

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 ➤ 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 ➤ 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. ➤ 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 ➤ 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 ➤ Printing processes ➤ Metal forming ➤ Metal wasting ➤ Metal hardening and tempering ➤ Metal joining ➤ Metal finishes ➤ Polymer forming ➤ composites Half term 2: NEA ➤ Context ➤ Potential user ➤ Investigation (Primary and secondary) ➤ Practical experimentation ➤ Disassembly ➤ Concept ideas

➤ H&S procedures and risk assessment ➤ Rapid prototyping ➤ Working drawings	➤ Critical analysis of a product	
KEY ASSESSMENTS Half term 1: Practical making skills, exam style questions and unit tests. Half term 2: Practical making skills, exam style questions and unit tests.	KEY ASSESSMENTS Half term 1: Practical making skills, exam style questions and unit tests. Half term 2: Practical making skills, exam style questions and unit tests.	KEY ASSESSMENTS Half term 1: Practical making skills, exam style questions and unit tests. PPE Half term 2: Practical making skills, exam style questions and unit tests.
Extended reading suggestions and external resources: My Revision Notes: AQA A Level Design and Technology: Product Design https://studyrocket.co.uk/revision/a-level-design-and-technology-aqa www.technologystudent.com		Cultural Capital: ➤ 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.

Curriculum Overview

Subject: Design & Technology

Year Group: Year 13



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 13 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: NEA ➤ Challenging design brief that addresses the context and meets the needs of the intended user(s) ➤ Detailed design specification with measurable outcomes ➤ Time management plan ➤ Design proposals ➤ Further investigations • Full annotation and analysis, reference to brief and spec. ➤ Modelling (Scale, techniques, material experimentation) ➤ Working drawings ➤ Plans ➤ Templates and jigs ➤ Use of CAD Half term 2: NEA ➤ High level practical skills used to develop and refine the design prototype ➤ Continued experimentation and adaptation	KNOWLEDGE/SKILLS Half term 1: NEA ➤ High level practical skills used to develop and refine the design prototype ➤ Continued experimentation and adaptation ➤ Use of CAM Half term 2: NEA Ongoing throughout NEA. Used to inform design decisions, modifications and development of prototype. Close and regular involvement of client/user(s) ensuring prototype is fit for purpose and meets their needs. ➤ Testing ➤ Critical analysis ➤ Critical evaluation ➤ Modifications ➤ Consideration for production methods	KNOWLEDGE/SKILLS Half term 1: Theory, revision and exam preparation ➤ Developments in technology ➤ Quality assurance procedures ➤ Standards in product design ➤ SME responsibilities of designers ➤ Recap all knowledge across the two-year curriculum.

➤ Use of CAM		
KEY ASSESSMENTS Half term 1: Practical NEA, PPE Half term 2: Practical NEA, exam style questions and formal exam.	KEY ASSESSMENTS Half term 1: Practical NEA, PPE Half term 2: Practical NEA, exam style questions and formal exam.	KEY ASSESSMENTS Half term 1: Practical NEA, exam style questions Half term 2: Formal making and submission of NEA, exam style questions
Extended reading suggestions and external resources: My Revision Notes: AQA A Level Design and Technology: Product Design https://studyrocket.co.uk/revision/a-level-design-and-technology-aqa www.technologystudent.com		Cultural Capital: ➤ 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.