



*Rewarding Learning*

**General Certificate of Secondary Education**

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**Technology and Design**  
**Controlled Assessment Task**  
**Unit 5: Design Project**

**[GTD51] [GTD52]**

**VALID FROM SEPTEMBER 2011**

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**INSTRUCTIONS FOR THE CONTROLLED ASSESSMENT TASK**

You have approximately **30 hours** to complete the task

You must complete **either**:

**Element 1:** Systems Design and Manufacturing

**Or**

**Element 2:** Product Design and Manufacturing

The **design portfolio** should be a maximum of **ten A3** sheets or equivalent.  
Candidates work **must** not exceed the page limits. All text should **not** be larger than size **14** font.

Candidates' work to be submitted **MAY 2013**

Controlled Assessment Tasks must comply with the Regulations as detailed in the Subject Specification.

NB: Some Controlled Assessment Tasks instructions may constitute more than 1 page.  
Please check you have all the information you need to complete the task if printing from a computer.

## Unit 5: Design Project (40%)

### Instructions for teachers and students

This unit is **compulsory** for all students. However students must complete **either**:

- **Element 1:** Systems Design and Manufacturing

### Design Portfolio (20%)

The **design portfolio** is an integral part of the design project. Each design project will have its own characteristics and relevant processes but all design portfolios should include all of the headings as outlined below:

The **design portfolio** should include:

1. a description of the design opportunity or the problem identified, including a specification;
2. research and analysis of system(s) appropriate to the problem situation;
3. concept sketches or initial designs of system(s), whether mechanical, electronic, pneumatic or a combination of these;
4. development details communicating understanding of the proposed system(s), including modelling, assembly and display/housing details;
5. drawings explaining input–control–output, including diagrams that explain how the system(s) work; and
6. an evaluation and/or suggested modifications.

The **design portfolio** should be a maximum of **ten A3** sheets or equivalent. All text should **not** be larger than size **14** font.

The systems should be operational, modelled and mounted for display purposes.

### Manufacturing (20%)

When the system has been manufactured the quality of the manufactured system should be considered. Candidates work should show evidence of:

- manufacturing techniques that reflect the standard and complexity expected at this level;
- the use of appropriate materials, processes and techniques that satisfy the design specification;
- the use of templates, patterns, jigs and formers to assist in production;
- the quality of finish, accuracy and attention to detail;
- having given consideration to the safety of the users of the product; and
- working performances of the product or system under test conditions.

Your teacher will provide you with the marking criteria which will allow you to see the distribution of marks for this task.

Quality of written communication (QWC) will be assessed in this task.

**Or**

- **Element 2:** Product Design and Manufacturing

### **Design Portfolio (20%)**

The **design portfolio** is an integral part of the design project. Each design project will have its own characteristics and relevant processes but all design portfolios should include all of the headings as outlined below:

The **design portfolio** should include:

1. a description of the design opportunity or the problem identified, including a specification;
2. research and analysis;
3. concept sketches;
4. development of idea/s including fabrication details;
5. working drawing including details of jigs/templates;
6. evaluation/suggested modifications.

The **design portfolio** should be a maximum of **ten A3** sheets or equivalent. All text should **not** be larger than size **14** font.

### **Manufacturing (20%)**

When the product has been manufactured the quality of the manufactured system should be considered. Candidates work should show evidence of:

- manufacturing techniques that reflect the standard and complexity expected at this level;
- the use of appropriate materials, processes and techniques that satisfy the design specification;
- the use of templates, patterns, jigs and formers to assist in production;
- the quality of finish, accuracy and attention to detail;
- having given consideration to the safety of the users of the product; and
- working performances of the product or system under test conditions.

Your teacher will provide you with the marking criteria which will allow you to see the distribution of marks for this task.

Quality of written communication (QWC) will be assessed in this task.

The design project carries a weighting of **40%** and has an approximate time limit of **30 hours**. Candidates **must** not exceed the **ten A3** page limit for the portfolio component of this unit.

The project enables students to demonstrate their ability to design and manufacture a product in either the **Systems Design and Manufacturing** or **Product Design and Manufacturing** element under controlled conditions.

A medium level of control is applied to this unit.

Candidates are allowed to do work outside of the classroom environment.

Centres select the task that is best suited to their needs.

In each design project, the **design portfolio** is worth **20%** and the **manufactured product or system** is worth **20%**.

## Themes

Candidates entering this component in the summer 2013 series must choose one of the following themes.

**Theme 1:** Design and make play apparatus in the form of a product or system that will help pre-school children develop skills.

**Theme 2:** The local tourist office is launching a campaign to encourage visitors to the area. Design and make a product or system that could be marketed to promote tourism.

**Theme 3:** Design a product or system associated with entertainment that is appropriate for a teenager's bedroom.

**Theme 4:** Identify your hobby and design a product or system that would assist with this interest.