Pearson

Pearson BTEC Tech Award Level 1/2

June 2024

Time 2 hours of monitored preparation and 6 hours of supervised assessment (approximately)

Paper reference BCB02

Construction

COMPONENT 3: Construction and Design

Pearson Set Assignment

Instructions

This assessment may be given to learners as soon as it is received. This assessment is for use with the May 2024 – June 2024 moderation series. Please refer to the Administrative Support Guide for further information and mark submission deadlines.

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Instructions to Learners

You should read the information given in the vocational context and each task section of this assignment carefully prior to starting work. Tasks often link to one another, so it is important to make sure you understand all tasks before starting the assignment.

The assignment will take approximately 2 hours of monitored preparation and 6 supervised hours to complete.

This is divided into approximately:

- 2 hours of monitored preparation for Task 1 and Task 2
- 3 hours to complete Task 1
- 3 hours to complete Task 2.

These timings are for guidance only but should be used as an indication of how long to spend on each task. Your teacher will advise you when it is time to move from one task to the next.

You must work independently and should not share your work with other learners. All work must be your own and you must sign a declaration of authenticity to confirm this. If group work or collaboration is permitted, you must produce your own independent responses and evidence for the tasks.

Any sources of information, ideas, text, audio and/or visual assets created by others that you include in your work must be clearly identified and referenced. Using the work of others as your own or without proper acknowledgement is considered plagiarism and can result in disqualification from the assessment.

You may ask your teacher for support if you have questions about the requirements of tasks, what evidence you need to produce and any resources you are allowed to access. They cannot give you feedback about how to improve your work, or guide you to solutions to any questions or problems in the tasks.

Resources needed

You will have 2 hours of monitored preparation time prior to undertaking Task 1 and Task 2. Your teacher will tell you when you should complete the monitored preparation and when formal supervision for the tasks will begin.

Based on your preparation, you should produce notes to refer to when completing Task 1 and Task 2. Your notes may be up to two sides of A4 paper. They must be hard copy and may be handwritten or typed. If word processed, the font size must be 10 point minimum.

Your notes should be in bulleted or annotation form and cannot include:

- exemplar building plans and/or layouts
- any information copied from the content of Component 1: Construction Technology
- any attempt to pre-prepare situational analyses or responses to tasks
- paragraphs or extended sentences.

Vocational context

Understanding and correctly interpreting the client's needs and external design constraints is the most important aspect when designing a low-rise building.

To understand the client, information would usually be taken via interview or a questionnaire. For this task, the key information has been provided in Appendix 1.

Similarly, the external design constraints and information about the local area have been provided in Appendix 2.

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Tasks

Task 1 – Design brief

Produce a design brief for the design of the low-rise education building, using the information provided in Appendix 1.

The design brief should show an understanding of how the client's needs and budget, alongside the lifestyle of the building users, will impact on the building design and take into account external design constraints, relative to the building's location and scenario.

You should consider the following:

- accommodation (size, type and number of rooms)
- style and aesthetics relative to the local architecture
- materials
- budget and its impact on the level of specification and the total floor area
- site (area, location, access and services)
- the impact of planning and building control
- sustainability.

Learning outcome covered

Outcome A: Understand the needs of a client and the constraints on design when designing a low-rise building

Checklist of evidence required

A written response of approximately 3–5 pages of A4, which can include supporting images.

Resources needed

- Research notes
- Appendix 1: Client meeting notes
- Appendix 2: External design constraints

Supervised hours to complete the task

You will need approximately 3 hours to complete Task 1.

(Total for Task 1 = 36 marks)

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Task 2 – Concept sketches

Produce a range of well-presented and annotated freehand sketches for the low-rise education building that must address the client's profile, requirements, needs and building user lifestyles, within the constraints of the site, the surrounding area and the client's set budget.

In producing these sketches, you will need to:

- demonstrate effective design skills considering:
  - the client's needs
  - the external design constraints

and

- demonstrate clear communication of design ideas by using:
  - graphical presentation
  - suitable drawing techniques
  - annotations, which include labelling and the detailing of key features.

Learning outcome covered

Outcome B: Be able to graphically communicate the design of a low-rise building

Checklist of evidence required

Two-three sketches on A3 pages with annotations and labelling as necessary.

Resources needed

- Appendix 1: Client meeting notes
- Appendix 2: External design constraints
- A3 paper
- Sketching materials, i.e. ruler, pencil, eraser
- Research notes

Supervised hours to complete the task

You will need approximately 3 hours to complete Task 2.

(Total for Task 2 = 24 marks)

TOTAL FOR SET ASSIGNMENT = 60 MARKS

Appendix

Appendix 1: Client meeting notes

Client profile:

- client is a secondary school with a sixth form
- requires a new classroom block
- the school has a green policy and is seeking to reduce its carbon footprint.

Client needs – requires:

- a specialist field studies classroom from where learners will access Pearson Wood and the pond and carry out practical laboratory work
- the field studies classroom will include:
  - floor area of 80 m^2
  - eight sinks
  - room off the classroom to store boots and coats with a door to outside
- physical exercise classroom
- the physical exercise classroom will include:
  - floor area of 80 m^2 to provide an area for exercise equipment
- one staff toilet with a wash hand basin
- separate storerooms for the field studies and physical education classrooms
- a building that represents value for money.

Lifestyle:

- client wants to provide fit for purpose learning environment for its learners
- client is looking to enable learners to learn in specialist classrooms designed for the subject being taught
- desires an eco-friendly building.

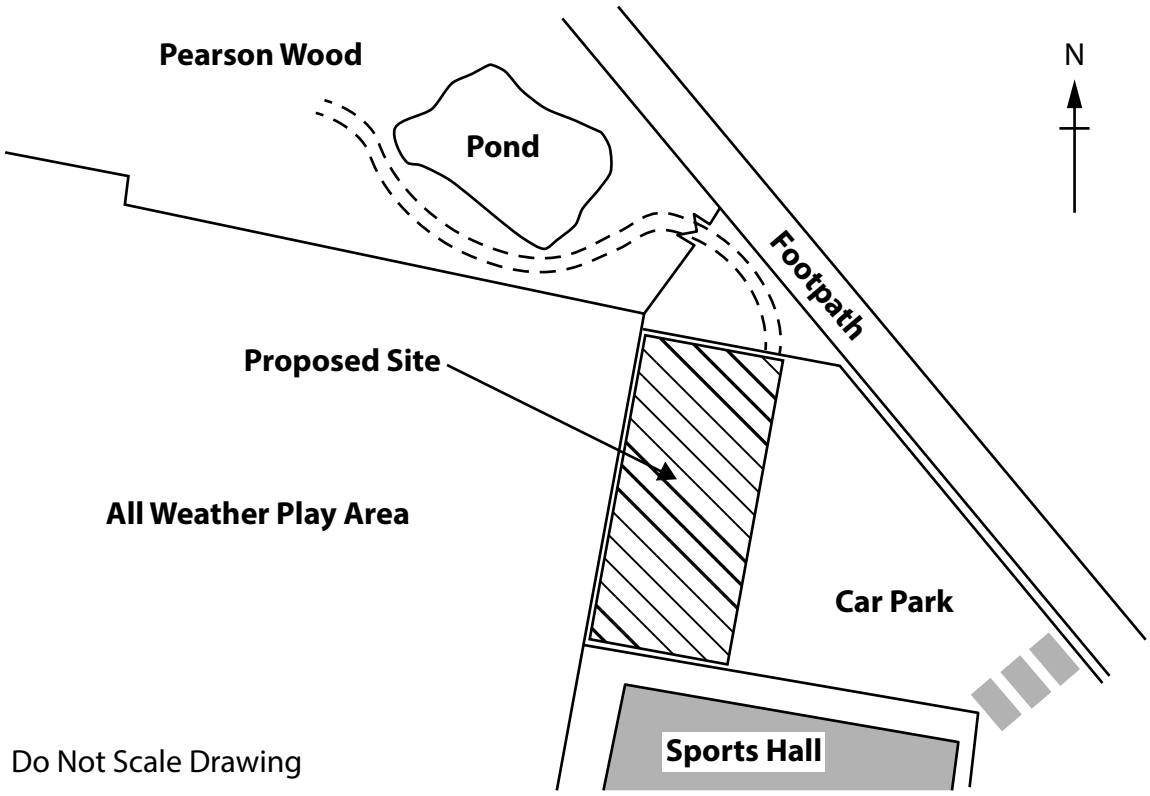
Budget:

- has a budget of £575,000.

Appendix 2: External design constraints

Site/location details:

- the site is level
- the site is 35m long by 15 m wide
- the site is currently part of a car park and the school would like to take up as little of the car park as possible
- electricity, water and foul and surface water drainage are available within 5m of the site boundary
- the development already has outline planning consent
- planning condition:
  - the new classrooms are not to be taller than the existing sports hall
- physical exercise classroom will look out on to the all-weather play area.



Site Location Plan

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Photograph 1 – View across the site from the footpath looking towards the sports hall

Photograph 2 – View looking towards Pearson Wood

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Photograph 3 – View showing existing school buildings