GCSE

DESIGN AND TECHNOLOGY

C600QS

Summer 2022 examinations

Component 1	Design and technology in the 21st Century	Wednesday, 15 June 2022

Advance Information

General information for students and teachers

This advance information provides the focus of the content of the Summer 2022 examination paper.

It does not apply to any other examination series.

It is intended to support revision.

It may be used at any time from the date of release.

It must not be taken into the examination.

Subject information for students and teachers

A guidance document on advance information has been produced by The Joint Council for Qualifications (JCQ) on behalf of all awarding organisations. It can be found here.

This advance information covers Component 1 only. There is no advance information for Component 2 NEA.

Advance information is not provided for questions assessing the use of mathematical skills.

The content is shown in specification order not in question order.

The structure of the paper remains unchanged.

The aim should still be to cover all specification content in teaching and learning. Students can be credited for using relevant knowledge from other content areas when answering questions. Also, content not included in the list may still be assessed in low tariff and synoptic questions.

The following areas of content are suggested as key areas of focus for revision and final preparation, in relation to the Summer 2022 examination.

Technical Principles

Core Knowledge and understanding

The impact of new and emerging technologies.

Developments in modern and smart materials, composite materials and technical textiles.

How electronic systems provide functionality to products and processes, including sensors and control devices to respond to a variety of inputs, and devices to produce a range of outputs.

The functions of mechanical devices, to produce different sorts of movement, changing the magnitude and direction of forces.

Technical Principles

In-depth knowledge and understanding

This information applies to each of the following sections:

- Electronic systems, programmable components and mechanical devices
- Papers and boards
- Natural and manufactured timber
- Ferrous and non-ferrous metals
- Thermoforming and thermosetting polymers
- Natural, synthetic, blended and mixed fibres; woven, non-woven and knitted textiles

The sources, origins, physical and working properties of the material categories or the components and systems, and their ecological and social footprint.

Specialist techniques and processes that can be used to shape, fabricate, construct and assemble a high-quality prototype, including techniques such as wastage, addition, deforming and reforming, as appropriate to the materials and/or components being used.

Designing and making principles

Develop and apply core knowledge, understanding and skills

Explore and develop their ideas, testing, critically analysing and evaluating their work in order to inform and refine their design decisions thus achieving improved outcomes.

Make informed and reasoned decisions, respond to feedback about their own prototypes (and existing products and systems) to identify the potential for further development and suggest how modifications could be made.

End of advance information