EXAMINERS' REPORTS

LEVEL 1 / LEVEL 2 AWARD IN
DESIGNING THE BUILT ENVIRONMENT

SUMMER 2019

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DESIGNING THE BUILT ENVIRONMENT

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PLANNING POTENTIAL OF CONSTRUCTION PROJECTS

General Comments

Candidates completing this course generally well prepared. Candidates were able to identify the key issues relating to the development and provide appropriate responses for most tasks.

Comments on individual questions/sections

Unit 1 Planning potential of construction projects (Externally assessed)

LO1. Understand planning requirements for construction projects.

AC1.1 - Outline protection given to designated areas
AC1.2 - Describe the planning process for construction projects
AC1.3 - Explain planning consent considerations for construction projects

The Board set scenario for the controlled assessment concerned the proposed industrial development of a former quarry site in a rural setting. The scenario was loosely based on a proposed development that had recently been granted outline planning consent. Most candidates identified the main considerations and protections arising, referring to implications arising due to the adjacent AONB and a site of Special Scientific Interest.

Most candidates addressed the requirements of AC1.2 and identified the main parties involved in, and the stages of the planning process. As in the previous series descriptions of the information required for a planning application also tended to be thorough, including possible timescale and costs involved.

Several candidates explained ownership and associated certificates in detail and identified other planning considerations, including employment gain, protection of existing jobs and environmental benefits arising from the intended use connected with biofuels. Most candidates presented a positive report with suggestions for dealing with negative aspects of the development, such as detrimental visual impact and perceived traffic implications. Most candidates concluded that the development should be granted planning consent but few explored the potential of possible planning gains connected with the proposed visitor's centre, provision of off road parking and access to the adjacent SSI.

LO2. Understand how infrastructure influences design

AC2.1 - Interpret maps
AC2.2 - Describe how utilities are distributed to the built environment
AC2.3 - Explain how infrastructure affects design

Most candidates could interpret information from the site plan provided. As in previous series this criterion was not part of the assessment of this scenario.

For AC2.2 most candidates described, in general terms, how utilities are distributed, although the information submitted on gas extraction and electricity generation was not needed. Several candidates identified the need for on-site sewage storage or treatment, and some provided detailed descriptions of suitable stormwater systems.

Work for AC2.3 tended to be brief, although most candidates identified the need to improve the visibility splays at the main site entrance.

LO3. Be able to report on potential of built environment projects

AC3.1 - Use language appropriate to purpose and audience
AC3.2 - Structure reports

Most candidates used appropriate language in well-structured reports, although spelling was often a weakness in handwritten work.

Previous advice regarding the need to guide candidates away from personal opinion appeared had been noted, with most candidates presenting a more detached and professional assessment, leading to recommendations for actions needed to achieve the potential of the given built environment project.

Summary of key points

- Candidates were generally well prepared for this assessment. Even though the scenario changes every series, a focus on the unit content and attempts at previously released external assessments will undoubtedly generate benefits.

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DRAWING CONSTRUCTION PLANS

General Comments

As in previous series most candidates addressed the Board set assignment for this unit and produced construction drawings to a reasonable standard for this level.

Several examples of accurate hand drawn plans were seen and most of the 3D computer generated drawings provided reasonable representations of the proposed buildings.

Comments on individual questions/sections

LO1. Be able to use mathematical techniques for construction designs

AC1.1 - Identify information requirements for construction designs
AC1.2 - Calculate information required for construction designs. (Distinction)

Some candidates had produced meaningful calculations, as required, although for some centres the comments from the 2016 report remain relevant for LO1.

"Most candidates addressed the assessment criteria by calculating simple floor areas and building volume, but the work generally lacked any specific purpose and few distinction grades were awarded. In future centres should consider expanding the set assignment to include some context and purpose for calculations, such as volume for ventilation rates, or quantities of selected materials etc."

LO2. Be able to draw construction designs

AC2.1- Draw plans
AC2.2 - Draw elevations
AC2.3 - Use language of drafting.

Some of the hand drawn work submitted was of a very good standard, although elevations often lacked detail and attention to the representation of finishes. Areas for improvement in the presentation of the drawings remain;

- use of guidelines for the layout of text
- printing of labels and notes
- use of stencils for internal fittings
- adding of internal dimensions.

Conventions and symbols had generally been correctly used, but most of the larger scale detail drawings would have benefited from more careful and consistent hatching.

LO3. Be able to use computer software for on screen 3D modelling of construction designs

AC3.1 - Draw 2D plans
AC3.2 - Draw 3D plans
AC3.3 - Add features to 3D plans.

Some candidates had successfully addressed the requirements of AC3.1 by preparing a floor plan of their design, whilst others presented a site plan showing the proposed building in context, with adjacent parking arrangements and landscaping.

Most candidates successfully addressed the requirements of AC3.2 by preparing a perspective model and presenting a selection of views of their building.

The images of vehicles and people, details of landscaping and boundary features added by some candidates to their 3D models addressed the requirements of AC3.3, provided context and enhanced the presentation of the proposed building. This approach had been more widely adopted than in previous series.

Summary of key points

- Candidates generally performed well, with key advice for this unit being to include more meaningful calculations for LO1 and to make improvements to drawings for LO2.

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BUILDING STRUCTURES AND MATERIALS

General Comments

As for previous series most candidates had addressed the requirements of the model assignment and completed all tasks to a reasonable standard for this level. Some candidates were able to present well-reasoned material selections, based on sound technical knowledge.

Comments on individual questions/sections

LO1. understand structures of buildings

AC1.1 - Describe functions of building elements
AC1.2 - Explain how external factors affect structures
AC1.3 - Assess suitability of structural forms of buildings

The descriptions required for AC1.1 were generally completed to an appropriate standard, although please note that the resource provided with the model assignment for LO1 is intended for word processing and is not particularly suitable for use by candidates who are handwriting their responses.

For AC1.2 several candidates had not related their explanation to a specific building project as required and few mentions of ground conditions or other factors such as available views or solar gains. Centres devising their own scenario for this unit should ensure that it is based on a building project with identifiable requirements that enable the candidates to address the assessment criteria.

Work for AC1.3, where the model assignment is very specific, was generally based on technical considerations and was well done by most candidates.

LO2. understand how properties of materials affect their use in buildings

AC2.1 - Describe properties of materials
AC2.2 - Explain how properties of materials can be changed
AC2.3 - Explain how materials affect economics of buildings

In many cases the work presented for AC 1.3 also covered the requirements of AC 2.1.in adequate detail.

Candidates who had addressed the requirements of the Board set model assignment covered most of the requirements of AC2.2 and submitted work set in an applied context, as required to achieve the higher grades.

AC2.3 continues to be an area that requires further attention. Candidates who address the requirements of AC2.2 should then go on to address the requirements of AC2.3 by identifying possible cost implications arising from the changes in specification.

LO3. understand how buildings can be sustainable

AC3.1 - Explain how forms of energy impact on design
AC3.2 - Describe sustainable materials used in constructing buildings
AC3.3 - Describe how materials can be sourced sustainably
AC3.4 - Explain how use of buildings can be made sustainable.

As in previous series most candidates had addressed the requirements of AC3.1 by considering the potential design impacts of solar energy, with reference to roof panels and solar gains. Most candidates also successfully addressed the requirements of AC3.2 by presenting descriptions of a range of suitable materials for the given scenario.

For AC3.3, several good descriptions based on sustainable timber products were submitted.

AC3.4 (sustainable use) remains an area for improvement, where candidates could be guided to consider aspects such as wastewater re-cycling and rainwater farming in addition to improving energy use.

Please note that the resource provided with the model assignment for LO3 is intended for word processing and is not suitable for use by candidates who are handwriting their responses.

Summary of key points

- As with other units, candidates generally performed well in this unit. It should be noted that the two resources provided for this unit are designed to be used digitally and are not particularly suitable for hand written submissions. Two areas where candidate work could be improved are firstly, LO1 – AC 1.2 where a link to a specific construction project needs to be present and secondly LO2 – AC 2.3 where more consideration needs to be given to cost implications.

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