

Pearson Higher Nationals in

Construction and the Built Environment

PEARSON-SET THEME & TOPIC RELEASE

UNIT: 1 Individual Project - Theme and Topic Release 2017

For use with the Higher National Certificate and

Higher National Diploma in Construction and the Built Environment

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1.1 Introduction to theme

The Pearson-set theme for use with Unit 1: Individual Project is

Sustainability in the Construction Industry

With the construction industry representing one of the largest producers of carbon emissions, there are increasing demands for those working in construction to understand and seek to address issues of environmental sustainability.

But, the environment is not the only area where sustainability is desirable. Economic, social and cultural sustainability are also increasingly recognised as part of a larger whole; where many different forms of sustainability are intertwined. In addressing environmental sustainability, we may see improvements in social well-being. Often, seeking to achieve economic sustainability can bring environmental solutions to the fore. In modern construction practice, sustainability has become both a necessity and an opportunity

This unit will enable students to examine the different factors that influence the potential for sustainable construction. Through engagement with the theme and topics, students will have the opportunity to research and apply skills and knowledge in support of developing sustainable solutions for construction problems.

1.2 Topic Selection

Tutors must choose one topic from the list provided below and decide which type of project is most suitable for research-based assignment. All students must complete the same topic and project chosen by the tutor. However, if delivering to different cohorts of students then tutors may select a different topic and design a different project for each cohort.

The Sample Assessment Material (SAM) document for Unit 1: Individual Project, provides additional support and guidance for both tutors and students

Theme: Sustainability in the construction industry

Topics:

1. The impact of material selection on overall project sustainability
2. The influence of construction method on project sustainability
3. Improving project sustainability through the supply chain management
4. The role of technology in sustainability; through enhanced building performance and monitoring

1.3 Choosing a project type

You will need to devise a project brief for the student to follow in completion of the assignment for this unit.

The type of project chosen for the selected topic should allow for a sufficient degree of research through the existence of adequate background materials and allow for the depth and breadth of study suitable for a level 4 qualification.

Guidance for tutors is available in the Pearson-set Sample Assessment Material (SAM) for Unit 1: Individual Project. This provides a range of project types and examples that could be utilised for a project. The project types provided are not exhaustive or mandatory and we do encourage tutors to be innovative with their ideas.

Please note that if reasonable adjustments are necessary to meet a specific individual student's needs you are able to adjust internal assessments to take this into account. Any adjustments must be considered with regard to the centre's policies on equality & diversity and student support.

Further details on how to make adjustments for students with protected characteristics are given in the document '*Pearson Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*' available on our website (<http://qualifications.pearson.com>).

1.4 Project Evidence / Outcomes

It is important to recognise that project work is reliant on gathering information/data that can be analysed. The scale of the project means that there must be time for both primary and secondary research. An advised model would be to use secondary research to provide to a context for conducting and interpreting primary data collection. The project could then yield data/information which could be compared with the findings of secondary research. Where the project may lead to design propositions or forms of graphical evidence (eg. construction information, technical drawings, etc.), the students' graphical evidence should be clearly based on the outcomes of primary and secondary research.

In assessing the project, the assessor should be able to see:

- how project objectives have been met;
- how students have explored the research material relevant to the project objective;
- how students have developed and formulated their outcomes;
- answers to the central questions posed by the objectives;
- what the student has learned in carrying out their project.

An important part of the conclusion must be an awareness of the significance of results. Well edited, focused writing and presentation; where the key decisions, developments, lines of argument and

salient research are explained succinctly, is preferable to unstructured writing and presentation where little attempt to select or edit material has been made

It is important to recognise that there are many different presentation formats and it is important that students think carefully about the suitability of any presentations for their target audience. Their presentations should be appropriate to the audience, both in terms of the nature and level of material they use and in terms of length. Students should be guided to produce presentations that give a succinct account of the main arguments or developments from their project. The question and answer session should address issues raised by the presentation, but also give students an opportunity to review their work.

Students are to submit a completed technical report as evidence for the unit, however centres would be advised that in addition to their project findings, a Project Management Plan, a completed Log Book and Performance Review should also be submitted. **The Project Management Plan** is designed to define how the project is to be planned, executed and monitored. The Project Management Plan should give details of the actions required for the integration and co-ordination of various planning activities to carry out the project. **The Log Book** is designed to provide evidence of the project development process and ongoing reflection. It should provide evidence that the student has thought about the direction of their project and what problems they encountered and steps taken to address them. **The Performance Review** will provide evidence of reflection and evaluation of the project management process and individual performance.

1.5 Employer engagement

It is advisable that centres look at the Pearson-set Assignment as an appropriate unit to embed employer engagement, although this is not a mandatory requirement. Developing and establishing links with employers enhances the teaching and learning experience and improves students' employability. Where possible, identifying links with employers as part of the delivery of the Pearson-set Assignment could lead to enhancing and supporting student learning. Real-life projects provide students with the opportunity to develop and acquire appropriate skills, knowledge and expertise required by employers.

1.6 Sharing of good practice

The Pearson-set Assignment unit will be a sampled unit by the centre appointed External Examiner (EE) as part of the annual Pearson EE centre visit. The focus will be on standardisation of student assessed work and sharing of good practice. The EE will review and identify exemplars in all aspects of good practice. Good practice will focus on current themes that align to QAA Reviews:

- Innovation
- Digital literacy
- Student employability and entrepreneurial skills
- Employer engagement
- Quality of assessment feedback

1.7 Resources and useful links

Suggested resources and links that centres may find useful are shown below. Centres should choose those resources that are relevant for localised use and complement those with additional resources to support independent research in the chosen topic and project type.

Type of Resource	Resource Titles	Links
Useful resources for underlying principles, examples of published reports on Construction activities		
Website	Sustainability in Building Design and Construction	https://www.designingbuildings.co.uk/wiki/Sustainability_in_building_design_and_construction
Book	Mamlouk, et al. <i>Materials for Civil and Construction Engineers 3rd Edition, Pearson, 2014.</i>	
Book	Ma, U. <i>No Waste: Managing Sustainability in Construction, Routledge, 2011.</i>	
Website	Supply Chain Management in Construction	https://www.designingbuildings.co.uk/wiki/Supply_chain_management_in_construction
Fact Sheet	Supply Chain Management	http://constructingexcellence.org.uk/wp-

Type of Resource	Resource Titles	Links
		content/uploads/2015/03/supplychain.pdf
Report	Roles if Supply Chain Management in Construction	http://www.ce.berkeley.edu/~tommelein/IGLC-7/PDF/Vrijhoef&Koskela.pdf
Report	Evaluating the Benefits Of BIM For Sustainable Design	https://www.reading.ac.uk/web/files/tsbe/Dowsett_TSBE_Conference_Paper_2013.pdf
Report	Sustainable Construction: Analysis of Its Costs and Benefits	http://pubs.sciepub.com/ajcea/1/2/2/
Useful links for case studies of Construction activities.		
Website	Constructing Excellence - BIM Case Studies	http://constructingexcellence.org.uk/bim/bim-case-studies/
Website	BAM – Case Studies	http://sustainability.bam.co.uk/case-studies
Website	BREEAM – Case Studies	http://www.breeam.com/case-studies
Website	Building.co.uk - Case Studies	http://www.building.co.uk/buildings/technical-case-studies/sustainable-projects/
Website	TheBIMhub - Case Studies	https://thebimhub.com/case-studies/

The Sample Assessment Material (SAM) for Unit 1: Individual Project should be read in conjunction with the theme and topic release. It provides advice and guidance for both tutors and students.

For any further additional support or queries regarding this document, please email btecdelivery@pearson.com.