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School of Construction & the Built Environment

#### ACTIVITY ASSESSMENT SHEET AND ASSESSMENT CRITERIA

#### BTEC Extended Diploma in Construction

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| Unit: | 6  Building Technology in Construction | Assessment Ref. | 2 |
| Assessment title: | Superstructures | Date issued: | 24.02.15 |
| Issued by: | Bryan Shenton | Date due: |  |
| Student name: |  | Date received: |  |
| Programme: | BTEC Diploma | Year: | 2014-15 |

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| **Assessment method/s used** | Class Exercise |  | Drawing Exercise | **** | End of Module Exam |  | Laboratory Activity |  |
| Observation |  | Portfolio Building |  | Practical Activity |  | Questioning |  |
| Report | **** | Research Based |  | Test |  |  |  |
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| Grading Criteria to be assessed in this exercise: | P4, P6, M2, D2 |

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| *Brief has been Internally Verified* | **** | *When?* | *Sept, 2013* | *By Who?* | *CJ* |
| Interim Assessment (no grade award until all module assessments are completed) |  | Overall Grade Achieved |  | Points Awarded |  |

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| **STAFF COMMENTS** | | ACTION PLAN | | |
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| Student signature: |  | | Date: |  |
| Tutor signature: |  | | Date: |  |
| Internally Verified by: |  | | Date: |  |

**Aim and purpose**

This unit aims to give learners the opportunity to gain an understanding of common forms of low-rise construction, including the design and construction of their foundations, the techniques used in the construction of superstructures and the implications of issues and constraints on building construction.

**Unit Introduction**

Today’s buildings use combinations of traditional and modern techniques and materials in their construction, and these are influenced by the functional requirements of building elements and by legislation. This has become more apparent with the Government’s awareness of sustainable construction. Learners need to be aware of these factors in order to underpin their understanding of building technology.

This unit will introduce learners to the common forms of low-rise construction used for domestic and commercial buildings, including their substructures and superstructures. They will be shown how the recent development and use of prefabricated building components and systems has had a major impact on construction, particularly in terms of reducing site costs and contract completion time. Learners will develop an understanding of building technology by investigating and evaluating how techniques, materials, plant equipment and resources are used to construct buildings that will satisfy the functional and aesthetic needs of their users. They will come to understand that the impact of these technologies on lifecycle costs and the environment are of major importance, and that the choice of construction methods and materials must comply with all relevant legislation and constraints. These include the building regulations, elements of which are intended to reduce environmental impacts by using codes for sustainable homes. Consideration is given to specific provisions within the Health and Safety at Work Act and the Construction Design and Management Regulations, where they relate to site safety.

**Learning outcomes**

**On completion of this unit a learner should:**

1 Understand common forms of low-rise construction currently used commercial buildings

2 Understand foundation design and construction

3 Understand the techniques used in the construction of superstructures commercial buildings

4 Understand the implications of issues and constraints on building construction.

## Assessment Brief: Principles of Superstructures: (Baglan Bay Community School and detached caretakers accommodation)

## Assessment Tasks:

1. As a part of the design team working on the specification and design for the superstructure of the new super school at Baglan Bay. You have been asked to investigate the different forms of structural frames for the proposed developments. Evaluate the advantages and disadvantages of the different forms of construction.
2. Explain the principles of superstructure design and explain what characteristics influence the design, such as the external envelope’s needed for weather resistance.(include curtain walling) and evaluate the environmental performances of the selected materials.
3. Describe the techniques used to construct and finish the elements of various forms of superstructure or low-rise domestic and commercial buildings.
4. Investigate modern methods of construction and evaluate fast track construction techniques.

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| **Task Description** | **Criteria Claimed** | **Page** | **Tutor Comment** | **Achieved** | **IV** |
| Explain the principles of super structure design | P5 |  |  |  |  |
| Describe the techniques to construct and finish component  Elements of the superstructure | P6 |  |  |  |  |
| Justify the selection of suitable  materials and techniques for  use in the construction of  superstructures for low-rise  domestic and commercial  buildings, for two different  tutor-specified scenarios | M2 |  |  |  |  |
| Evaluate the environmental  performance of modern  materials and techniques  used in the construction of  superstructures for low-rise  domestic and commercial  buildings, for two different  tutor-specified scenarios. | D2 |  |  |  |  |
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## Achievement Progress

The following target dates identify what grades should be achieved by key dates throughout the academic year.

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| *Key date* | *Performance Criteria that should be achieved by…..* |
| Christmas |  |
| February half term |  |
| Easter |  |
| Whitsun |  |

## Additional Guidance

A close adherence to the grading criteria and the unit specification will enable you to maximise your potential to achieve the highest possible grade.

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**Learner Assessment Submission and Declaration**

When submitting evidence for assessment, each learner must sign a declaration confirming that the work is their own.

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| Learner name: | | Assessor name: | |
| Issue date: | Submission date: | | Submitted on: |
| Programme: | | | |
| Unit: | | | |
| Assignment reference and title: | | | |

Please list the evidence submitted for each task. Indicate the page numbers where the evidence can be found or describe the nature of the evidence (e.g. video, illustration).

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| **Task ref.** | **Evidence submitted** | **Page numbers or**  **description** |
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| Additional comments to the Assessor: | | |

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| **Learner declaration**  I certify that the evidence submitted for this assignment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.  Learner signature: Date: |