



**Wednesday 7 May 2014 – All day**

**AS GCE DESIGN AND TECHNOLOGY**

**F521/01** Advanced Innovation Challenge

**SESSION 1 AND 2 – PRACTICAL ASSIGNMENT**

Candidates answer on the Question Paper.

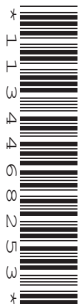
**OCR supplied materials:**

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 with this workbook;
  - completed the answer booklet 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 answer booklet 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 answer booklet will be collected at the end of session 1 and 2 and reissued when you sit session 3 the reflection test.**

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

## **Trips and visits**

People regularly go on trips or visits for leisure purposes. This can be as an individual or as part of a group.

You have been approached as a designer to address **one** of the following Design Challenges. This will help to develop a range of **innovative** products that will be suitable for use on trips or visits.

### **Design Challenge One**

There is a need for a product that can improve the security of personal belongings when out on a day trip.

- The product should allow the user easy access to their belongings when required.

### **Design Challenge Two**

On a long journey sitting still for long periods can cause health issues. There is a need for a product that can be used for exercise when seated.

- The product should be portable.

### **Design Challenge Three**

There is a need for a complete food pack for children who want to eat when on a day trip.

- The food pack should provide lunch and snacks that can be eaten throughout the day.

### **Design Challenge Four**

On days out in the countryside, litter can be a problem. There is a need for a product to enable people to store their litter until it can be disposed of responsibly.

- The product should be portable.

### **Design Challenge Five**

There is often limited seating when out and about. There is a need for a portable product that can provide a seat.

- The product should have more than one function other than seating.

### **Design Challenge Six**

Young children often get bored on journeys. There is a need for an activity pack that will keep children occupied when travelling.

- The product should be educational.

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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.

Component description	Material/Ingredient

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

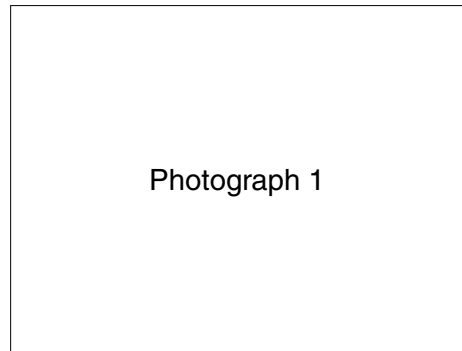
Describe the effectiveness of your developed design proposal and how it meets the needs of the original Design Challenge. Use sketches and notes to show how your design could be improved. Evaluate your final proposal against your specification, you may use annotated sketches and/or annotated photographs.



**3 Decision Time**

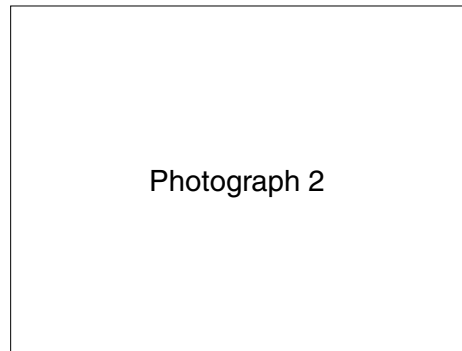
Your Design Brief

I am going to design and model a ...



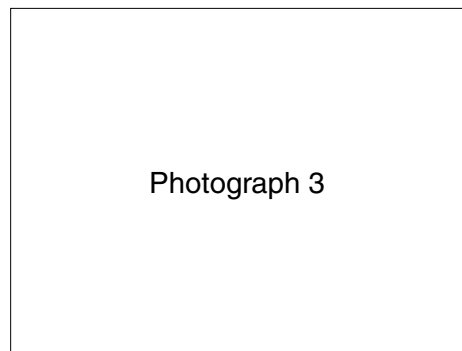
**4 Key Points:**

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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