Pearson
Higher Nationals in
Construction/Construction and the Built Environment

PEARSON-SET ASSIGNMENT GUIDANCE

UNIT: 1 Individual Project

For use with the Pearson BTEC Level 4 Higher National Certificate and Higher National Diploma in Construction

First teaching from September 2017

Issue 2

Edexcel, BTEC and LCCI qualifications

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Contents

Unit Planning

The aim of this unit is to offer students an opportunity to demonstrate the skills required for managing and implementing a project. They will undertake independent research and investigation for carrying out and executing a Construction project which meets appropriate aims and objectives.

The project brief will be set by the centre, based on a theme and topics provided by Pearson (this will change annually). The chosen topic, within the theme, will enable students to explore and examine a relevant and current topical aspect of Construction in the context of the construction environment.

Centres should consider the best way to deliver the unit according to the needs of the students. Possible delivery methods include whole-class teaching, small group teaching, or e-learning. Deliverers could be tutors, appropriate members of the community or representatives from relevant employment sectors.

The unit should be taught in the way(s) most appropriate to the students and the centre. Some suggestions include:

- a block of lessons at the start of the course
- lessons throughout the course
- small-group teaching, focusing on relevant aspects
- teaching of, or seminars on, project management and/or subject specific skills delivered by external experts.

Delivery should include the development of:

- project management skills
- research skills
- writing, investigative, field study, performance or production skills, as appropriate presentation skills.

The role of the Tutor

All students should have initial guidance in planning their work and regular monitoring meetings. However, when reviewing drafts of students' work, tutors should ensure they use their professional judgement and do not give excessive guidance. The student should meet individually with their tutor to monitor the project and ensure it is progressing in an appropriate direction and at a pace which will enable the student to meet the assessment requirements. Interim reviews should be held as necessary and documented by the student in the logbook. Students will perform best if some time is allocated within the normal centre timetable for working on the project. The tutor must be able to authenticate the work as the student's own, which can be done by regular monitoring of progress and conducting interim reviews.

Milestones and interim feedback

The purpose of milestones is to monitor the progress of the project and to maintain momentum, making it more likely that the project will succeed. Each milestone should be a clear, achievable activity that the student aims to achieve by a particular time. Students should agree at least two milestones with their tutor. Examples of milestones include:

- producing a first draft of findings
- completing all primary research.

At each milestone, the tutor liaises with the student to check whether it has been achieved. They may need to redirect the student if necessary.

Authentication of a project

Centres are to provide confirmation of the authenticity of a project. It is important that students are made aware of the issue of plagiarism. Students are required to sign a declaration stating that the work they are submitting is their own.

Guidance for Tutors

- Project briefs for this unit must be based on a theme and topics released by Pearson in the first week of June of every year.
- On the following pages, there is an example of a project brief. You will set the topic based on the theme and the type of project to be undertaken. All students must complete the project for the chosen topic in order to complete learning outcomes for this unit.
- The topic and type of project chosen must be appropriate for small-scale research. The project must balance the duration of time committed to delivering input to support student's research and the time necessary to conduct the project.
- The project topic and type of project should be verified by the Programme Leader as part of the internal verification process.
- Group work is *not* appropriate for this project. Student work must be individual.
- Teaching delivery must include how the student should go about planning, researching, conducting, recording and reflecting on the project.

- It is good practice for your scheme of work to include individual student support appointments to support and monitor completion of the project, and project workshops to give students the opportunity to complete each stage of the project.

- Encourage students to keep notes of their progress in a logbook, as this is a mandatory requirement for this unit.
- Students will need to reflect on the success of their project and their own performance in a personal performance review at the end of the project. This is a written reflection of 500 words (students will not be penalised if they exceed this word limit). It is advisable to provide students with an appropriate structure for this reflection (see the Performance Review template below).
- The project could take the following forms but these are not exclusive:

Types	Examples
Research projects	Professional research report Investigation/fieldwork Feasibility study
Construction Management Projects	Building Management Report Project Management Plan Site Health & Safety Plan
Construction Practice Projects	Practice Financial Report Company Formation Report Staff Development Plan
Surveying/Measurement Projects	Topographic Survey Building Setting-out
Architectural Technology Projects	CAD Information Production BIM Information Production
Civil Engineering Projects	Structural Design Proposal Structural Analysis Report
Building/Quantity Surveying Projects	Tender Package Preparation Building Quantities Take-off Building/Defects Survey
Building Services Engineering Projects	HVAC System Design Proposal Electrical System Design Proposal Public Health Engineering Report

Templates for Evidence Collection

The logbook template and performance review questions are examples of what can be used, but tutors can devise or use other appropriate resources if they wish to do so.

Project Logbook Template

Name:
Project title:
Date:
Update on weekly research/tasks achieved **Points to consider:** • What have you completed? • Did you fulfil task requirements? • Are you on track and within deadlines set? • Did you need to make any changes to your project management plan?
Any risks and/or issues identified? **Points to consider:** • Did you identify risks/issues with a lack of skills required for undertaking research/tasks? • Did you identify any additional risks/issues that have an impact on the project management plan?
Problems encountered **Points to consider:** • What barriers did you face?

• How did you overcome them?
New ideas and change of project direction
What have you learned about yourself this week? **Points to consider:** • How did you feel when you had to deal with tasks/problems? • Did you find it useful to complete the tasks? • How well have you performed? What did you contribute? • What can you improve on next week? • How might this learning apply in the future?
Tasks planned for next week **Points to consider:** • Which tasks should you prioritise? • Have you set aside sufficient time for completion?
Project plan status to date **(on, ahead, behind)**
Supervisor comments to address

Performance Review Template

Performance Review

- What was the project supposed to accomplish?
- Did the project succeed in its aims? How do you know? Specifically, please outline any evaluation and assessment undertaken.
- What things do you think worked well and why? Evaluate all aspects of the project (e.g. initial inception, project activities and project outcomes) from a range of perspectives.
- What problems emerged during the project and how were they tackled? Was there timely identification of issues and resolution during the project process?
- What did you learn from undertaking the project?
- How would you rate your performance as project manager?
- What strengths and weaknesses of your performance did you identify?
- How will this inform and support your continuous professional development?

Guidance for Students

You should read this information before starting on your project. You should refer to these instructions as you complete work for this unit.

- Read the project brief and think about what it is asking.
- Research what the project brief is asking. How can you approach the problem, opportunity, hypothesis and requirements being posed?
- Apply a range of secondary research sources to plan/scope and support the project and its findings. Secondary research sources may include textbooks, journal articles, newspapers and magazine articles (not factual accounts).
- Develop your project plan based on the deliverables of the project, the constraints of the project and the assumptions made.
- Conduct your project according to your stated project plan and meet with your tutor to receive a sign-off at each stage of the project process.
- Primary research sources may include original first-hand accounts, legal and historical documents, results of experiments and market research data collection. Apply both qualitative and quantitative research methods to evaluate data collected from primary research.

- Keep notes of your progress throughout the project in your logbook. This is an important record of your work and must be used to record the development of your ideas and your progress through the project. The logbook should include:
    - a record of what you did, when and what you were thinking.
    - a record of where things went wrong and what you did to overcome any unexpected results.
- You will be asked to reflect on the success of your project and your own performance in a personal performance review at the end of the project. This is a written reflection of around 500 words.
- An example of a project brief is set out below. Your centre will set the topic for the brief based on a theme released by Pearson in the first week of June of every year.
- You must complete the project in order to complete your work for this unit.

Project Brief

Your tutor will provide you with the scenario and type of project to be completed based on a topic related to the theme.

- Establish your aims and objectives for the project. Outline objectives and timeframes based on the scenario set by your tutor.
- Produce an appropriate project management plan that includes relevant actions to meet objectives and timeframes.
- Conduct research to generate knowledge which will form the basis for analysis of the scenario posed in the brief.
- Analyse your findings and draw conclusions to form the basis for recommendations.
- Present and produce your project in an appropriate manner for the intended audience.
- Communicate your recommendations in an appropriate manner for the intended audience.
- Complete a performance review that addresses the following:
    - The success of the project and its effectiveness in addressing the issues identified in the Pearson-set theme and topic.
    - Your own performance.

Assessment Criteria

<table>
<tr><th colspan="3">Learning Outcomes and Assessment Criteria</th></tr>
<tr><th>Pass</th><th>Merit</th><th>Distinction</th></tr>
<tr><td colspan="2">LO1 Formulate a project that will provide a solution to an identified problem</td><td rowspan="5">LO1 LO2

D1 Evaluate the relationship between project identification, feasibility and project planning, with consideration of the impact of project scope on time and resources.</td></tr>
<tr><td>P1 Select an appropriate construction-based project, giving reasons for your choice.

P2 Identify the main components of a project specification.</td><td>M1 Explain why the project specification is of fundamental importance to a successful project outcome.</td></tr>
<tr><td colspan="2">LO2 Manage a project within agreed timescales and specification, documenting the process throughout</td></tr>
<tr><td>P3 Identify potential resources, costs and timescales.

P4 Describe a range of appropriate techniques for generating realistic potential solutions.</td><td>M2 Prepare and update a project management plan, using standard systems of time and resource tracking.</td></tr>
<tr><td colspan="2">LO3 Evaluate potential project management solutions</td><td rowspan="5">LO3 LO4

D2 Appraise your own performance in managing the project; draw conclusions and make recommendations that would further improve your performance in the future.</td></tr>
<tr><td>P5 Explore project management strategies to determine suitability for a given project.

P6 Justify the selection of your preferred solution, making reference to your initial project specification.</td><td>M3 Compare the outcomes of your initial planned resources, timescales and costs against actual outcomes.</td></tr>
<tr><td colspan="2">LO4 Produce a project report and deliver a presentation of the final project outcomes</td></tr>
<tr><td>P7 Produce a written report identifying each stage of the project.

P8 Utilise appropriate forms of referencing and citation in the preparation of a written report.

P9 Prepare a presentation of your final project outcomes, utilising industry standard software.</td><td>M4 Present your final project outcomes and recommendations to a selected audience.</td></tr>
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Pearson
Higher Nationals in

Construction

EXAMPLE ASSESSMENT BRIEFS

UNIT: 2 Construction Technology

For use with the Higher National Certificate and

Higher National Diploma in Construction

Assignment Brief Number: 1

First teaching from September 2017

Issue 1

Please note that Example Assessment Briefs are for guidance and support only.

They can be customised and amended according to localised needs and requirements.

All assignments must still be moderated as per the internal verification process.

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Higher National Certificate/Diploma in Construction

Assignment Brief

Student Name/ID Number	
Unit Number and Title	**2 Construction Technology**
Academic Year	
Unit Tutor	
Assignment Title	**Construction Substructure and Superstructure**
Issue Date	
Submission Date	
IV Name & Date	

Submission Format

The submission is in the form of two written pamphlets. The pamphlets should be written in a concise and formal business style. As such, your choice of font face and font size should contribute to the clarity of the information. The pamphlet should be well-structured, using headings, sub-sections and paragraphs as appropriate. Any images, graphics, or text that is derived from other sources must be correctly referenced using a standard form of citation. A bibliography should be included and in a standard academic format. The recommended word limit is 3,000–5,000 words but you will not be penalised for exceeding the total word limit.

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Unit Learning Outcomes

LO1 Discuss the terminology used in construction technology.

LO2 Describe the different techniques used to construct a range of substructures and superstructures, including their function and design selection criteria.

Assignment Brief and Guidance

You are working as an Architectural Technician for a large design practice and your employer has asked you to produce 'design consideration' pamphlets to be distributed to new employees. The documents are to consider the functional requirements and design selection criteria for different elements of typical commercial building.

Document 1: Substructures
This document should consider the pre-design studies to be carried out and the type of information to be collated in order to design the most suitable foundation type for different types of structures. The document should also consider the construction of different types of foundations and their suitability for use with different types of structures.

Document 2: Superstructures
This document should consider the following elements of the superstructure:

- Walls
- Roofs
- Floors – ground and intermediate
- Windows and doors
- Staircases
- Finishes

The document should contain a description of the functional characteristics of each of the above elements and the design selection criteria for their use.

Both documents should contain diagrams to illustrate the content. Each pamphlet is to be indexed with a checklist for use by technicians when carrying out design considerations.

***Please access HN Global for additional resources support and reading for this unit. For further guidance and support on report writing please refer to the Study Skills Unit on HN Global. Link to www.highernationals.com**

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<tr><th>Pass</th><th>Merit</th><th>Distinction</th></tr>
<tr><td colspan="2">LO1 Explain the terminology used in construction technology.</td><td rowspan="2">D1 Evaluate how the functional characteristics and design selection criteria impact on the eventual design solution.</td></tr>
<tr><td>P1 Describe the differences between residential, commercial and industrial buildings.

P2 Explain how the functional characteristics and design selection criteria are informed by proposed building use.

P3 Discuss the ways in which sustainability can be promoted in building projects.</td><td>M1 Apply the terminology used in construction technology to a given building construction project.</td></tr>
<tr><td colspan="2">LO2 Describe the different techniques used to construct a range of substructures and superstructures, including their function and design selection criteria.</td><td rowspan="2">LO2 & LO3

D2 Prepare a design report identifying superstructure, substructure and civil engineering structures necessary for a given building construction project.</td></tr>
<tr><td>P4 Describe the pre-design studies carried out and types of information collected for a given construction site.

P5 Explain the functional characteristics and design criteria for primary and secondary elements of a building substructure and superstructure.</td><td>M2 Analyse how site conditions impact on the design of foundations.

M3 Illustrate how the component parts of an element allow it to fulfil its function.</td></tr>
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