Cambridge TECHNICALS LEVEL 3

IT

Exemplar candidate work
Unit 6 – Application design
Version 1
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INTRODUCTION

This is a guide for teachers so that you can see how we mark work for Cambridge Technicals.

The guide contains exemplar candidate work for this unit and covers selected learning outcomes (LOs), and grading criteria.

The accompanying commentary explains why each piece of work was awarded that grade. Additional guidance has been added to suggest improvements that could be made in order to achieve a higher grade.

Reproduction of candidate work

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Model Assignments

Model assignments are available for the following units from the link below.

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<thead>
<tr>
<th>Unit 4 Computer networks</th>
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Plagiarism

Work must be free from plagiarism. Plagiarism is the submission of someone else’s work as your own and/or failure to acknowledge a source correctly. Plagiarism makes up a large percentage of cases of suspected malpractice reported to us by moderators. You must make sure you don’t accept plagiarised work as evidence.

In line with the policy and procedures of JCQ on suspected malpractice, the penalties applied for plagiarism would usually result in the claim not being allowed.

Plagiarism often occurs innocently when learners don’t know that they must reference or acknowledge their sources, or aren’t sure how to do so. It’s important to make sure your learners understand:

- the meaning of plagiarism and what penalties may be applied
- that they can refer to research, quotations or evidence produced by somebody else but they must list and reference their sources
- quoting someone else’s work, even when it’s properly sourced and referenced, isn’t an indication of understanding. The learner has to ‘do’ something with that information to show they understand. For example, if a learner has to analyse data from an experiment, quoting data doesn’t show that they understand what it means. The learner has to interpret the data and, by relating it to their assignment, say what they think it means.
LO4 – P4/P5/P6

Window Blind Calculator

For Hi-Luxe Blinds
Introduction

Problem:

The Hi-Luxe salesperson has to spend a lot of time calculating the material requirements for window blinds. The potential customer has to wait while this takes place. Roman blinds take the most time. Also expensive mistakes have been made through errors in calculations.

Solution:

To provide an app that will enable the salesperson to quickly calculate the material requirements for Roman blinds. This will allow more time to be spent with the customer in choosing fabrics and extras. The customer’s details and the fabric requirements will be stored so that the office can send the quote.
Features required

- Enter customer’s details
- Enter the appropriate dimensions
- Enter fabric size and any pattern repeat
- Calculate the following ...
  - No of rod pockets required
  - Fabric quantity (cms) - plain or repeating pattern
  - Lining quantity
- Save customer details, dimensions and fabric requirements
Roman blind calculations - pleats and rod pockets

Calculation:

Finished blind length = 154cm
Headrail Allowance = 7cm

Amount of fabric to be folded
Finished blind length - Headrail allowance = 154 - 7
= 147cm

Divide by odd number to find depth of folds
Divide by 3
\[ 147 \div 3 = 49cm \]
Divide by 5
\[ 147 \div 5 = 29.4cm \]
Divide by 7
\[ 147 \div 7 = 21cm \]
Divide by 9
\[ 147 \div 9 = 16.3cm \]

Decide 7 pleat sections each 21cm in depth will look best.

7 pleat sections will need 3 rod pockets.
\[ (7-1) \div 2 = 6 \div 2 = 3 \]
Roman blind calculations – No of fabric widths required

Calculation:

Finished width = 148cm
Fabric width = 137cm

Establish Cut Width

Finished width + 5cm side turn allowance per side
= 148 + 10
= 158cm

Number of Fabric Widths

Cut Width + Fabric Width
= 158 + 137
= 1.15

Round up to nearest whole number = 2 widths

Finished width and fabric width are entered

The side turn allowance is set at 5cm but will be adjustable in the app settings
Roman blind calculations – Fabric cut drop

FABRIC CUT DROP
To calculate the Cut Drop
of the fabric add a 5cm heading allowance and a 9cm hem allowance to the finished blind length.
• Fabric Cut Drop = Finished Blind Length + 5cm heading allowance + 9cm hem allowance

The heading allowance is set at 5cm and the hem allowance at 9cm. They will be adjustable in the app settings.
Roman blind calculations – fabric quantity (plain fabric)

Calculation:

No of Fabric Widths = 2  
Cut Drop = 166cm

Fabric Qty = 166 x 2
= 332cm

The plain fabric quantity is calculated from the cut drop and no of fabric widths.
Roman blind calculations – fabric quantity (patterned fabric)

**Calculation:**

No of Fabric Widths = 2  
Cut Drop = 166cm  
Pattern Repeat = 37cm

First Calc Adjusted Cut Drop  
divide cut drop by pattern repeat = 166 ÷ 37  
= 4.48  
round up = 5  
multiply result by pattern repeat = 5 × 37  
Adjusted cut drop = 185cm

Then Calc metres of Fabric Required  
Multiply adjusted cut drop by no of widths = 185 × 2  
= 370  
add one pattern repeat = 370 + 37  
= 407cm

The patterned fabric quantity is calculated from the cut drop, pattern repeat and no of fabric widths.
Roman Blind calculations – lining quantity

Calculation:

Finished blind width = 148cm
Lining Cut Width = 148cm
Finished blind length = 152cm
Number of rod pockets = 3
Rod pocket allowance = 2.5cm
Heading Allowance = 5cm
Hem Allowance = 9cm
Number of fabric widths = 2

First Calc Lining Cut Drop
blind length + Hem + Head allowance + Rod Pockets

= 152 + 9 + 5 + 7.5
= 173.5cm

Lining amount required
No of fabric widths x Cut Drop

= 173.5 x 2
= 347cm

The lining quantity is calculated from earlier measurements and calculations. The rod pocket allowance is an app setting.
Proving the calculations – no of rod pockets

**Calculation:**

Finished blind length = 154cm  
Headrail allowance = 7cm

Amount of fabric to be folded  
Finished blind length - Headrail allowance  
= 154 - 7  
= 147cm

Divide by odd number to find depth of folds  
Divide by 3  
= 147 ÷ 3  
= 49cm

Divide by 5  
= 147 ÷ 5  
= 29.4cm

Divide by 7  
= 147 ÷ 7  
= 21cm

Divide by 9  
= 147 ÷ 9  
= 16.3cm

Decide 7 pleat sections each 21cm in depth will look best.

7 pleat sections will need 3 rod pockets.

\[(7-1) + 2 = 6 + 2\]  
\[= 3\]  

**Blind details**

- Finished blind length: 154 cm
- Finished blind width: 150 cm
- Headrail allowance: 7 cm
- No of pleat sections: 7
- Fabric width: 144 cm
- Fabric pattern repeat: 37 cm

**Calculations**

- Fabric
  - Amount of fabric to be folded: 147 cm
  - No of rod pockets required: 3
Proving the calculations – no of widths of fabric

Calculation:

Finished width = 148cm
Fabric width = 137cm

Establish Cut Width

Finished width + 5cm side turn allowance per side = 148 + 10
= 158cm

Number of Fabric Widths

Cut Width / Fabric Width = 158 / 137
= 1.15

Round up to nearest whole number = 2 widths

Blind details

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finished blind length</td>
<td>154 cm</td>
</tr>
<tr>
<td>Finished blind width</td>
<td>148 cm</td>
</tr>
<tr>
<td>Headrail allowance</td>
<td>7 cm</td>
</tr>
<tr>
<td>No of pleat sections</td>
<td>7</td>
</tr>
<tr>
<td>Fabric width</td>
<td>137 cm</td>
</tr>
<tr>
<td>Fabric pattern repeat</td>
<td>137 cm</td>
</tr>
</tbody>
</table>

Calculations

Fabric

Amount of fabric to be folded = 147 cm

No of rod pockets required = 3

Cut width = 158 cm

No of fabric widths = 2
Proving the calculations – fabric cut drop & quantity (plain)

**Fabric Cut Drop**
To calculate the Cut Drop of the fabric add a 5cm heading allowance and a 9cm hem allowance to the finished blind length.
- Fabric Cut Drop = Finished Blind Length + 5cm heading allowance + 9cm hem allowance

**Blind details**
- Finished blind length: 152 cm
- Finished blind width: 148 cm
- Headrail allowance: 7 cm
- No of pleat sections: 7
- Fabric width: 137 cm
- Fabric pattern repeat: 137 cm

**Calculation:**
- No of Fabric Widths = 2
- Cut Drop = 166 cm

**Fabric Qty** = 166 x 2 = 332 cm

**Calculations**
- Fabric
- Amount of fabric to be folded: 145 cm
- No of rod pockets required: 3
- Cut width: 158 cm
- No of fabric widths: 2
- Cut drop: 166 cm
- Fabric quantity (plain): 332 cm
Proving the calculations – fabric cut drop & quantity (patterned)

Calculation:

No of Fabric Widths = 2
Cut Drop = 166cm
Pattern Repeat = 37cm

First Calc Adjusted Cut Drop
divide cut drop by pattern repeat = 166 ÷ 37
= 4.48
round up = 5
multiply result by pattern repeat = 5 x 37
Adjusted cut drop = 185cm

Then Calc metres of Fabric Required
Multiply adjusted cut drop by no of widths = 185 x 2
= 370
add one pattern repeat = 370 + 37
= 407cm

Blind details

Finished blind length 152 cm
Finished blind width 148 cm
Headrail allowance 7 cm
No of pleat sections 7
Fabric width 137 cm
Fabric pattern repeat 37 cm

Calculations

Fabric
Amount of fabric to be folded 145 cm
No of rod pockets required 3
Cut width 158 cm

No of fabric widths 2
Cut drop 166 cm
Fabric quantity (plain) 332 cm

Adjusted Cut Drop 185 cm
Fabric quantity (patterned) 407 cm
Proving the calculations – lining

**Blind details**

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finished blind length</td>
<td>152 cm</td>
</tr>
<tr>
<td>Finished blind width</td>
<td>148 cm</td>
</tr>
<tr>
<td>Headrail allowance</td>
<td>7 cm</td>
</tr>
<tr>
<td>No of pleat sections</td>
<td>7</td>
</tr>
<tr>
<td>Fabric width</td>
<td>137 cm</td>
</tr>
<tr>
<td>Fabric pattern repeat</td>
<td>37 cm</td>
</tr>
</tbody>
</table>

**Calculations**

**Fabric**

- Amount of fabric to be folded: 145 cm
- No of rod pockets required: 3

**Lining**

- Lining cut width: 148 cm
- Lining cut drop:
  - blind length: 152 cm
  - hem allowance: 9 cm
  - head allowance: 5 cm
  - rod pockets allowance: 7.5 cm
  - Total: 173.5 cm
- Lining quantity: 347 cm

**Calculation**

- Finished blind width = 148 cm
- Lining Cut Width = 148 cm
- Finished blind length = 152 cm
- Number of rod pockets = 3
- Rod pocket allowance = 2.5 cm
- Heading Allowance = 5 cm
- Hem Allowance = 9 cm
- Number of fabric widths = 2

First Calc Lining Cut Drop:

- blind length + Hem + Head allowance + Rod Pockets
- = 152 + 9 + 5 + 7.5
- = 173.5 cm

Lining amount required:

- No of fabric widths x Cut Drop
- = 173.5 x 2
- = 347 cm
Customer entry (prototype)

Hi-Luxe Blinds

Customer Details

Name: 
Address: 
Phone: 
Email: 

Save customer details and go to blind calculation.

Next
Quit
Blind fabric calculation

Hi-Luxe Blinds

Blind Material Calculator

- Finished blind length: 154 cm
- Finished blind width: 148 cm
- Headrail allowance: 7 cm
- No of pleat sections: 7
- Fabric width: 137 cm
- Fabric pattern repeat: 37 cm

Results:
- No of rod pockets required: 3
- Fabric quantity (plain): 336 cm
- Fabric quantity (patterned): 497 cm
- Lining quantity: 351 cm

Enter the dimensions and calculate the results.
End of presentation
Witness Statement

This form is to be used to record what has been observed. Please read the guidance notes on the following page before completing this form.

<table>
<thead>
<tr>
<th>Learner name:</th>
<th>A Learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualification:</td>
<td>OCR Cambridge Technicals in IT</td>
</tr>
<tr>
<td>Unit number and title:</td>
<td>UNIT 6: Application design M/507/5005</td>
</tr>
</tbody>
</table>

Description of activity being carried out by the learner: (please be as specific as possible)

Presentation to the client of the design ideas using an annotated Powerpoint presentation and a prototype of the app developed in Excel and VBA

Assessment/grading criteria: (for which the activity provides evidence)
P4: Present a proposed design solution to the identified client
P5: Create a prototype based on the design solution

How the activity covers the requirements of the assessment/grading criteria, including how and where the activity took place:

The presentation took place at the workshop of the window blind shop using a laptop with an additional display screen. The business owner and head salesperson viewed the presentation and asked questions afterwards.

The presentation covered the data and calculations necessary to produce a Roman blind in detail. This was an area of concern to the owner. In addition, images of the prototype input forms were used to demonstrate the user interface.

The learner clearly demonstrated understanding of the problem and presented the design features with the aid of a functional prototype.

<table>
<thead>
<tr>
<th>Witness name:</th>
<th>A Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job role:</td>
<td>IT Tutor</td>
</tr>
<tr>
<td>Witness signature:</td>
<td>A Teacher</td>
</tr>
<tr>
<td>Date:</td>
<td>Nov 2017</td>
</tr>
<tr>
<td>Assessor name:</td>
<td>A Teacher</td>
</tr>
<tr>
<td>Date:</td>
<td>Nov 2017</td>
</tr>
</tbody>
</table>
Guidance notes

Witnesses are people who can comment on work/performance/activities and can be:

- an assessor (this is used as a catch-all to include tutors and teachers)
- someone who is competent in the subject and understands the evidence requirements of the qualification

A witness statement is used to formally record the observation of a learner. This includes describing what the learner is doing in relation to the grading/assessment criteria. The witness can also (where appropriate) make reference to the level of performance by the learner of a given activity.

Assessors are professionally competent to describe the activity and the level of performance. Other witnesses, with competence or knowledge in the subject, should only comment on performance where they feel confident to do so (and in agreement with the assessor).

Witness statements:

- should describe what they witnessed the learner doing
- do not have to be written by the witness, they may be recorded by the assessor after discussion with the witness and confirmed as accurate by the witness
- should not contain just a list of skills
- should not be written by the learner for witnesses to sign
- should not be completed by anyone related to the learner
- should not be used to evidence the achievement of a whole unit

Once complete:

- the assessor will use the statement to judge whether the evidence presented meets the standards required by the grading/assessment criteria for the unit.
- where the witness is someone other than the assessor, often it will be necessary for the assessor to make contact with witnesses to ensure:
  a) the witness statement is authentic
  b) the assessors interpretation of the witness statement is accurate.
### P5 Prototype Blind Material Calculator

#### Roman blind

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td><strong>Blind details</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Finished blind length</td>
<td>154 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Finished blind width</td>
<td>148 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Head rail allowance</td>
<td>7 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>No of pleat sections</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Fabric width</td>
<td>137 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Fabric pattern repeat</td>
<td>37 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

#### Calculations

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td><strong>Fabric</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Amount of fabric to be folded</td>
<td>147 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>No of rod pockets required</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Cut width</td>
<td>158 cm</td>
<td>5 cm side turn allowance per side</td>
<td>10 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>No of fabric widths</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Cut drop</td>
<td>160 cm</td>
<td>5 cm heading allowance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Fabric quantity (plain)</td>
<td>336 cm</td>
<td>9 cm hem allowance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Adjusted Cut Drop</td>
<td>185 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Fabric quantity (patterned)</td>
<td>407 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Fabric price/metre</td>
<td>£100.00 per metre</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Fabric quantity (rounded to 1/2 metre)</td>
<td>5</td>
<td>round to 50 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Fabric Total Price</td>
<td>£500.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Lining

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Lining cut width</td>
<td>148 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Lining out drop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>blind length</td>
<td>154 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>hem allowance</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>head allowance</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>rod pockets allowance</td>
<td>7.5 cm</td>
<td>2.5 cm rod pocket allowance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Lining quantity</td>
<td>351 cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Hi –Luxe Window Blinds
Unit 12 Brookfield Industrial Estate
Anytown  QB9 12AA

5\(^{th}\) Nov 2017

Dear Andrew

Thank you for your presentation last week. We feel reassured that the calculations are correct as shown in your prototype, and that the app will be straightforward to use.

We have several additional points which we would like to raise before we give the go-ahead for you to start on the project.

1. The app will calculate the quantity of fabric. Can it be made to work out the price of the fabric as well? It would need to work to the nearest 50cm (1/2 metre)

2. Can we transfer the customer details and the blind details over to our main system from the tablets that will be used when the salesperson calls on the customer?

3. Can the salesperson enter more than one blind per customer? If we can do this, what will tell us whose blinds are whose?

We look forward to hearing from you.

Yours sincerely

The Owner

pp Hi-Luxe Window Blinds
Commentary

The learner's evidence demonstrates the required knowledge and understanding to meet the requirements of the Pass criteria in LO4. The evidence shows that the learner's presentation and prototype have convinced the client that the sequence of calculations has been understood and successfully translated into a prototype of an app. The client's feedback reflects the successful communication of what has been modelled and the client's response to it.

The evidence of feedback might be strengthened by the addition of user feedback (from the sales people). However P6 requires client and/or user feedback so additional user feedback is not a requirement.

For P4, the learner presented the proposed design solution in a well-annotated PowerPoint presentation showing understanding of the requirements of the app and illustrating the user interface. Presentation to the identified client was confirmed by an observation record.

For P5, the learner created a functional working prototype in Excel and VBA to demonstrate the functionality and possible user interface style. The prototype was included as evidence and functionality was confirmed by an observation record.

For P6, the learner presented evidence of feedback in a letter sent by the client/user.

Working towards M3, evidence of negotiating adaptations could be gained from an exchange of emails where the learner responds to the client's feedback on modifications/additions to the app.

Web development software that enables two-way communication between the user and the application.

The work could be produced as a report to be submitted to the client. The prototype could be shown working by means of video or screen capture. Client feedback could be captured by video or audio recording.
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