



Oxford Cambridge and RSA

**Wednesday 6 May 2015 – All day**

**AS GCE DESIGN AND TECHNOLOGY**

**F521/01** Advanced Innovation Challenge

**SESSION 1 AND 2 – PRACTICAL ASSIGNMENT**

Candidates answer on this Workbook.

**OCR supplied materials:**

None

**Other materials required:**

- Modelling materials and equipment

**Duration: 6 hours**



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**INSTRUCTIONS TO CANDIDATES**

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. All work should be completed on the Workbook. **Additional paper will not be marked.**
- You will have a total of 6 hours to complete this part of the examination. There will normally be two 3 hour sessions.

**INFORMATION FOR CANDIDATES**

- At the end of the examination you must have:
  - selected **one** of the Design Challenges detailed in this Workbook;
  - completed the Workbook showing your creative thinking and how your idea works;
  - produced a model/prototype to show the important features of your design;
  - have at least three photographs fixed in your Workbook showing your modelling activities.
- The total number of marks for this paper is **60**.
- This document consists of **22** pages. Any blank pages are indicated.

**Your Workbook will be collected at the end of sessions 1 and 2 and reissued when you sit session 3 the Reflection Test.**

For Examiner's Use
<b>Total</b>

## Leisure and Recreation

Leisure and recreation is important for a person's health and wellbeing. It allows people to have a break from their daily routine and can be fun. Leisure and recreation can involve individual interests or group activities.

You have been approached as a designer to address **one** of the following Design Challenges and design an **innovative** product.

### Design Challenge One

Many people enjoy eating outdoors. There is a need for a product that can provide a portable cooking area for food.

- The product should take up minimal space when not in use.

### Design Challenge Two

With increasing awareness of the need to stay healthy, a product is needed that can provide personal transportation and exercise.

- The device should be powered by the user or use a sustainable energy source.

### Design Challenge Three

Children and teenagers often get bored. There is a need for a portable product that can provide family entertainment when outdoors.

- The product should encourage physical activity.

### Design Challenge Four

Camping has increased in popularity recently. A product that can carry items used for camping is needed.

- The product should have a secondary function.

### Design Challenge Five

A local council wishes to develop a space where residents can relax and enjoy the surroundings. There is need for a product that will encourage relaxation.

- The product should be suitable for all ages.

### Design Challenge Six

A supermarket wishes to develop creative food products that can be sold in meal packs for two people to be cooked outdoors.

- The meal should meet current healthy eating guidelines.

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# Session 1

- 1 Explore the chosen Design Challenge. What are your initial thoughts?

Use sketches and notes to communicate your thinking.

- 2 Which of your initial thoughts offers greatest potential to be taken further? Why?

Additional space

**Boxes 3, 4 and 5 are at the end of this booklet on the fold-out page**

- 6 Start designing. Use annotated sketches and/or models to show your ideas. You may wish to use annotated photographs to communicate modelling.



Ideas continued.

7 What do you think of your ideas so far, how has your job bag helped to inspire/direct your ideas? Use annotated sketches and/or annotated photographs to explain.

8 Which is your best idea? Justify your decision.

**9 Reflect and Record**

You will be asked to present your ideas (no more than 5 minutes).

Use this space to plan what you will say. Think about your brief, specification and key factors of your design.

**10 Feedback**

Record any suggestions made by others. Identify further modifications that you could make in response to this feedback.

**11 Developing your idea, improvements and modifications**

Use annotated sketches and/or annotated photographs to communicate your thoughts.

Include details of materials, components or ingredients, methods of manufacture and issues relating to sustainability in your answer.

**12 Your Model**

List the materials/ingredients you have chosen to make your prototype.

<b>Component description</b>	<b>Material/Ingredient</b>

Show how these components could be joined/combined together.

**13 Action Plan for Session 2**

## Session 2

### 14 Review

Record any new thoughts about your design. Use annotated sketches and/or notes.

### 15 Modelling – Test, develop and refine your design proposal.

#### Progress Report 1

Problems you have come up against so far. What are the possible solutions?

**16 Continue Modelling. You have 40 minutes modelling time.**

**Progress Report 2**

Did your solutions work? Why?

Which areas of modelling have been most successful so far?



**17 Planning.** Plan what you will be doing/making during the final modelling activity.

**18 Evaluation of Developed Design Proposal**

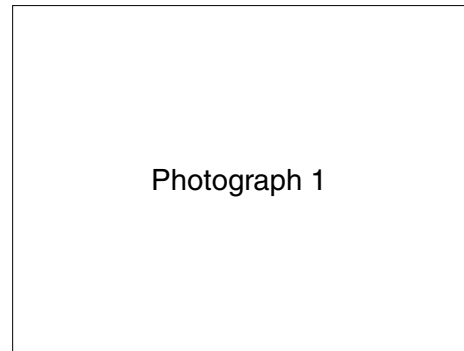
Describe the effectiveness of your developed design proposal and how it meets the needs of the original Design Challenge. Use sketches and notes to show how your design could be improved. Evaluate your final proposal against your specification, you may use annotated sketches and/or annotated photographs.

Evaluation Continued

**3 Decision Time**

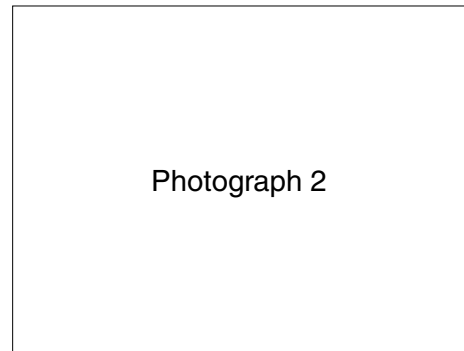
Your Design Brief

I am going to design and model a ...



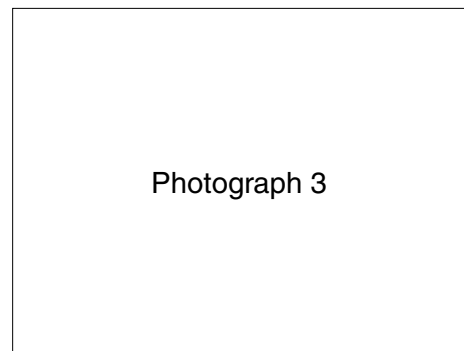
**4 Key Points**

Examine the contents of your job bag remembering your design brief. Identify key points, which will help you write your specification.



**5 Your Design Specification**

To be successful my product must ...



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