

Curriculum Overview

Subject: Design & Technology

Year Group: 12



CHASE HIGH SCHOOL
AMBITION - RESILIENCE - KINDNESS

CURRICULUM INTENT:

The A level in Design and Technology course offers a unique opportunity in the curriculum for learners to identify and solve real problems by designing and making products or systems. Design and Technology is an inspiring, rigorous and practical subject. The Year 12 curriculum aim is to encourage learners to use creativity and imagination when applying iterative design processes to develop and modify designs, and to design and make prototypes that solve real world problems, considering their own and others' needs, wants, aspirations and values. The course enables learners to identify market needs and opportunities for new products, initiate and develop design solutions, and make and test prototypes. Learners will be inspired to take the broad subject further in their education and specialise in an area which they feel passionate about; whether this is through an apprenticeship, college or at university level.

TERM 1	TERM 2	TERM 3
KNOWLEDGE/SKILLS Half term 1: Inclusive design challenge <ul style="list-style-type: none"> ➤ Anthropometrics and ergonomics ➤ Aesthetics ➤ Inclusive design ➤ Social, moral, ethical responsibilities of designers and manufacturers ➤ Critical analysis of products ➤ Environmental issues ➤ Circular economy – product life cycle Half term 2: Designing functional products <ul style="list-style-type: none"> ➤ The history of Design ➤ Design Styles and designers ➤ Socio-economic factors in design ➤ Properties of timber ➤ Wood joints ➤ Writing a manufacturing plan ➤ Quality control checks ➤ Timber forming ➤ Wood finishes 	KNOWLEDGE/SKILLS Half term 1: Manufacturing products fit for purpose. <ul style="list-style-type: none"> ➤ Efficient design and manufacture ➤ Marketing and brand identity ➤ Importance of copyright and trademarks (open design) ➤ Smart and Modern Materials – manufactured to disassemble ➤ Adhesives and Fixings ➤ Computer systems in manufacturing ➤ Bought-in components and subassembly Half term 2: Material properties <ul style="list-style-type: none"> ➤ Physical and mechanical properties and working characteristics ➤ Product function ➤ aesthetics ➤ polymers ➤ metals ➤ scale of production ➤ Product safety ➤ Packaging – paper and board / polymer based sheet 	KNOWLEDGE/SKILLS Half term 1: Manufacturing processes <ul style="list-style-type: none"> ➤ Printing processes ➤ Metal forming ➤ Metal wasting ➤ Metal hardening and tempering ➤ Metal joining ➤ Metal finishes ➤ Polymer forming ➤ composites Half term 2: NEA <ul style="list-style-type: none"> ➤ Context ➤ Potential user ➤ Investigation (Primary and secondary) ➤ Practical experimentation ➤ Disassembly ➤ Concept ideas

<ul style="list-style-type: none"> ➤ H&S procedures and risk assessment ➤ Rapid prototyping ➤ Working drawings 	<ul style="list-style-type: none"> ➤ Critical analysis of a product 	
<p>KEY ASSESSMENTS</p> <p>Half term 1: Practical making skills, exam style questions and unit tests.</p> <p>Half term 2: Practical making skills, exam style questions and unit tests.</p>	<p>KEY ASSESSMENTS</p> <p>Half term 1: Practical making skills, exam style questions and unit tests.</p> <p>Half term 2: Practical making skills, exam style questions and unit tests.</p>	<p>KEY ASSESSMENTS</p> <p>Half term 1: Practical making skills, exam style questions and unit tests. PPE</p> <p>Half term 2: Practical making skills, exam style questions and unit tests.</p>
<p>Extended reading suggestions and external resources:</p> <p>My Revision Notes: AQA A Level Design and Technology: Product Design</p> <p>https://studyrocket.co.uk/revision/a-level-design-and-technology-aqa</p> <p>www.technologystudent.com</p>		<p>Cultural Capital:</p> <ul style="list-style-type: none"> ➤ key designers from across the world in KS4 which inspires students to think globally about their career and influences. ➤ NEA contributing to problem solving local problems. ➤ Social impact of inclusive design considerations, as well as moral, ethical. ➤ Student knowledge and understanding of sustainability and securing the preservation of resources for future generations.