

GCSE



**Chief Examiner's and
Principal Moderator's Report
Construction and the
Built Environment**

Summer Series 2019

Foreword

This booklet outlines the performance of candidates in all aspects of this specification for the Summer 2019 series.

CCEA hopes that the Chief Examiner's and/or Principal Moderator's report(s) will be viewed as a helpful and constructive medium to further support teachers and the learning process.

This booklet forms part of the suite of support materials for the specification. Further materials are available from the specification's section on our website at www.ccea.org.uk.

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GCSE Construction and the Built Environment

Chief Examiner's Report

Subject Overview

There was a tremendous 123 % increase in the number of candidates entering the Unit 1 exam this series compared with last year. This is reflective of the continued upturn in the Construction Industry which is creating demand for new employees. Some centres have chosen to take the Year 1 exam in Year 11 while other centres are completing both exams in Year 12. The applied vocational nature of the qualification continues to be very popular with candidates. The craft project unit is particularly applicable to those who wish to progress to an apprenticeship in a range of construction skills. The unit in construction drawing (CAD) is as applicable to those following a craft apprenticeship as to those candidates who wish to progress to a professional Level 3 qualification such as the BTEC Subsidiary Diploma in Construction or the CCEA A Level in Environmental Technology.

This is the first year in which candidates had the opportunity of sitting all four units of the revised Construction GCSE.

The units available this series were:

Unit 1 Introduction to the Built Environment

Unit 2 Sustainable Construction

Unit 3 The Construction Craft Project

Unit 4 Computer Aided Design in Construction

Assessment Unit 1 Introduction to the Built Environment

The examination paper is one hour duration.

It is worth 20% of the overall qualification.

Grade Boundaries in Unit 1 GCN11 marked out of 80									
Grade achieved	A*	A	B	C*	C	D	E	F	G
Mark required in Unit	TBC	58	50	43	36	31	26	22	18

The examination paper was structured in a way that provided stretch and challenge opportunities for all candidates. The stronger candidates excelled and demonstrated their advanced knowledge of the subject, accompanied with a high level of spelling, punctuation and grammar. The standard of answers varied with the candidate's ability. The level of language used in papers was deemed to be appropriate by the examiners. Unfortunately, the majority of candidates were inadequately prepared for Question 6 and failed to grasp an understanding of the three main activities of the construction industry as stated in the unit specification. Questions 4 and 7 required an element of discussion; these were reasonably well answered with candidates gaining marks for spelling, punctuation and grammar. The variety of questions and progression within the examination paper allowed for differentiation between candidates of different abilities. The mark scheme was positive

and accepted alternative and innovative answers to all questions. Centres need to make more use of the revised GCSE text book which covers the majority of Unit 1 specification, accompanied with the resources on the GCSE website. The layout of the paper was considered to be appropriate with a good range of recall, description, discussion and evaluative questions.

- Q1** All three parts of this question was well answered with the majority of candidates achieving full marks. Candidates demonstrated a good knowledge of the main roles of these occupations.
- Q2** This question was very well answered. Marks were lost by a minority of candidates who gave inappropriate responses regarding the number of occupants and exterior assumptions.
- Q3** Candidates found it difficult to recall the acronym COSHH. A minority of candidates achieved full marks. Part (b) also proved to be difficult as it wasn't fully answered correctly with a wide range of answers stated. The three most common risks on construction sites were required as stated in the mark scheme. Parts (c) and (d) were well answered with the majority of candidates achieving full marks.
- Q4** Some candidates stated inappropriate answers for Part (a) such as metal, bricks or aluminum. Part (b) was well answered with candidates recalling the two common jointing methods. Part (c) was generally answered to a satisfactory/good standard. The majority of candidates demonstrated a good analysis of steel portal framed structures. Four marks were awarded for the quality of written communication.
- Q5** The majority of candidates were unable to recall the year of the most recent published RIBA POW, however they were able to answer correctly the number of stages. Part (c) was answered to a satisfactory standard. The majority of candidates achieved one or two marks per stage. Candidates should be better prepared with a clear and sound knowledge of what occurs at each stage which could include when applications are made to the relevant regulatory authorities.
- Q6** This question was poorly answered. Almost all candidates were inadequately prepared for Question 6 and failed to grasp an understanding of the three main activities of the construction industry as stated in the unit specification. Most candidates stated the main resources required for the construction industry and received a mark of zero. The minority of candidates who answered this question correctly achieved full marks.
- Q7** Part (a) was answered to a satisfactory standard with the majority of candidates achieving one mark. Part (b) was generally answered to a satisfactory – good standard. The majority of candidates demonstrated a good analysis of timber framed construction. Four marks were awarded for the quality of written communication.

Assessment Unit 2 Sustainable Construction

General View

The examination paper was structured in a way that challenged all candidates but allowed the stronger candidates to excel and demonstrate their advanced knowledge of the subject.

Most candidates were able to accurately read the drawings and specifications which formed the Pre-Release Materials.

The standard of answers varied with the candidate's ability.

The level of language used in papers was deemed to be appropriate by the examiners.

Unfortunately, too many candidates were inadequately prepared for Question 3 and failed to grasp an understanding of retrofit.

The variety of questions and progression within the examination paper allowed for differentiation between candidates of different abilities. The mark scheme was positive and accepted alternative and innovative answers to all questions.

Centres need to make more use of the revised GCSE text book which covers the complete Unit 1 and 2 specifications other than careers in construction.

The layout of the paper was considered to be appropriate with the first section consisting of short answer questions. These questions particularly suited the weaker candidates and helped them to gain some marks.

Grade Boundaries in Unit 2 GCN121 marked out of 120									
Grade achieved	A*	A	B	C*	C	D	E	F	G
Mark required in Unit	TBC	93	78	73	62	53	44	36	28

24% of the candidates entering this unit attend Grammar Schools.

The examination paper lasts for one hour 30 minutes duration.

It is worth 30% of the overall qualification.

- Q1** Most candidates answered this question well apart from candidates who got the label for Barge Board in the wrong position.
- Q2** Generally well answered by a large percentage of the candidates including Part (e) which involved calculating the floor area. Those who did not achieve good marks in this question generally did not use mm as the unit of measurement. Care has to be taken when using a scale ruler so that the dimensions are read accurately.
- Q3** Whilst many candidates answered Part (a) of this question correctly, Part (b) proved much more difficult with many candidates demonstrating no understanding of what a Conservation area is. Most candidates answered Parts (c) and (e) well. Unfortunately Part (d) (Retrofit) proved difficult to answer for many candidates.
- Q4** Most candidates were not prepared for this question which is new to the examination section of this qualification, although a small number of candidates got full marks. It is vitally important that candidates become familiar with this style of question and be able to interpret associated information such as reading drawings and investigating cost information.

Many candidates gained marks in follow through calculations.

- Q5** Almost all candidates answered this question well. They were able to list the functions of a hardwood door and examples of insulation successfully.
- Q6** Most candidates were able to demonstrate a good understanding of renewable energies but many lost marks by not relating the renewable energies to the pre-release material.

Candidates were also asked to evaluate the advantages and disadvantages of using renewable energies. This proved much more problematic for many candidates.

- Q7** The examination teams were delighted to see that most candidates realised the importance of a DPC to prevent moisture moving up through a wall. Unfortunately fewer candidates realised the need for cavity wall construction to prevent moisture movement through the wall and the need to incorporate insulation within the cavity.
- Q8** This was a question which provided an opportunity for candidates to pick up a substantial number of marks. Part (a) of this question proved quite difficult with a number of candidates not being able to identify various parts of foundation structure with an appropriate hatch pattern. Part (b) Many managed to correctly label the concrete foundation gaining the full 10 marks. Part (c) Those candidates who completed Part (c) proved successful although a number left the question blank.
- Q9** Few candidates managed to achieve L3 in answering this question. Most candidates did not evaluate the impact on society for a large scale construction project. They simply wrote descriptive information about the three prompt points provided in this question. **Readability of Question Paper**

The readability of the question paper was good and the language used appropriate.

Comments upon Mark Scheme

The standardisation meeting proved useful and provided clarity on how the mark scheme was to be applied. Any minor issues were resolved in a clear manner at the standardisation meeting.

There was no evidence that candidates had insufficient time to complete the paper.

Principal Moderators Report

Assessment Unit 3 The Construction Craft Project

General

Moderators reported a high standard of work during this section of the GCSE Construction specification. As with previous years, centres were pleased with how the course content had a motivational influence on their candidates. It is evident that the tasks are having a positive impact on the skills level acquired by the candidates. It was very evident that the quality of skills obtained by the candidates during the manufacture of both products was of a very high standard.

Internal standardisation was carried out in most centres within subject tolerance and the quality of eCRS was excellent and detailed.

Centres must record in detail on the e-Candidates Record Sheet (CRS) where marks are awarded and deducted. This speeds up the moderation process and clearly identifies marks awarded for each section.

Product accuracy of tolerances

The majority of candidates were able to gain full marks for this section. There were five tolerances to complete for each product and they were executed well by the candidates. On a few occasions, candidates did not fully complete the product and this effected the mark that they can achieve in this section. A small number of candidates struggled to achieve the tolerance set at the back of the seat and they lost marks as a result.

Product suitability and standard of joints, fixings, components and processes

The standard of work completed by the majority of candidates in this section was excellent. Both products had either the seat or table top to be attached using knock down fittings. These can be bought in or manufactured by the department. There were candidates who lost marks due to gaps evident between the frames and the fitted table top or fitted seat.

On occasions, the moderators reported that a few candidates were unable to glue and clamp the table or the seat frame square and lost marks as a result.

All candidates were able to round the seat corners and achieve symmetry at the back of the chair.

There were candidates who lost marks for not edging the table top. Also a number of candidates lost marks due to visible gaps between the edging and the table top or the four corners of the edging.

On a few occasions candidates lost marks for not having the full six bottom rails fitted to the table. Also, candidates lost marks for the rails not being spaced correctly. However, the majority of candidates received high marks for the accuracy of the fitting of all six rails to the table frame.

The mortice and tenon joints were completed to a good standard by the majority of candidates. A proportion of candidates lost marks due to visible spaces on the joints.

Quality of product finish

There is still inconsistent marking for this section. Many centres are still awarding top marks for finish when clearly there were pencil marks, saw marks, glue marks, varnish runs or very little preparation completed. To receive marks in the top mark band the moderators would be expecting to see excellent preparation and an excellent finish applied. Occasionally candidates had completed excellent preparation and applied a finish of a very high and professional standard. This is achieved by sanding a number of times and applying several coats of finish to the product. These candidates were rewarded as a result. A number of times candidates were gaining marks in the top mark band when it was clear that a finish had not been applied to the product. They lost marks as a result.

Product evaluation

The evaluations were mostly completed to a very good standard by the candidates. Unfortunately, some candidates did not complete or fully complete an evaluation and they lost marks as a result. Some candidates submitted the legacy folder which included unnecessary sections on stages of production, tools and health and safety. A number of candidates were unable to provide photographs or sketches to support their evaluations. In general spelling and grammar was appropriate from most candidates, however a number of centres were marking candidates in the top mark band when there was clear evidence that the spelling, grammar and punctuation was not good. Also, a number of candidates were receiving full marks for this section of the course for an evaluation that was not detailed enough or lacked sound judgements experienced throughout the manufacture of the products. Candidates lost marks as a result. Some candidates also received high marks for their evaluations and it was clear that they had not evaluated four problem areas and suggested improvements that were logical and coherent.

Assessment Unit 4 Computer Aided Design

General

On many occasions, the drawings submitted in the sample were not in the required order or in a plastic sleeve and this made moderation difficult. It is important that all drawings are printed to scale with the border and title block stating the associated scale. Some candidates were unable to complete the drawings to the required scale and as a result they lost marks.

The vast majority of candidates' work was printed to an excellent standard. The moderation team would encourage the use of black and white A3 prints for candidates work unless the quality of colour printing shows the detail within the drawings.

Centres must record in detail on the e-Candidates Record Sheet (CRS) where marks are awarded and deducted. This facilitates the moderation process and clearly identifies marks awarded for each section.

Drawing 1

Annotated and sectioned foundation/floor detail.

(20 marks)

Generally, the majority of candidates achieved high marks completing this detail drawing of the foundation and floor. On a few instances candidates were unable to complete the drawing to the required scale and lost marks as a result. One centre did not provide their candidates with the correct drawing and marks were deducted due to them not having the correct drawing supplied by CCEA. Some candidates lost marks as a result of having no border or title block. Hatching was an issue for a small number of candidates and several candidates did not complete either the correct annotation or enough annotation to justify the marks for this drawing. Some drawings in this section lost marks due to the lack of a weep hole, DPC, DPM and minor omissions. As the foundation/floor drawing detail supplied by CCEA had to be drafted accurately to achieve top marks, a few candidates struggled to fully complete it or to achieve the required standard.

Drawing 2

Four building components scaled 1:50.

(10 marks awarded Drawing 4 and 6)

The drawing components were completed to a high standard and the majority of candidates received high marks for this section in their plan and elevation drawings. The components inserted into the plans and front elevation must match the components drawn for this section to achieve full marks.

Drawing 3

Completed ground or first floor plan with accurate openings for insertion of components at 1:50 scale.

(6 marks)

The ground or first floor plan option was completed very well by the candidates. A number of candidates lost marks due to lack of hatching, no annotation or lack of dimensions. All candidates completed the correct drawing and were able to add a border and title block. No noticeable issues with scale were recorded by the moderators.

Drawing 4

Completed ground floor plan showing the components inserted correctly at 1:50 scale.

Drawing 5

Completed first floor plan showing the components inserted correctly at 1:50 scale.

(19 marks)

The ground floor and first floor completed plans were excellent from the majority of candidates. All candidates completed the correct drawings. A number of candidates completed the plans with incorrect wall junctions and a small number candidates inserted the windows incorrectly and as a result they lost marks. There was some evidence on a few occasions that candidates struggled to complete the drawing with dimensions or the dimensions were too small to read. There were a few candidates that provided drawings with trimming issues and lost marks as a result. Some components (white goods, kitchen etc.) were also omitted and as a result candidates lost marks.

Drawing 6

Completed front elevation of the specified building supplied by CCEA at 1:50 scale.

(25 marks)

The vast majority of candidates achieved high marks for this specified drawing due to the high standard of work they completed. All candidates were able to complete the correct drawing supplied by CCEA. All candidates were able to present the drawing with a border and title block. Candidates had to insert solar panels, chimneys, guttering and downpipes into the drawing and on a small number of occasions some of these were not completed and marks were deducted. On a number of occasions candidates lost marks due to lack of guttering or trimming issues with the downpipes.

There were issues at times with the correct size of chimneys and their positions. A small number of chimneys were drawn without lead flashing. Ensure chimneys are symmetrical. Mostly all windows and the front door were inserted correctly and matched what they had drawn previously (Drawing 2). Ensure the windows and door are aligned to the plan. Some candidates had issues applying the correct levels to the drawing. Most candidates were able to complete enough annotation around the drawing to gain the full marks.

Hatching was an issue for some candidates. The scale of the roof tiles and the brickwork posed a problem and marks were deducted as a result.

Drawing 7

Completed working drawing without the client's amendments at 1:100 scale.

(5 marks)

The working drawings without the client's amendments were of a very high standard and most candidates were able to score full marks. All candidates completed the drawing with a border and title block and were able to complete it to the required scale. The drawing included the correct ground and first floor plans. As it is a working drawing, dimensions are expected with annotation to satisfy marks under "correct drawing". A number of candidates lost marks for little or no dimensions or annotation as it is not the correct finished drawing.

Drawing 8

A completed side elevation showing the clients amendments at 1:50 scale.

(10 marks)

The majority of candidates produced an excellent output for this section. Many candidates provided a very detailed drawing of the amendments. The majority were able to draw the elevation to the required scale. Most drawings were completed with the required annotation and levels were present in most of them. A few drawings were not aesthetically pleasing and at times they were basic drawings that did not satisfy the clients brief. On a small number of occasions a few centres had awarded marks for this drawing, however they were unable to provide evidence that their candidates had completed it.

Drawing 9

A completed ground floor plan showing the clients amendments at 1:50 scale.

(10 marks)

The majority of ground floor plans showing the clients amendments were of a very high standard. Quite a few candidates were rewarded with full marks as a result. A small number of candidates were unable to complete this drawing. Some candidates struggled to complete the wall junctions correctly. Dimensions were mostly completed well by the candidates. Some candidates did not include the room names and lost a mark as a result. The majority of plan drawings completed by the candidates were aligned to the side elevation they completed.

Drawing 10

Working drawing showing the clients amendments at 1:100 scale.

(5 marks)

Most candidates were able to complete the final working drawing including the amendments to satisfy the clients brief. The majority were able to complete this drawing to the required 1:100 scale. The drawings were completed with a border and title block. To satisfy the marking for the correct drawing there must be dimensions and annotation present.

I encourage all centres to be present at the forthcoming agreement trial in November as the controlled assessment tasks for the new specification will be described in detail by the moderation team. I strongly recommend that centres regularly log-on to the CCEA website to receive up to date information and support material.

Contact details

The following information provides contact details for key staff members:

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