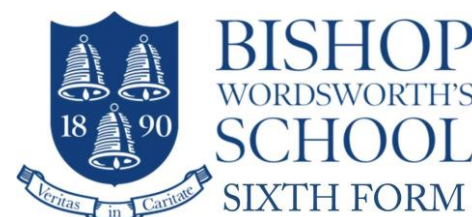


Design and Technology

Product Design

AQA Specification



General information:

This creative and thought-provoking qualification combines creativity with problem-solving, mathematics, science, engineering and practical making skills. Students will develop an understanding of how materials, processes and technologies work, while learning to design and develop innovative, functional products that respond to real-world needs.

Throughout the course, students will investigate the historical, social, cultural, environmental and economic influences that shape design and technology. They will have the opportunity to apply their knowledge and skills through practical projects, developing their own ideas from initial concepts through to prototypes and finished products.

Product Design encourages students to think creatively, analyse problems, test ideas and refine solutions. Alongside developing practical and technical expertise, students will gain a deeper understanding of what it means to be a designer and develop the confidence, knowledge and skills valued by higher education and employers across a wide range of careers.

Course content:

The A level course follows the same structure as AQA GCSE.

In year 12, a series of small, skills-based projects take place over terms one and two.

These projects provide students with a variety of practical skills using a range of materials and processes along with refining their abilities in CAD and sketching. They will learn core theory to both support their practical work and reinforce theoretical knowledge that may be examined in Paper 1 and Paper 2. The third term of year one continues to expand on theoretical knowledge whilst students start to develop their coursework unit.

Students are expected to develop their coursework over the summer break in preparation for Year 13.

In year 13, student continue improving their exam technique whilst revising past theory units. The NEA coursework unit continues with the final submission for coursework happening formally in May. Students then focus entirely on exam revision in preparation for the two exams.

The NEA component is focused on either a single discipline or incorporates multiple disciplines within the broader field of Design and Technology. These disciplines include Product Design, Architecture, Engineering, Textiles, and Packaging Design.

How is the course taught and assessed?

Component 1, Paper 1 - Technical principles: a 2 ½ hour theory exam worth 120 marks

The paper assesses students' understanding of materials, manufacturing processes, mathematical calculations, technical principles, sustainability, emerging technologies, and the factors that influence product design.

Component 2, Paper 2 – Designing and making principles: a 1 ½ hour theory exam worth 80 marks.

The paper focuses on applying design knowledge to products and the wider design process, including product analysis, prototyping, research, design history, sustainability, commercial manufacture, development processes and evaluating design decisions.

Component 3, NEA (Non-Examination Assessment): worth 100 marks:

A substantial individual design-and-make project based on a context, client and design opportunity of their choice. Students identify a problem, need or opportunity, investigate it in depth, develop a design brief and specification, generate and refine ideas in an iterative way, and then manufacture a high-quality prototype.

The NEA is produced as a 45-page portfolio of work, started in the third term of year one and submitted mid-May of year two.

Student's work is assessed against four assessment objectives (AOs):

AO1: Identify, investigate and outline design possibilities to address needs and wants.

AO2: Design and make prototypes that are fit for purpose.

AO3: Analyse and evaluate design decisions and outcomes, including for prototypes made by themselves and others, alongside wider issues in design and technology.

AO4: Demonstrate and apply knowledge and understanding of technical, designing and making principles.

Entry requirements:

In addition to the general entry requirements for BWS, a grade 6 in GCSE Design and Technology, Art, Graphic Design or Photography and a portfolio of work to support if needs be.

Results information:

This is a new subject starting in 2027

Top destinations for students:

Common career choices include degrees in Product Design, Industrial Design, Engineering, Architecture, Interior Design, Furniture Design, Graphic Design, Automotive Design and Manufacturing, alongside many other creative and technical disciplines.

Beyond the curriculum:

The Design and Technology department at Bishop's aims to connect classroom learning with the real world, giving students opportunities to apply their knowledge through practical projects, trips, workshops and visits.

BWS is an Arkwright Affiliated School

This affiliation provides our students with a range of opportunities for those who are interested in engineering including chemical engineering.