

Moderators' Report/  
Principal Moderator Feedback

Summer 2012

Level 2 Principal Learning  
Controlled Assessments: Construction  
and the Built Environment

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# Level 2 Principal Learning: Construction and the Built Environment

## Introduction

This fourth year of the qualification saw a decrease in the amount of coursework submitted for moderation in June by centres from a range of work submitted across all six moderated units. However the standards had again risen across the board this year as centres have settled into the marking bands and encouraged learners in producing some quality independent evidence.

The majority of centres managed to meet the submission deadline with many submitting earlier than this date. This is appreciated by the moderating team which enabled moderation to start earlier than expected.

The majority of centres that submitted work for moderation this series supplied the correct moderation sample however centres are reminded that they must follow the instructions on the submission of coursework evidence given in the Guidance for Principal Learning, and include the highest and lowest with their coursework sample.

Centres made full use of the Candidate Record Sheets attached to each piece of coursework, but many centres neglected to include the candidate number.

Centres are reminded that 'any assignment briefs the learner used must be included with the evidence', as indicated on the Candidate Record Sheets. This is especially useful for the moderator when trying to interpret where marks have been awarded.

Centres are reminded that learners' work must be their own. Any work that has been downloaded and pasted into an evidence portfolio should have its source acknowledged but carry no merit for marks.

The over guidance of learners by centres has declined this year as learners develop the independent learning that is the main strategy behind the diploma.

It is recommended that centres make use of the Tutor Support Materials which provide supplementary guidance for the units when devising learning activities for learners to accrue evidence to meet the Learning Outcomes more closely. Copies are available to download at [http://www.edexcel.com/quals/principal\\_learning/cbe/Pages/default.aspx](http://www.edexcel.com/quals/principal_learning/cbe/Pages/default.aspx). Tutors should specifically refer to the extended marking guidance which will assist with the setting and marking of assignments. Assignments written in line with this guide would enable learners to get a much clearer understanding of what evidence is required in order to achieve a higher banding.

There was limited evidence of internal moderation processes where work could have been moderated by Domain Assessors prior to submission.

# Level 2 Unit 1 - Design the Built Environment: The Design Process

## General Comments

As with previous examination series most centres used the assignment brief contained within the Tutor Support Material available on the Edexcel website. This continues to be a good method of using the support that has been provided for this line of learning. Centres are also encouraged to develop their own assessment materials and link this to a local building project/scenario which may capture learner's respective enthusiasm and interest.

## Learning Outcome 1

Knowing the factors that influence the design processes- As in previous series of this exam many learners covered the first area of local factors well. Factors described included, infrastructure, environmental issues, public consultation and the socio-economic impact of the development. Responses in relation to legislation requirements were often weakly described and were generic in detail with limited application to the intended assignment brief. The concept of embodied or embedded energy or energy efficient materials linked to reducing the carbon footprint was often only briefly explored by learners. To achieve band 3 standard learners are also required to **justify** their range of sustainable design features, this was rarely seen in the work submitted for moderation.

## Learning Outcome 2

This Learning Outcome covers the nature and availability of utilities and how they may affect the design process- Most learners identified the services of water, gas or electricity. The telecommunication and drainage utility apparatus was sometimes not identified or described by learners. Most provided relevant colour identification of the services, but, did not identify nor explain the importance of the depth of each service.

An expansion of the description of the disruption to infrastructure caused during utility installation or maintenance could also be built on by learners. This could include the expansion on issues such as e.g. road closure, traffic delays. There was little coverage of utility distribution in relation to drainage and telecommunications. Isolation points e.g. water valves, stopcocks etc were also lacking in the responses provided. Centres could invite guest speakers from the maintenance sector or utility experts and link discussions to the school or college with which they are being taught in.

The impact of the utility on the environment was briefly attempted by most learners which included the visual effects of pylons and emissions from power plants.

## Learning Outcome 3

This Learning Outcome covers the external building envelope and ability to understand and apply technical information in relation to a chosen specification. Many students failed to link their respective responses to the external envelope and local climate. Aspects in relation to shelter (roof and wall aspects), insulation (roof and wall), the external appearance of the structure and the transfer of sound (cavity wall, insulation, double glazing, etc) and security elements were often attempted by most learners. However, the requirement of structural stability and fire were often only very briefly described or not included at all in learner responses. Many learners identified

materials and gave general specification information; however, the specification information often lacked detailed information such as depth or width of material or link to British Standards or other technical information used in relation to the specification, as outlined in the unit content.

## **Level 2 Unit 2 - Design the Built Environment: Materials and Structures**

### **Learning Outcome 1**

This Learning Outcome covers knowledge about construction materials, their function within structures and the use of different structural forms. Learners' work often identified and described to mark band 2 standard the materials and their respective function linked to a proposed structure.

The key materials forming the structural elements often included; fill materials, concrete, steel (including reinforcement), materials providing shelter and security, including materials that allow the passage of natural light, materials that provide insulation and reduce heat transfer, materials and components providing access to the building.

Learners need to continue to develop their skills as to how to evaluate how different materials work together to perform different functions.

Learners continue to offer only limited responses in relation to the examination of a range of construction elements.

### **Learning Outcome 2**

This Learning Outcome covers how to use materials in a sustainable way. Most learners attempted or showed some understanding of aspects including the local sourcing of materials, recycling and obtaining materials from sustainable sources. Learners should be encouraged to further develop their understanding and future responses to include; the use of alternative materials that are not derived from fossil fuel sources ;if the material may be produced from recycled materials for example plastic lumber; consider the amount of energy that has been put into manufacturing, transporting and fixing the material.

In the weaker submitted work learners did not explain how materials could be used in a sustainable manner linked to their proposed or scenario based project/building. To access the higher Mark Bands, as stated in previous Examiner Reports, learners need to justify the use of a range of sustainable materials and analyse more clearly, in sustainability terms, the benefits and drawbacks of all of the key materials used on the project, considering their effects on the environment.

### **Learning Outcome 3**

This Learning Outcome covers how to evaluate and use different structural forms. Most learners were able to identify the structural form that was used on drawings in their assignment brief, which was in general a structural steel frame. They then identified or described the different structural forms of timber and concrete frame, shell, cellular and cross wall. To achieve higher band marks though learners need to describe more clearly the benefits or advantages of the each alternative form and link these back to the project brief. Higher marks are also awarded for the evaluation of the suitability of alternative structural forms.

The Learning Outcome also requires learners to examine and analyse construction details, for higher marks this should include a range of details. As in previous years

this was generally poorly attempted by learners. Details could include, for example, the junction of the roof and wall or the junction of the wall and foundation.



## **Level 2 Unit 3 - Design the Built Environment: Applying Design Principles**

### **General Comments**

For the June 2012 series the majority of the work submitted was related to the exemplar scenarios in the Tutor Support Material, with the rest devised by the centres. When using the scenario from the TSM the majority of the centres highlighted any alterations to aid the moderator. However, some centers failed to include the assignment briefs and consequently it was difficult to assess.

As LO3.2 carries the majority of the marks it is strongly recommended centres choose a scenario such as a domestic dwelling. This can support the learners as they can fully engage with the task due to personal experience. Therefore, the candidates are more likely to access the marks available, and include a greater depth of detail. For example, materials used, structural form, light fittings, door paths, kitchen units, an increased understanding of the space which can be transferred in to their floor layouts and elevations. In addition, if the locality of the proposed structure is close to the centre's location, it can be visited by the candidates prior or, during the assignment period, this would further benefit the learning experience.

### **Learning Outcome 1**

The candidates' outcomes were in the form of a series of leaflets and PowerPoint presentations, with a few centres just listing information to match the L.O. This was not consistent with previous series, and the "lists" of information is not in the spirit of the L.O. However, the majority of the centres produced acceptable outcomes. Sadly, some learners' work content displayed examples of 'copy and paste' from a range of internet sources and hence, lacked much personal input.

Candidates completed the initial aspects of L.O. correctly, but many failed to describe the interaction between supervisory, technical and professional roles clearly. On the contrary to the above statement, some candidates failed to select and describe the correct job roles and the description of the roles of the relevant professional institutions and progression paths were also affected. The unit's objective is to address the designing occupations within the industry and some candidates described and identified craft jobs roles. Teachers are advised to review their delivery to ensure the learners address the L.O. content correctly.

### **Learning Outcome 2**

This L.O. is broken down into three aspects, commenting on the client's brief, producing a design solution and evaluating their design proposal.

(A) *Describes clearly, illustrates and justifies features that will meet all of the client's needs.*

In commenting on the client's brief the candidates could go towards producing a specification for their design solution. Many candidates did do this, but few failed to gain high marks for this outcome and this really limited the candidates' design proposals later on in the L.O.

(B) *Produces a solution and portfolio of high quality design work that shows consistently precise attention to detail.*

In producing a design solution, the students showed a selection of outcomes from free – hand work to CAD. The candidates produced sketched floor layouts, some including dimensions, but the lack of a detailed 'client brief' outlining the requirements of the client prevented the learners from fully answering the learning outcome. On the whole, students failed to annotate their design proposals in line with the specification and access all the marks available. In many instances, this lack of supporting information capped communication to the moderator and therefore, the marks awarded.

- (C) *Evaluates the final design in detail against all of the requirements in the brief.* The final aspect of the learning outcome is the evaluation of the design proposal. I suggest this is against the specification produced initially for the learning outcome. The evaluation could appear throughout the design drawings, if very clearly identified to the moderator, and/or paired with annotation for the design proposals. There is a clear division between candidates who were successful with their evaluations, as they were far more part of a structured design brief. Centres that fully address the client's brief were on the whole successful with the evaluation.

In conclusion, centres generally over awarded candidates in LO3.2 regarding the design proposals as the candidates needed to support their design work with annotation to access the higher mark bands. Students failed to access mark band 3 marks due to not adequately annotating their work to show attention to detail.

# **Level 2 Unit 5 - Create the Built Environment: Using Tools**

## **General Comments**

For the June 2012 series the work submitted was in line with the practical requirements of the specification and followed all the recommendations and guidance in both the specification and the TSM. In this series there was a good selection of practical tasks undertaken including C & J and Brickwork. The majority of centres included the working drawings which learners were working from.

It is important to note, the unit has two marking grids A&B, where B is ephemeral evidence and the moderators are only assessing Mark Grid A.

The work presented to the moderators was annotated to a suitable standard on the whole by centres' assessors. However, centres should ensure that where photographs are submitted, they are of good quality further supporting the marks awarded. Larger, more detailed and in focus photographs would help to correctly identify some of the Mark Band B criteria within the witness evidence. In addition, the photographs should attempt show hidden detail, for instance hidden joints in C&J, and aspects of the practical tasks that are not able to be viewed in the final outcome. This could also support marks awarded for Health and Safety and Personal Protective Equipment (PPE).

## **Learning Outcome 1, 2 and 3**

This L.O. was attempted by a few centres as a complete task. There was very little annotation by the centre and the candidate to distinguish between them. However, a high percentage of centres did complete the unit L.O. by L.O. and this aided the moderation process.

## **Grid A**

### **Learning Outcome 5.1**

This outcome was well attempted by candidates who were able to describe hazards and risks, PPE, people at risk and to be able to reflect on their experience for future self-improvement. A few aspects were less well answered. For example COSHH, manual handling techniques, and some aspects of self-reflection were only briefly attempted. To achieve higher band marks learners need to relate relevant practices to the practical task and be clearer with their descriptions.

### **Learning Outcome 5.2**

In most cases candidates were able to briefly describe and showed some understanding of the working characteristics and safe use of their chosen materials. However, descriptions in relation to the safe storage of materials on site, the choice of materials selected and disadvantages of others, plus the possible manual handling techniques of their chosen materials, all could have been more clearly explained to access further merit. To achieve higher band marks a clearer description of the safe use of materials needs to be addressed.

### **Learning Outcome 5.3**

Generally, this learning outcome was incorrectly assessed, with the centres being too lenient. Some of the photographic evidence provided was supported with annotation

by the learners regarding quality control practices, and the general manufacturing process. However, reference to tolerances and detailed evaluative quality control records were only briefly included by candidates. This was a missed opportunity. A PowerPoint presentation could be included to show how candidates have used QC and evaluation skills when manufacturing by annotating images taken during the manufacturing process.

#### **Learning Outcome 5.4**

Overall, the L.O. was well attempted by the candidates who were able to describe a series of craft job roles, teamwork aspects and professional institutions. Progression paths required further development. A few centres failed to describe two craft roles as a minimum requirement, and described an architect and a quantity surveyor. To access band 3 merits, candidates should include descriptions of the interactions between technical, supervisory and professional roles, as this was only very briefly attempted. Regarding professional institutions, most candidates failed to fully clearly describe and justify the role they play within the industry. This is essential to access the mark band 3.

#### **Grid B**

There was included within samples sufficient assessor evidence to support the awarding of the centre's marks to learners.

## **Level 2 Unit 6 - Value and Use of the Built Environment: Communities**

### **General Comments**

This is one of the later units for the qualification and candidates tend to answer the first learning objective well then run out of input for the latter objectives. The standard for this unit was encouraging this year with candidates producing some good work in support of the learning outcomes that they had to meet.

### **Learning Outcome 6.1**

This learning objective asks learners to describe some sustainable practices that are linked to the overall maintenance of the built environment. Candidates described some sustainable practices and did try to link these to the maintenance of the built environment. The work for this increased in quality and marks were often within band two which is encouraging.

Marks could be lifted into higher mark bands by candidates describing the use of locally sourced materials for maintenance, the use of materials from sustainable sources, the use of energy saving replacements fittings, the minimisation and recycling of maintenance and operational waste, the increased expenditure on higher specification materials to promote longer life spans, and finally how feedback to the design team could improve future projects. The latter is still an aspect that many candidates have not grasped which would attract additional marks.

### **Learning outcome 6.2**

This learning objective asks candidates to describe the local property market and identify factors that lead to the development of sustainable communities, and to describe ways in which construction and the built environment contribute to the creation of wealth.

Many candidates managed to describe the local domestic property market, but did not include a detailed description on commercial and industrial property. The creation of wealth through the construction and built environment was not considered in any depth by many learners. The values associated with property was absent from many of the evaluations undertaken.

Higher mark bands could be achieved by evaluating the property market, and the range of ways in which the built environment contributes to the creation of wealth.

### **Learning Outcome 6.3**

This learning objective asks the learner to describe ways in which the built environment could be improved, stating the benefits of designing for future expansion, and to describe the key factors influencing the development of sustainable communities.

The candidates described improving the built environment and future expansion issues but did not consider this in any depth. Marks could have been improved by describing the benefits of future expansion along with factors that influence the development of sustainable communities. Planned and routine maintenance could also be addressed.

### **Learning Outcome 6.4**

This learning objective asks candidates to describe key job roles, including teamwork aspects and progression paths within building maintenance property services and facilities management and to describe the role of the professional institutions.

Candidates have described the various facilities management and maintenance roles but did not detail enough about teamwork aspects or progression pathways which forms a major part of the assessment within each mark band. The role of the professional institutions was only briefly described by many candidates and needed to be expanded into what they provided for their members.

Candidates could have lifted their marks into higher mark bands by identify the links with supervisory roles, and justifying the role of the professional institutions, that is what do they provide for industry and their members.

## Level 2 Unit 7 - Value and Use of the Built Environment: Facilities Management

### General Comments

This year has seen some improvement in the quality of the work provided by centres. As the last unit within the qualification learners tend to submit work which lacks any depth of evidence. The opportunity to gain valuable evidence from a site visit to a large organisation was missed by many centres in producing the wrong evidence or not expanding on the requirements of each LO.

### Learning Outcome 7.1

This learning outcome asks the learner to know about the maintenance of the built environment, in terms of reactive, cyclical, and preventative measures

The level of evidence from many learners consists of brief descriptions of some types of maintenance along with some examples of maintenance items. Learners missed the opportunity to describe the three types of maintenance.

Candidates could have lifted their work into higher mark bands by a more detailed description of the three types of maintenance, examining three typical maintenance items in detail and explaining the benefits of undertaking this work, along with standard contract maintenance items in the defects liability period. The latter was considered by some candidates who had examined the unit specification. Higher mark bands require a detailed justification of the purpose and benefits of maintenance.

### Learning Outcome 7.2

This mark band asks candidates to understand how services are provided, to include a description of direct labour methods, utilising external contractors, life cycle costing, how maintenance extends a buildings life and three economic and social benefits.

Candidates have provide good evidence on the social and economic benefits but only briefly provided evidence applied on an organisations use of direct labour and external contractors.

Marks could have been lifted into higher mark bands by a more *detailed description* of the impact of such services on a buildings lifespan, the use and methods of contracted out services, and *detailed* descriptions of the social and economic benefits provide by the use of such managed services

### Learning Outcome 7.3

Candidates provided some aspects of facilities management along with the benefits of this provision. The roles of the people involved within FM were obtained from external sources with some adaptation by learners.

Marks could have been lifted by a more *detailed* description of four key features of the company's facilities management provision, along with what is managed for each of the above key features and what are the benefits.

The relative merits of direct labour and contracted services required *detailed* explanation along with alternative approaches to the facilities management of the companies that candidates had examined.

## **Grade Boundaries**

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>





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