

# Costing a building project

Functional Skills L1 workplace assignment

Name \_\_\_\_\_ Date \_\_\_\_\_



## Costing a building project

- **The purpose of this functional skills and construction assignment** is for you to **work** through all the steps required to **calculate** the costs of a building project.
- **You will follow a whole project** through from beginning to end.
- You'll **produce scale diagrams** and **calculate** the charges for materials and labour, and **present** them to the customer.
- You will cover many aspects of what is required to practice your Functional Skills Maths, English (including Speaking and Listening) and ICT as well as applying aspects learnt in your construction course.

**NAME:**

**DATE:**

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# What you need to do

## Stage 1 - Talk to the customer about their requirements

Consult the customer on the design specification. Note down all aspects of the building, including purpose, number of floors, type of roof, number of windows and doors, electrical requirements, and so on.

QUESTION	ANSWER
Who is the customer?	
What does he want built?	
What are his specific requirements?	
Why does he want the project built?	
Has he set a time frame?	
Has he set a budget?	
How much of it does he want you to build? Is he doing any of it himself or getting other subcontractors in?	
Does the customer have any questions for you?	





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## Stage 3 – Refer to the Building Regulations

Consult **the Building Regulations** with regard to depth of foundations, damp-proofing or damp course and other requirements for your building or extension. Are the Building Regulations relevant to your project?

If not why not? Research this online.  
(Look under local council planning department sub section building controls)

## Stage 4 – Identify the steps for a planning application

Find out whether or not your project needs planning permission. Identify the stages of a council planning application.

Does your project need planning permission? If not; why not?

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### Stage 5 – Estimate the materials needed

Draw up a list of all the materials you need for the building work.

You'll want to consider such items as:

<ul style="list-style-type: none"><li>• number of bricks</li></ul>	
<ul style="list-style-type: none"><li>• amount of sand and cement,</li></ul>	
<ul style="list-style-type: none"><li>• building sand or ballast</li></ul>	
<ul style="list-style-type: none"><li>• and ratio for cement against concrete</li></ul>	
<ul style="list-style-type: none"><li>• other relevant materials for footings or foundation etc</li></ul>	
<ul style="list-style-type: none"><li>• materials for windows, doors or gates.</li></ul>	
<ul style="list-style-type: none"><li>• (sundries) - Machinery or tool hire</li></ul>	
<ul style="list-style-type: none"><li>• skip hire &amp; waste disposal costs</li></ul>	

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### Stage 6 – Calculate costs

To calculate the costs of materials, compare prices from at least two different suppliers of all the items on your list. Consider also the hire charges for scaffolding.

Produce your results in chart and table form. If bricks or other materials are bought in minimum orders, calculate the proportion or percentage used.

- From the catalogues supplied find the following information on the bricks to be used:

<ul style="list-style-type: none"><li>• Select a variety of different facing bricks that would be suitable for your project and find their cost.</li></ul>		
<ul style="list-style-type: none"><li>• What is the range of these prices and the mean price?</li></ul>		
<ul style="list-style-type: none"><li>• Why do some bricks cost more than others?</li></ul>		
<ul style="list-style-type: none"><li>• Can you explain the average price and range of prices?</li></ul>		

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I.e. tools & materials needed to clear site	
tools & materials needed for ground work	
tools & materials needed for foundations	
tools & materials needed for building	
tools & materials needed for finishing site off	
Produce a schedule of tools and materials for the work	



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## Stage 7 – Identify health and safety issues

What do you think the 5 main rules relating to a construction site are?	1
	2
	3
	4
	5
Are there any risks to workers from the materials being used (such as dermatitis from lime in concrete)? If so, what are they?	1
	2
	3
Do you require hard hats and boots? If so why?	
How are COSHH and PUWER relevant to your project?	1 <b>COSHH means</b>
	2 <b>PUWER means</b>

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### Stage 8 – Calculate labour charges and profit

When calculating labour charges, consider the following:

<ul style="list-style-type: none"><li>• What will be the bricklaying rate: how many bricks per hour can you lay?</li></ul>	
<ul style="list-style-type: none"><li>• How many builders will you need? And why?</li></ul>	
<ul style="list-style-type: none"><li>• How long will the project take to build?</li> <li>• And why do you think that?</li></ul>	
<ul style="list-style-type: none"><li>• Include a rough working out of your assumptions made for overheads and profit (10%).</li></ul>	
<ul style="list-style-type: none"><li>• Remember to include</li></ul>	

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VAT in all charges.	
<ul style="list-style-type: none"><li>• Draw a chart to illustrate how the whole quote is broken down.</li></ul>	
<ul style="list-style-type: none"><li>• What is your day rate?</li></ul>	
<ul style="list-style-type: none"><li>• Total price?</li></ul>	



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### Stage 10 – Rate your own performance

Once you have produced and presented your proposal, take time to think about how well you tackled this assignment. You will take part in a discussion with your fellow students about this assignment as part of your functional English speaking and listening.

<ul style="list-style-type: none"><li>• Did you do anything particularly well?</li></ul>	<p>1 2 3 4 5 6 7 8 9 10</p>
<ul style="list-style-type: none"><li>• What did you enjoy the most?</li></ul>	<p>1 2 3 4 5 6 7 8 9 10</p>
<ul style="list-style-type: none"><li>• What did you find challenging?</li></ul>	<p>1 2 3 4 5 6 7 8 9 10</p>
<ul style="list-style-type: none"><li>• Was there anything you could improve on next time?</li></ul>	<p>1 2 3 4 5 6 7 8 9 10</p>
<ul style="list-style-type: none"><li>• Write a brief summary of what you got out of / learnt from the doing this project. Be prepared to read this out to the group at the completion of the task.</li></ul>	<p>1 2 3 4 5 6 7 8 9 10</p>

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## Tutor comments on project

Tutor Name..... Signature.....

Date of completion .....

Pass		Fail	
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Teaching notes, answers and curriculum mapping



## Mapping to functional skills standards

The main Functional Skills criteria covered are listed below. These Skills Standards and Coverage & Range statements can then be located in the following individual subject charts.

- **take part** in a formal or informal discussion / exchanges
- **read and understand** a range of texts
- **write documents to communicate information**, ideas and opinions using formats and styles suitable for their purpose and audience
- **interact with and use ICT** systems independently to meet needs
- **manage** information storage
- **follow and understand** the need for safety and security practices
- **select and use** a variety of sources of information independently to meet needs
- **access, search, form, select and use** ICT-based information and evaluate its fitness for purpose
- **develop present and communicate information**
- **enter, develop and format information** to suit its meaning and purpose, including: text and tables, images, numbers, graphs, records.
- **present information** in ways that are fit for purpose and audience

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**THANK YOU**

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### Teaching notes, answers and curriculum mapping

### Level 1 Functional Skills English mapping

Reference: Ofqual (2009), Functional Skills criteria for English: Entry 1, Entry 2, Entry 3, level 1 and level 2.

<http://www.ofqual.gov.uk/qualification-and-assessment-framework/89-articles/238-functional-skills-criteria>

**Level 1 Speaking, Listening and Communication skill standard:** Take full part in formal and informal discussions and exchanges that include unfamiliar subjects

- a) Make relevant and extended contributions to discussions, allowing for and responding to others' input ✓
- b) Prepare for and contribute to the formal discussion of ideas and opinions ✓
- c) Make different kinds of contributions to discussions ✓
- d) Present information/points of view clearly and in appropriate language ✓

**Level 1 Writing skill standard:** Write a range of texts to communicate information, ideas and opinions, using formats and styles suitable for their purpose and audience

- a) Write clearly and coherently, including an appropriate level of detail ✓
- b) Present information in a logical sequence ✓
- c) Use language, format and structure suitable for purpose and audience ✓
- d) Use correct grammar, including correct and consistent use of tense ✓
- e) Ensure written work includes generally accurate punctuation and spelling and that meaning is clear ✓

**Level 1 Reading skill standard:** Read and understand a range of straightforward texts

- a) Identify the main points and ideas and how they are presented in a variety of texts ✓
- b) Read and understand texts in detail ✓
- c) Utilise information contained in texts ✓
- d) Identify suitable responses to texts ✓

### FUNCTIONAL MATHEMATICS Coverage and Range statements (indicative only)

Coverage and range statements provide an indication of the type of mathematical content candidates are expected to apply in functional contexts. Relevant content can also be drawn from equivalent National Curriculum levels and the Adult Numeracy standards.

*Highlighting and ✓ indicates the main coverage and range skills covered in this resource, although these will vary with the student group and how the resource is used by the teacher.*

#### Level 1

- |  |  |
|--|--|
| a) Understand and use whole numbers and understand negative nos. in practical contexts ✓ | g) Solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature ✓ |
| b) Add, subtract, multiply and divide whole numbers using a range of strategies ✓        | h) Convert units of measure in the same system ✓   |
| c) Understand and use equivalences between common fractions, decimals and percentages    | i) Work out areas and perimeters in practical situations ✓   |
| d) Add and subtract decimals up to two decimal places ✓                                  | j) Construct geometric diagrams, models and shapes ✓ (Note: Scale drawings are Level 2)  |
| e) Solve simple problems involving ratio, where one number is a multiple of the other    | k) Extract and interpret information from tables, diagrams, charts and graphs ✓  |
| f) Use simple formulae expressed in words for one- or two-step operations                | l) Collect and record discrete data and organise and represent information in different ways ✓                                   |
|  | m) Find mean and range   |
|  | n) Use data to assess the likelihood of an outcome   |



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Level 1 Functional Skills ICT criteria		Examples
<b>**Using ICT</b>		
<b>1</b>	<b>identify the ICT requirements of a straightforward task</b>	
1.1	use ICT to plan and organise work	time, convenience, cost
<b>2</b>	<b>interact with and use ICT systems to meet requirements of a straightforward task in a familiar context</b>	
2.1	select and use software applications to meet needs and solve straightforward problems	word processing, spreadsheets, graphics, internet browser, email, audio and video software
2.2	select and use interface features effectively to meet needs	desktop, windows, dialogue box, menu, submenu, toolbar, scrollbar, drag and drop, zoom, minimise, maximise
2.3	adjust system settings as appropriate to individual needs	window size, mouse settings, icon size, screen resolution, desktop contrast, volume
<b>3</b>	<b>manage information storage</b>	
3.1	work with files, folders and other media to access, organise, store, label and retrieve information	create, open, save, save as, print and close files, create folders and subfolders, name files and folders appropriately
<b>4</b>	<b>follow and demonstrate understanding of the need for safety and security practices</b>	
4.1	demonstrate how to create, use and maintain secure passwords	
4.2	demonstrate how to minimise the risk of computer viruses	use virus-checking software, treat files from unknown sources with caution
<b>**Finding and selecting information</b>		
<b>5</b>	<b>o) use search techniques to locate and select relevant information</b>	
5.1	search engines, queries	enter a web address, use a search engine, browse, save and use bookmarks
<b>6</b>	<b>select information from a variety of ICT sources for a straightforward task</b>	
6.1	recognise and take account of currency, relevance, bias and copyright when selecting and using information	music downloads, acknowledgement of sources, avoiding plagiarism
<b>**Developing, presenting and communicating information</b>		
<b>7</b>	<b>Enter and develop different types of information to meet given needs</b>	
7.1	apply editing, formatting and layout techniques to meet needs, including text, tables, graphics, records, numbers, charts, graphs or other digital content	
<b>8</b>	<b>use appropriate software to meet requirements of straightforward data-handling task</b>	
8.1	process numerical data	
8.2	display numerical data in a graphical format	pie chart, bar chart, single line graph, appropriate format, title, axis titles, legend
8.3	use field names & data types to organise information	cell data types, cell ranges, formulas with a single operator, SUM function, structure/layout of worksheet
8.4	enter, search, sort and edit records	field selection, data sort (alphanumeric), filter
<b>9</b>	<b>use communications software to meet requirements of a straightforward task</b>	
9.1	read, send & receive electronic messages with attachments	open mailbox, read, reply, forward, communicate using from, to, cc, bcc, subject and content fields, add and open attachments, use instant messaging, contribute to forums, web logs or web-based reference sites
9.2	demonstrate understanding of the need to stay safe and to respect others when using ICT-based communication	
<b>10</b>	<b>combine information within a publication for a familiar audience and purpose</b>	
10.1	for print and for viewing on screen	organise: combine images, graphs and tables with text, combine texts, graphics, sound and video footage purpose: for a poster, newsletter, web page, multimedia presentation
10.2	check for accuracy and meaning	
<b>11</b>	<b>evaluate own use of ICT tools</b>	
11.1	at each stage of a task and at the task's completion	