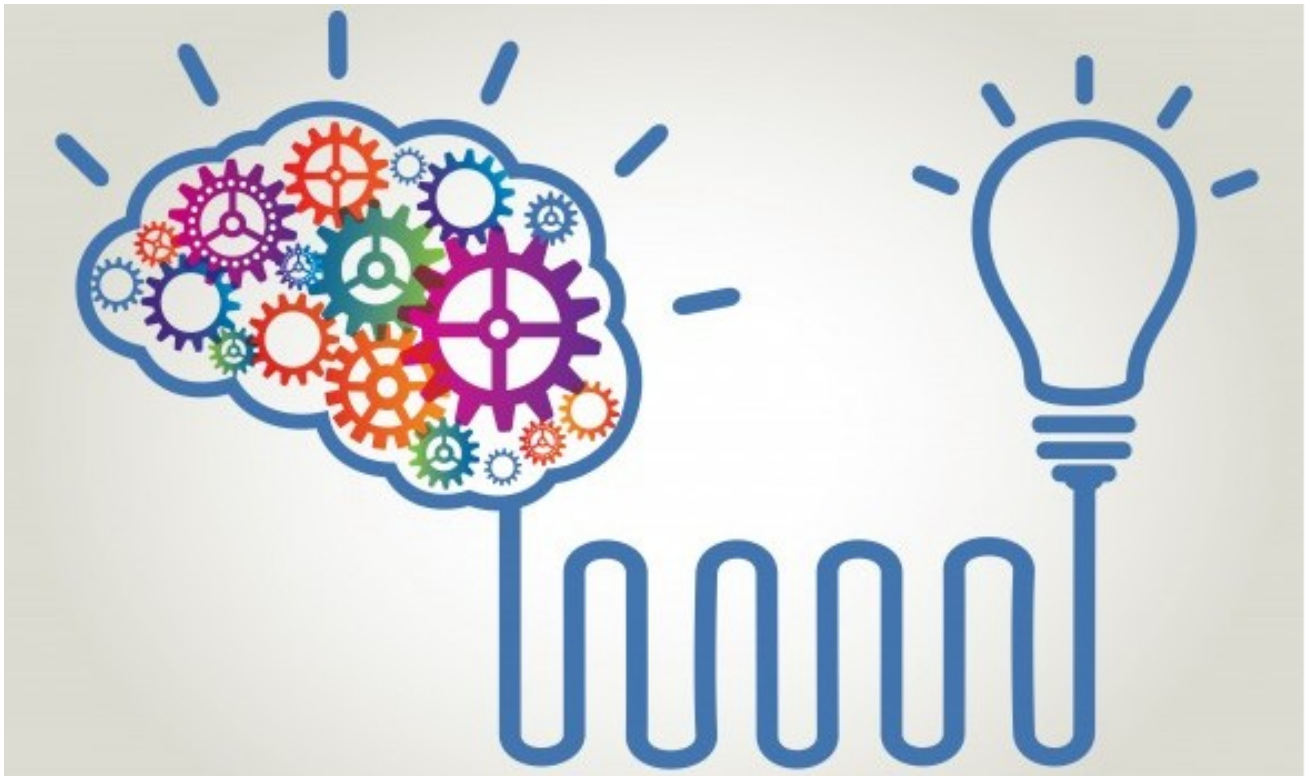# Hartismere College

# Product Design

# A STUDENT'S GUIDE TO A LEVEL PRODUCT DESIGN

Inspiring a future in design and technology **– Drawing on authentic design practice and contemporary technologies, students will explore design possibilities that excite and engage them, giving a strong foundation for further study and developing thinking and designing skills that will support them in any future direction.**

Learning about design and technology at A level strengthens your critical thinking and problem solving skills, enabling you to develop and make prototypes and products that solve real-world problems, considering the needs, wants, aspirations and values of others.

A Level qualification requires students to identify market needs and opportunities for new products, initiate and develop design solutions, and make and test prototypes/products. Students will learn how a product can be developed through the stages of designing, prototyping, realisation and commercial manufacture.
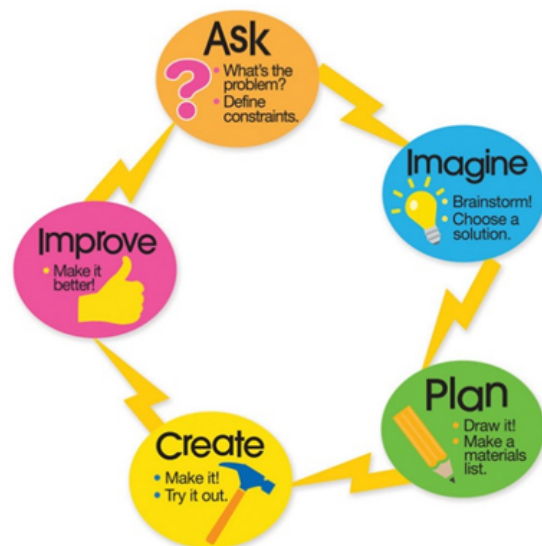
**What do you need to know or be able to do before taking this course?**

It would be helpful if you have studied Design Technology Resistant Materials or Graphic Design at GCSE and achieved a grade 5 or above. Drawing and communication skills are essential, and some ability with CAD programmes is helpful. 20% of each exam requires you to demonstrate applied mathematical skills, so an ability in Maths is required.

But the main thing you need is an open mind, active imagination and a curiosity for materials and making things.

The A Level course we currently study at Hartismere is AQA Design and Technology: Product Design (7552).
This is a link to the AQA 'Specification at a glance' page.

https://www.aqa.org.uk/subjects/design-and-technology/as-and-a-level/design-and-technology-product-design-7552/specification-at-a-glance

During the first year students will work through a combination of theory based material and workshop projects that give them hands-on experience of making and materials.
In addition to the taught elements, the course will include Design trips to London exhibitions and Galleries and to local manufacturing units.
The second year focuses on the 'Iterative Design Challenge', a major design and make project of the students individual choice. This project makes up 50% of the qualification, the other 50% is exam based.

**A Level Product Design will encourage you to**:

· Be open to taking design risks, showing innovation and enterprise whilst considering their role as responsible designers and citizens
· Develop intellectual curiosity about the design and manufacture of products and systems, and their impact on daily life and the wider world
· Work collaboratively to develop and refine their ideas, responding to feedback from users, peers and expert practitioners
· Gain an insight into the creative, engineering and manufacturing industries

· Develop the capacity to think creatively,
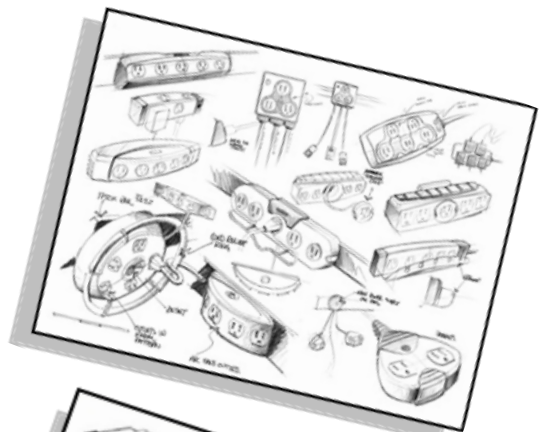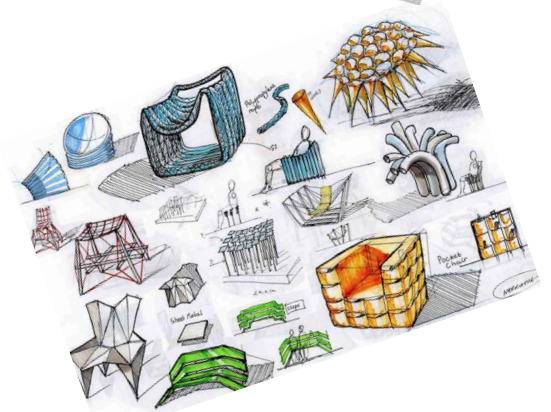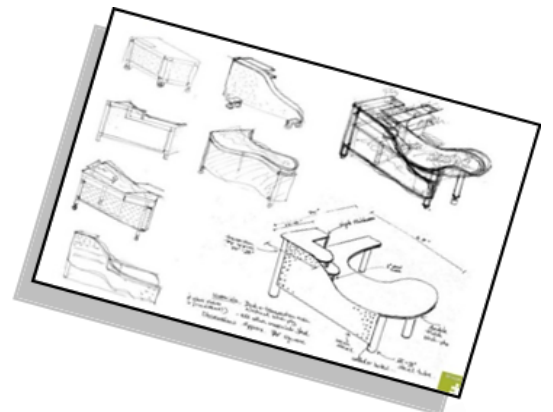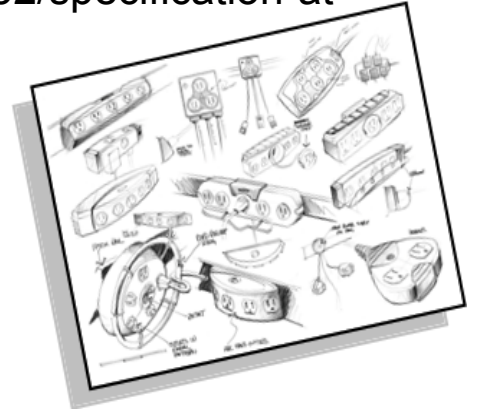
innovatively and critically through focused research and the exploration of design opportunities arising from the needs, wants and values of users and clients

· Become independent and critical thinkers who can adapt their technical knowledge and understanding to different design situations

· Develop an experienced understanding of iterative design processes that is relevant to industry practice

· Be able to create and analyse a design concept and use a range of skills and knowledge from other subject areas, including mathematics and science, to inform decisions in design and the application or development of technology

· Be able to work safely and skilfully to produce high-quality prototypes/products

· Have a critical understanding of the wider influences on design and technology, including cultural, economic, environmental, historical and social factors.
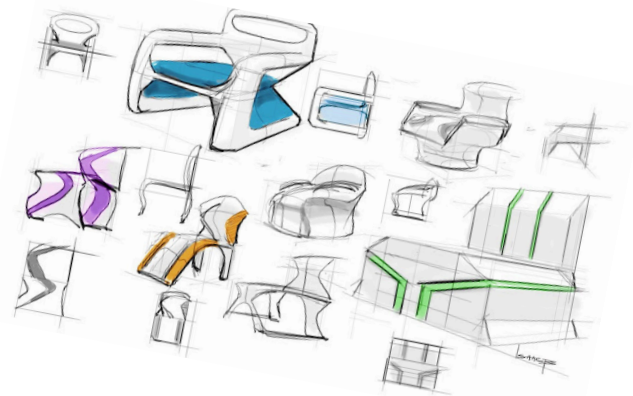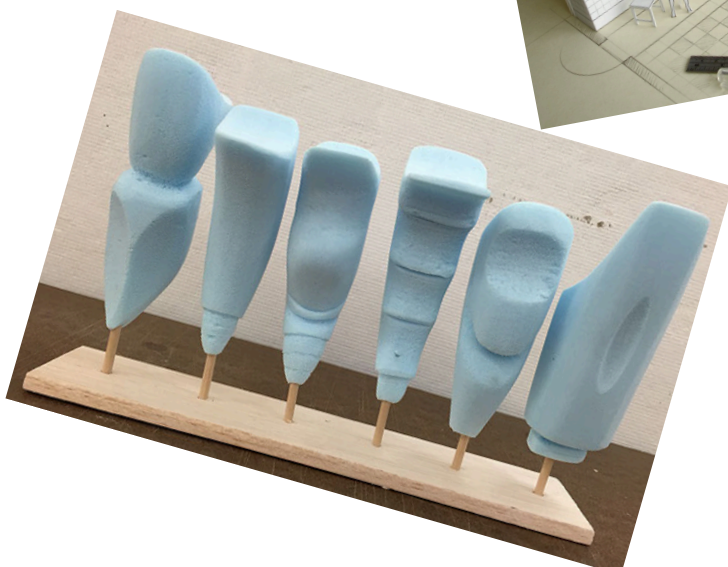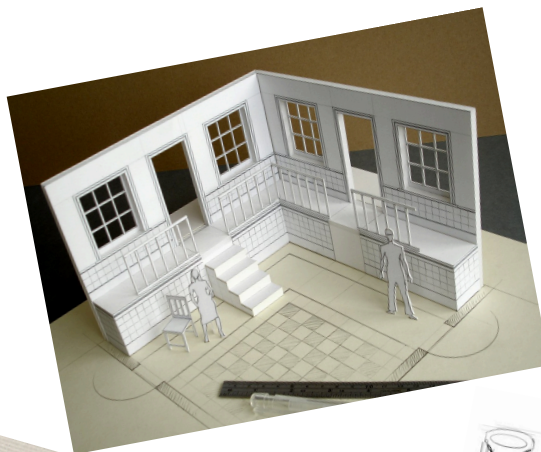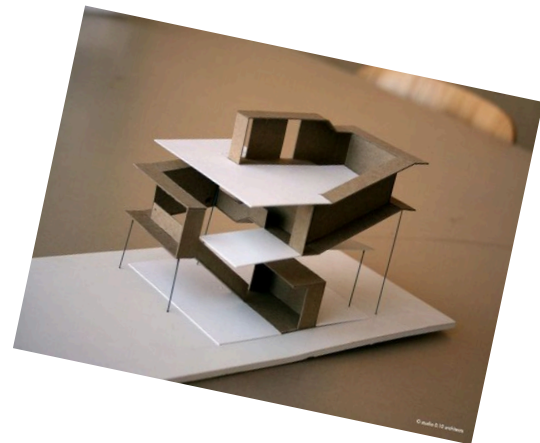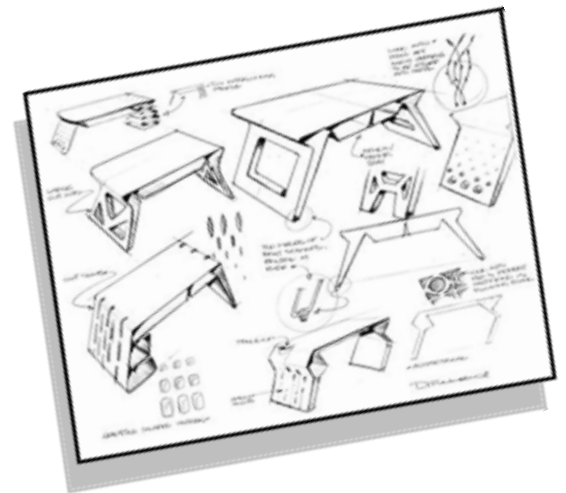
# What Exams will you take?

## In the second year students will undertake a major coursework project and two substantial exams.

**Coursework**    ITERATIVE DESIGN PROJECT    50%

A design, make and evaluate project centred on the processes of explore, create and evaluate. You will be required to identify a design opportunity or problem from a context of your own choice, and create a chronological portfolio of your project development. Innovative approaches will be required resulting in a final prototype that can be tested against the user and the market.  The project involves liaising with live primary user groups and the making of the final product should show excellent modelling and making skills.

### Exams

The exam requires learners to apply their knowledge and understanding through higher level thinking skills, reflecting on the viability of products and possible design solutions in context and being able to make critical judgements on the most appropriate methods and outcomes.  The paper requires some drawing and 20% of the paper is mathematical.

1. Technical principles                        2 hours and 30 minutes    30%
2. Designing and making principles        1 hour and 30 minutes        20%

Both paper contain a mixture of short answer and extended response questions. Overall, 20% of the marks for both papers are Mathematics based.

For further information
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