>Total</b>	<b>40%</b>	<b>30%</b>	<b>30%</b>	<b>100%</b>

### 4.4 Quality of written communication

In GCSE Construction and the Built Environment, 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 or tasks requiring extended writing. They assess the quality of written communication within all assessment objectives and assessed 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 obtained 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, we report their results as unclassified (U).

The grades we award 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
<b>A</b>	<p>Candidates recall, select and communicate detailed knowledge and thorough understanding of construction principles, processes and resources, and of the technology and design of the built environment in different contexts.</p> <p>They apply relevant knowledge, understanding and skills in a range of situations to plan and carry out investigations and tasks effectively. They test their solutions, working safely and with a high degree of precision.</p> <p>They analyse and evaluate the evidence available, reviewing and adapting their methods when necessary. They present information clearly and accurately, making reasoned judgements and presenting substantiated conclusions.</p>
<b>C</b>	<p>Candidates recall, select and communicate sound knowledge and understanding of construction principles, processes and resources, and of the technology and design of the built environment in different contexts.</p> <p>They apply knowledge, understanding and skills in a range of situations to plan and carry out investigations and tasks. They test their solutions, working safely and with precision.</p> <p>They review the evidence available, analysing and evaluating some information clearly, and with some accuracy. They make judgements and draw appropriate conclusions.</p>
<b>F</b>	<p>Candidates recall, select and communicate knowledge and understanding of basic construction principles, processes and resources, and of the technology and design of the built environment in some vocational situations.</p> <p>They apply limited knowledge, understanding and skills to plan and carry out simple investigations and tasks, with an awareness of the need for safety and precision. They modify their approach in the light of progress.</p> <p>They review their evidence and draw basic conclusions.</p>

## 6 Guidance on Controlled Assessment

### 6.1 Controlled assessment review

We review our controlled assessment tasks every year to ensure that they continue to set an appropriate challenge and remain valid, reliable and stimulating.

### 6.2 Skills assessed by controlled assessment

Teachers must assess the following skills through controlled assessment:

- planning investigations and/or tasks; and
- carrying out investigations and/or tasks.

In addition, elements of these skills may be assessed externally.

### 6.3 Level of control

Rules for controlled assessment in GCSE Construction and the Built Environment are defined for the three stages of the assessment:

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

### 6.4 Task setting

There are **two** tasks for GCSE Construction and the Built Environment:

- Unit 2: The Construction Craft Project (30% of overall award); and
- Unit 3: Computer Aided Design in Construction (30% of overall award).

Students should complete all elements of the tasks.

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

We will, therefore, provide a number of comparable tasks for each unit and centres must choose the most appropriate task for their candidates.

We will issue the tasks in September of each year for students starting Year 11. Students must submit the completed tasks in May of Year 12.

Centres wishing to contextualise the tasks to better suit their centre-specific circumstances must contact us to obtain approval for their proposals.

## 6.5 Task taking

For both tasks, the level of control for task taking is medium. Information in the table below applies to both the Unit 2 and Unit 3 tasks except in instances where only one unit is specified:

Areas of Control	Detail of Control
<b>Authenticity</b>	<p>Candidates must complete their assessed portfolio within the classroom environment under informal supervision.</p> <p>For Unit 2: The Construction Craft Project, candidates may carry out research with limited supervision outside of the classroom.</p> <p>For Unit 3: Computer Aided Design in Construction, candidates can practise the required skills outside of the classroom environment with limited supervision.</p> <p>Teachers must be able to authenticate the work as being the candidate's own.</p> <p>Teachers must ensure that candidates acknowledge and reference any ideas and sources used.</p>
<b>Feedback</b>	<p>Teachers must guide and supervise candidates in relation to the following:</p> <ul style="list-style-type: none"> <li>• monitoring progress;</li> <li>• preventing plagiarism;</li> <li>• ensuring compliance with health and safety requirements;</li> <li>• ensuring that work is completed in accordance with the specification requirements; and</li> <li>• ensuring that work can be assessed in accordance with the procedures and marking criteria.</li> </ul> <p>Candidates should reach their own conclusions.</p> <p>Teachers must record any support or guidance they give to candidates on the Candidate Record Sheet and adjust the marks appropriately.</p> <p>Once a candidate submits their work for assessment, no redrafting is permitted.</p>
<b>Time limit</b>	<p>Research – <b>5 hours</b> Produce Portfolio – <b>20 hours</b></p> <p>Candidates must submit their work in May of Year 12, after they have completed five terms of study.</p>

Areas of Control	Detail of Control
<b>Collaboration</b>	The work of each individual candidate may be informed by working with others, but the candidate must provide an individual response.
<b>Resources</b>	Candidates' access to resources is determined by those available to the centre.  Centres with limited resources or candidates who need to use special equipment must contact us for advice on how to proceed before offering this course.

## 6.6 Task marking

The level of control for task marking is medium for both Unit 2 and Unit 3.

Teachers must mark the controlled assessment tasks for both units in accordance with the marking criteria supplied (see **Appendix 1 and Appendix 2**).

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 at [www.jcq.org.uk](http://www.jcq.org.uk)

## 6.7 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 that, as far as possible, each teacher has applied the assessment criteria consistently when marking assessments.

## 6.8 Moderation

This qualification is subject to visiting moderation. We will provide instructions on the details of moderation in advance of first teaching.

## 6.9 Drafting/redrafting

Teachers must not correct candidates work in detail and return it to them to write up a fair copy. Responsibility for drafting a piece of work towards completion lies entirely with the candidate. Once a candidate has submitted the assignment and it has been awarded a mark, that mark is final. The candidate may not carry out further work.

**See Appendix 3 for a glossary of terms for controlled assessment.**

## 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;
- a CD resource for Unit 1;
- tutorials for Unit 3;
- Chief Examiner's reports;
- Principal Moderator's reports;
- guidance on progression from Key Stage 3;
- schemes of work;
- centre support visits (on request);
- support days for teachers;
- agreement trials;
- student guides;
- controlled assessment guidance for teachers; and
- exemplification of standards.

You can find our Annual Support Programme of events and materials for our GCSE Construction and the Built Environment course on our website: [www.ccea.org.uk](http://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;
- address spiritual, moral, ethical, social, legislative (including equality and disability discrimination), economic and cultural issues through the study of employment in the construction industry, economic resource considerations, health and safety and sustainable development;
- gain an awareness of sustainable development, health and safety considerations and European developments through the study of economic resource considerations, health and safety, construction technology and sustainable development;
- develop skills for greater employability; and
- learn about the effective use of technology.

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](http://www.ccea.org.uk)

## 7.3 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 the QCA website at [www.qca.org.uk](http://www.qca.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](http://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. AO2 involves the application of practical skills and may pose a barrier for some students with physical disabilities. Therefore, some students may experience some barriers in Units 2 and 3.

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. **You can find information on reasonable adjustments 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](mailto:nbraniff@ccea.org.uk))
- Officer with Subject Responsibility: Judith Ryan  
(telephone: (028) 9026 1200, extension 2133, email: [jryan@ccea.org.uk](mailto:jryan@ccea.org.uk))
- Examination Entries, Results and Certification  
(telephone: (028) 9026 1262, email: [entriesandresults@ccea.org.uk](mailto:entriesandresults@ccea.org.uk))
- Examiner Recruitment  
(telephone: (028) 9026 1243, email: [appointments@ccea.org.uk](mailto:appointments@ccea.org.uk))
- Distribution (past papers and support materials)  
(telephone: (028) 9026 1242, email: [distribution@ccea.org.uk](mailto:distribution@ccea.org.uk))
- Support Events Administration  
(telephone: (028) 9026 1401, email: [events@ccea.org.uk](mailto:events@ccea.org.uk))
- Information Section (including Freedom of Information requests)  
(telephone: (028) 9026 1200, email: [info@ccea.org.uk](mailto:info@ccea.org.uk))
- Business Assurance (appeals)  
(telephone: (028) 9026 1244, email: [appealsmanager@ccea.org.uk](mailto:appealsmanager@ccea.org.uk)).

## Appendix 1

### Assessment and Marking Criteria for Unit 2: The Construction Craft Project

<b>Assessment Criteria for Unit 2: The Construction Craft Project</b>	<b>Total: 60 marks</b>
<b>Craft Folder</b>	<b>Total: 15 marks</b>
We award marks for the Craft Folder under two headings: <ul style="list-style-type: none"> <li>• a brief account of the various construction processes undertaken within the project (headings detailed below); and</li> <li>• a self-evaluation of the candidate's performance across the duration of the project.</li> </ul>	<b>9 marks</b> <b>6 marks</b>
<b>Craft Product</b>	<b>Total: 45 marks</b>
We award marks for the Craft Project under three headings: <ul style="list-style-type: none"> <li>• accuracy of <b>tolerances</b>;</li> <li>• the range of joints, processes, components and processes involved; and <b>accuracy of assembly</b></li> <li>• quality of finish.</li> </ul>	<b>15 marks</b> <b>20 marks</b> <b>10 marks</b>

#### The Craft Folder

Candidates are required to produce, using drawings and annotations where applicable, a folder detailing the aspects of the project listed below.

NB: Teachers must make candidates aware that their quality of written communication (QWC) is assessed in the Craft Folder.

The aspects are:

- the production stages (for example a flow diagram);
- a list of materials and tools required;
- a simple costing;
- health and safety issues; and
- an evaluation of their completed project.

### **The Construction Craft Project**

We provide centres with tasks for candidates derived from a wide range of construction contexts, for example:

- domestic;
- commercial;
- agricultural;
- recreational; and/or
- institutional.

The tasks are based on the following crafts:

- timber;
- brick work;
- plaster; and
- pipes.

## Marking Criteria for Unit 2

	Mark Band 1	Mark Range	Mark Band 2	Mark Range	Mark Band 3	Mark Range
<b>Folder: Construction process</b>	<p>The folder contains limited evidence of the production process. Some key areas are missing and others require further work to correct.</p> <p>The candidate's spelling, grammar and punctuation are limited. Their form and style of writing are inappropriate and it lacks specialist terms.</p>	1–3	<p>The folder contains satisfactory evidence of the production process. Most key areas are addressed with only minor omissions/errors.</p> <p>The candidate's spelling, grammar and punctuation are satisfactory. Their form and style of writing are appropriate and they use some specialist terms.</p>	4–6	<p>The folder contains very good evidence of the production process. All key areas are addressed to a very high standard.</p> <p>The candidate's spelling, grammar and punctuation are very good. Their form and style of writing are clear and coherent and they use specialist terms appropriately.</p>	7–9
<b>Folder: Self-evaluation</b>	<p>The folder contains limited analysis and evaluation of the candidate's work. The candidate has not adequately made judgements about their own performance nor indicated where improvements could be made.</p> <p>The candidate's spelling, grammar and punctuation are limited. The form and style of the evaluation are inappropriate and it lacks specialist terms.</p>	1–2	<p>The folder contains some analysis and evaluation of the candidates work. The candidate has made a reasonable attempt to judge their own performance and indicate where improvements could be made.</p> <p>The candidate's spelling, grammar and punctuation are satisfactory. The form and style of the evaluation are appropriate and they use some specialist terms.</p>	3–4	<p>The folder contains a detailed critique of the candidates progress throughout the project. Judgements made are sound; improvements suggested are logical and coherently presented.</p> <p>The candidate's spelling, grammar and punctuation are very good. The form and style of the evaluation are clear and coherent and they use specialist terms appropriately.</p>	5–6

**Marking Criteria for Unit 2 (cont.)**

	Mark Band 1	Mark Range	Mark Band 2	Mark Range	Mark Band 3	Mark Range
<b>Accuracy of Tolerances</b>	The candidate has not met most or all of the tolerances. Less than 2 tolerances accurate.	1–5	The candidate has met some of the tolerances. 2-4 tolerances accurate.	6–10	The candidate has met most or all of the tolerances. 4-6 tolerances accurate.	11–15
<b>Product suitability and standard of joints, fixings, Components, processes and accuracy of assembly.</b>	The candidate’s project uses an appropriate range of different joints and/or fixings and/or components and/or processes executed to a basic standard and is not complete. <b>The assembly of the product is not accurate.</b>	1–6	The candidate’s project uses an appropriate range of different joints and/or fixings and/or components and/or processes executed to a good standard and is nearly complete. <b>The assembly is reasonably accurate.</b>	7–14	The candidate’s project uses an appropriate range of different joints and/or fixings and/or components and/or processes executed to a high or excellent standard and is fully complete. <b>The assembly of the product is excellent</b>	15–20
<b>Product: Quality of finish</b>	The candidate has completed a project that exhibits a low level of finish. There are major flaws that are clearly visible.	1–3	The candidate has completed a project that is finished to a reasonable standard but some flaws are clearly visible.	4–7	The candidate has completed a project that is of a high standard; excellent preparation has taken place.	8–10

**When a candidate has not met any of the above criteria then a zero, 0, mark should be awarded.**

## Appendix 2

### Assessment and Marking Criteria for Unit 3: Computer Aided Design in Construction

Assessment Criteria for Unit 3: Computer Aided Design in Construction		Total: 60 marks
The portfolio the candidate produces must include evidence of their ability to:		
a)	independent use of drawing commands and insertion commands to create a floorplan;	6 marks
b)	Clear ability to produce sectional details by using drawing commands and hatching to an appropriate scale.	10 marks
c)	independently use drawing and hatch commands to create the outline drawing of a front elevation of a specified building;	18 marks
d)	complete a working drawing to a high level of presentation, including a title block and print out of the drawing to scale; and	16 marks
e)	analyse a given task or brief and produce the required output.	10 marks

#### Computer Aided Design in Construction

We provide centres with tasks for candidates derived from a wide range of construction contexts, for example:

- domestic;
- commercial;
- agricultural;
- recreational; and/or
- institutional.

**Marking Criteria for Unit 3**

<b>AREAS</b>	<b>Mark Band 1</b>	<b>Mark Range</b>	<b>Mark Band 2</b>	<b>Mark Range</b>	<b>Mark Band 3</b>	<b>Mark Range</b>
<b>Independent use of drawing commands and insertion commands to create a floor plan</b>	There is a limited degree of accuracy in the production of a floor plan layout. Accurate openings are left for insertion of a limited number of components (for example doors, windows)	1–2	There is a reasonable degree of accuracy in the production of a floor plan layout. Accurate openings are left for insertion of most of the components (for example door, windows).	3–4	There is a high degree of accuracy in the production of a floor plan layout. Accurate openings are left for insertion of components (for example door, windows).	5–6
<b>Clear ability to produce sectional details by using drawing commands and hatching to an appropriate scale</b>	A limited degree of accuracy to complete sectional drawings with limited use of scale.	1–4	A reasonable degree of accuracy to complete sectional drawings with appropriate use of scale	5–7	A high degree of accuracy to complete sectional drawings with appropriate use of scale.	8–10
<b>Independent use of drawing commands and hatch commands to create the outline drawing of a front elevation of a specified building</b>	There is a limited degree of accuracy in the production of the outline drawing of a front elevation of a specified building and related sectional views. The candidate demonstrates a limited degree of accuracy when hatching the roof of the building.	1–6	There is a reasonable degree of accuracy in the production of the outline drawing of a front elevation of a specified building and related sectional views. The candidate demonstrates a reasonable degree of accuracy when hatching the roof of the building.	7–12	There is a high degree of accuracy in the production of the outline drawing of a front elevation of a specified building and related sectional views. The candidate demonstrates a high degree of accuracy when hatching the roof of the building.	13–18

**Marking Criteria for Unit 3 (cont.)**

	<b>Mark Band 1</b>	<b>Mark Range</b>	<b>Mark Band 2</b>	<b>Mark Range</b>	<b>Mark Band 3</b>	<b>Mark Range</b>
<b>Clear ability to complete a working drawing to a high level of presentation, including a title block and print drawing to scale</b>	There is a limited degree of ability to complete a working drawing, including some doors and windows in elevation. The drawing is completed to a limited degree of presentation and printed to scale.	1–6	There is a reasonable degree of ability to complete a working drawing, including all doors and most windows in elevation. The drawing is completed to a reasonable degree of presentation and printed to scale.	7–11	There is a high degree of ability to complete a working drawing, including all doors and all windows in elevation. The drawing is completed to a high degree of presentation and printed to scale. Dimensions are included and used appropriately.	12–16
<b>Clear ability to analyse a given brief and produce the required output</b>	The work shows a limited degree of analysis; the output is of a low standard and does not meet the requirements given by the brief.	1–4	The work shows a reasonable degree of analysis; the output is of a good standard but shows some inconsistencies when tested against the brief.	5–7	The work shows a high degree of analysis; the output is of a very good standard and accurately meets the needs of the brief when tested.	8–10

**When a candidate has not met any of the above criteria then a zero, 0, mark should be awarded.**

## Appendix 3

### Glossary of Terms for Controlled Assessment Regulations

Term	Definition
<b>Component</b>	<p>A discrete, assessable element within a controlled assessment/qualification that is not itself formally reported and for which the awarding body records the marks</p> <p>May contain one or more tasks</p>
<b>Controlled assessment</b>	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
<b>External assessment</b>	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
<b>Formal supervision (High level of control)</b>	The candidate must be in direct sight of the supervisor at all times. Use of resources and interaction with other candidates is tightly prescribed.
<b>Informal supervision (Medium level of control)</b>	<p>Questions/tasks are outlined, the use of resources is not tightly prescribed and assessable outcomes may be informed by group work.</p> <p>Supervision is confined to:</p> <ul style="list-style-type: none"> <li>• ensuring that the contributions of individual candidates are recorded accurately; and</li> <li>• ensuring that plagiarism does not take place.</li> </ul> <p>The supervisor may provide limited guidance to candidates.</p>
<b>Limited supervision (Low level of control)</b>	Requirements are clearly specified, but some work may be completed without direct supervision and will not contribute directly to assessable outcomes.

Term	Definition
<b>Mark scheme</b>	<p>A scheme detailing how credit is to be awarded in relation to a particular unit, component or task</p> <p>Normally characterises acceptable answers or levels of response to questions/tasks or parts of questions/tasks and identifies the amount of credit each attracts</p> <p>May also include information about unacceptable answers</p>
<b>Task</b>	<p>A discrete element of external or controlled assessment that may include examinations, assignments, practical activities and projects</p>
<b>Task marking</b>	<p>Specifies the way in which credit is awarded for candidates' outcomes</p> <p>Involves the use of mark schemes and/or marking criteria produced by the awarding body</p>
<b>Task setting</b>	<p>The specification of the assessment requirements</p> <p>Tasks may be set by awarding bodies and/or teachers, as defined by subject-specific regulations.</p> <p>Teacher-set tasks must be developed in line with awarding body specified requirements.</p>
<b>Task taking</b>	<p>The conditions for candidate support and supervision, and the authentication of candidates' work</p> <p>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.</p>
<b>Unit</b>	<p>The smallest part of a qualification that is formally reported and can be separately certificated</p> <p>May comprise separately assessed components</p>

**Summary of Changes since First Issue**

(all document changes are marked in red)

Revision History Number	Date of Change	Page Number	Change Made
Version 1	N/A	N/A	First issue
Version 2	11 December 08	30	Amendments made to Unit 3.
Version 3	18 June 2010	30	Amendments made to Unit 3 Markbands 1,2 and 3
Version 3	23 June 2010	24	Amendments made to Contact Details
Version 4	15 November	25	Amendment to Assessment criteria Unit.2
Version 4	15 November	28	Amendment to Marking criteria for Unit 2
Version 4	15 November	29	Amendment to Assessment criteria Unit.3

