

Product Design

Subject Leader: Mr J Fulson

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Curriculum Intent:

Students will learn through a variety of projects during KS3/4 and 5, how to use the technological principles of explore, create, and evaluate to solve problems. On this learning journey, these projects will also bestow upon them the technical knowledge required to be a Product Designer.

	Core Knowledge	Procedural Knowledge
Autumn Term 1	Topic: <ul style="list-style-type: none">• The 6Rs of Sustainability• Environmental Impact and Sustainable Practices• Definition and Implications of the Anthropocene• Planning for Manufacture (Production Plans)	Students will: <ul style="list-style-type: none">• Critically analyse a design context to identify user needs and constraints• Develop comprehensive design specifications• Apply manufacturing aids such as templates and jigs to ensure accuracy• Develop competence in the safe and effective use of hand tools• Learn and apply soldering techniques in practical contexts
Autumn Term 2	Topic: <ul style="list-style-type: none">• Environmentally Responsible Material Choices• Health and Safety Protocols, including Risk Assessment Procedures	Students will: <ul style="list-style-type: none">• Continue to develop confidence and precision in soldering• Create and test sketch models to explore form and function• Enhance 2D design communication through technical drawing and visualisation techniques• Apply rendering techniques to communicate material, texture and form•
Spring Term 1	Topic: <ul style="list-style-type: none">• Principles of Sustainable Design• SWOT Analysis as a Tool for Design Development• Net Design and Efficient Use of Materials	Students will: <ul style="list-style-type: none">• Refine 2D design development techniques with a focus on sustainability• Apply advanced rendering to enhance visual communication of design ideas
	The second half of the year is a repeat of the first half with a different group of students	
Homework:		

Homework is set on Class Charts for every six hours taught. Homework will comprise a presentation on The Positive Impact of Technology and revision for tests.

Assessment:

Formative verbal and other feedback. Exploration grade (research). Create grade (making). Evaluation grade. Principles grade through a multiple-choice test. Presentation skills and content grade.

Links to Personal Development:

Following drawings. Manufacturing understanding. Dexterity and hand skills. Machining skills. Self-evaluation of work. Presentation skills. Research/analytical skills. CAD/CAM skills. Design skills.

How is my knowledge further developed in Year 9?

In Year 9, students will learn the following through a series of different projects – CAD, CAM, Carpentry skills, Casting, Architectural design/modelling, 3D printing, sketch modelling, Furniture Design and Iterative Design