

Design and Technology: Product Design

This creative and thought-provoking qualification gives you the practical skills, theoretical knowledge and confidence to succeed in a number of careers, especially those in the creative industries.

You will investigate historical, social, cultural, environmental and economic influences on design and technology, whilst enjoying opportunities to put their learning in to practice by producing products of your choice.

You will gain a real understanding of what it means to be a designer, alongside the knowledge and skills sought by higher education and employers.

AQA Specification content

Technical principles:

- Materials and their applications.
- Performance characteristics of materials.
- Enhancement of materials.
- Forming, redistribution and addition processes.
- The use of adhesives and fixings.
- The use of finishes.
- Modern, industrial and commercial practice.
- Digital design and manufacture.
- The requirements for product design and development.
- Health and safety.
- Protecting designs and intellectual property.
- Design for manufacturing, maintenance, repair and disposal.
- Feasibility studies.
- Enterprise and marketing in the development of products.
- Design communication.

Designing and making principles:

- Design methods and processes.
- Design theory.
- How technology and cultural changes can impact on the work of designers.
- Design processes.
- Critical analysis and evaluation.
- Selecting appropriate tools, equipment and processes.
- Accuracy in design and manufacture.
- How to evaluate products, taking into account the views of potential users.
- Responsible design.
- Design for manufacture and project management.
- National and international standards in product design.

Scheme of assessment

Paper 1

What's assessed: Technical principles.

How it's assessed • Written exam: 2 hours and 30 minutes • 120 marks • 30% of A-level

Questions: Mixture of short answer and extended response.

Paper 2

What's assessed: Designing and making principles.

How it's assessed • Written exam: 1 hour and 30 minutes • 80 marks • 20% of A-level

Questions: Mixture of short answer and extended response questions.

Section A: • Product Analysis: 30 marks

- Up to 6 short answer questions based on visual stimulus of product(s).

Section B: • Commercial manufacture: 50 marks

- Mixture of short and extended response questions

Non-exam assessment (NEA)

What's assessed: Practical application of technical principles, designing and making principles.

How it's assessed: • Substantial design and make project • 45 pages • 100 marks • 50% of A-level

Evidence: Written or digital design portfolio and photographic evidence of final prototype.

Product design is for those of you who really enjoy a challenge in studying the development of everyday products, of trying to solve a problem of your choice and in designing and building something worthwhile, and for those who intend to take a course in engineering or design at a later date.

The specification content enables you to:

- to develop design skills and creativity and to recognise constraints to produce a high-quality product.
- to develop a critical understanding of how society, technological advances and sustainability influence product development.
- to apply knowledge, understanding and skills of product manufacture to a range of technological activities.
- to develop an understanding of industrial processes.

You can normally combine technology with any subject, although mathematics and/or physics would be an advantage. The course is demanding but nevertheless very interesting and is particularly suited to those with an enquiring mind who also enjoy a challenge.

Mrs HILARY MITCHENER
head of design & technology