

Introduction to GCSE Design and Technology (Systems and Control Technology)

Why study Systems and Control Technology?

This course will help you to understand and appreciate the design and manufacture of products, making you a more discriminating purchaser. It will help you to be creative in your approach and you will use computers to help with your design ideas and in creating products. You will learn about a range of materials including modern materials and how they respond to changes in temperature, light or pressure. You will gain skills which will be useful in a wide range of jobs, in further study of Design and Technology and in your personal life.

You will study:

- * How to develop a specification for a product (you can decide your own starting point);
- * How to analyse existing products;
- * How to generate a range of design proposals;
- * How to use the Internet to research ideas;
- * Product development and planning;
- * How to select materials and work with tools and equipment;
- * How to evaluate products.

You will:

- * Improve your ICT skills and learn about CAD and CAM;
- * Develop your awareness of consumer requirements of a product;
- * Analyse products and the processes used to manufacture them;
- * Work practically with electronic, mechanical or pneumatic control systems;
- * Learn how to work on your own and as part of a team.

Assessment:

There are two levels of entry for this examination: Foundation and Higher. At Foundation level the grades available are G-C. At Higher level you can achieve grades D-A*.

Coursework

This accounts for 60% of the total marks. You must produce a concise design folio and a 3D product. You have a free choice of topic. To help you to choose, OCR provide lists of suitable topics and your teacher will also help you.

Example – ‘Keeping fish in outdoor ponds is a common pastime. A build-up of algae in the water is a problem that can affect the health of the fish.’

From whatever the starting point, you will be expected to produce a design folio and then make the product using control systems and a variety of materials. You should aim to complete all this work within 40 hours. Your teacher will expect you to show analysis of your ideas, concise and clearly set out design ideas, a quality manufactured product and an evaluation, which shows you have tested out your design.

Examination

You gain 40% of your total marks from your answers to questions in two papers, each between 1 hour and 1½ hours long. The questions in these papers are designed to test your ability to design and make quality products.



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