

5 Year Curriculum Overview

Ellesmere Park High School

Department:

Design and Technology

Head of Department:

Mr M Stavrinou

Department Vision

"Design is intelligence made visible." -- Alina Wheeler, author

5 Year Overview -Departmental Curricular Intent

Our Design and Technology department at Ellesmere Park High School offers every student the opportunity to develop a wide range of life skills through a challenging and diverse curriculum. The skills and knowledge taught at our school empower and inspire our students to make a positive impact on our world through careers in design and technology. The subject is creative and the workshop has become a hive of activity and curiosity in the world of STEM. Our new head of Department has grown the subject significantly in a short space of time through his dedication, expertise and commitment to developing the next generation of design experts and problem solvers.

Our aim is to inspire and develop students' curiosity and appreciation of design, food and nutrition; to help students to be self-motivated, creative problem solvers and work as effective members of a team. We provide a safe and positive environment in the workshops and food technology rooms for students to 'take creative risks' and develop their skills and understanding of design and nutrition.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
YEAR 7	Wooden Dice	Product Holder	Acrylic Picture frame	Food hygiene, Health & Safety	Food hygiene, Health & Safety	Food hygiene, Health & Safety
	<p>Students will:</p> <p>Familiarise themselves with the school design and technology workshop and learn how to work safely when working with wood.</p> <p>Learn how to use 2D and 3D drawing methods to prepare for marking out wood work. Students will make use of a range of different marking out tools, drilling and sanding machines to create a wooden dice.</p>	<p>Students will:</p> <p>Further develop their manufacturing skills to make their own product holder by utilising their creative skills.</p> <p>Learn how to make use of different saw's and apply these to materials such as wood and plastic. Students will learn different techniques required to shape and mould materials before assembling and finishing their final product.</p>	<p>Students will:</p> <p>Learn about computer aided design and computer aided manufacture to create an acrylic picture frame.</p> <p>Understand the difference between workshop skills and CAD/CAM and how to create a functioning electrical circuit.</p>	<p>Students will:</p> <p>Gain their cooker license and learn how to use the hob correctly and safely.</p> <p>Work independently and demonstrate use of a hob and a stick bender to mix ingredients.</p>	<p>Students will:</p> <p>Learn how to make pastry and learn about allergens and food packaging.</p> <p>Learn about the origins of food and the information required on food packaging.</p>	<p>Students will:</p> <p>Learn about a variety of presentation techniques in food.</p> <p>Demonstrate cooking skills and ability to create their own dish to given theme.</p>
YEAR 8	Passive Speaker	Jewellery	Mood Lighting	Food hygiene, Health & Safety	Food hygiene, Health & Safety	Food hygiene, Health & Safety
	<p>Students will:</p> <p>Work to cut and assembly passive speaker tailored to their mobile phone.</p> <p>Learn how to use a range of workshop equipment to cut, drill, shape and mould wood and acrylic to create a portable passive speaker.</p>	<p>Students will:</p> <p>Learn about ferrous and non-ferrous metals in making use of casting to produce jewellery made from pewter.</p> <p>Apply their manufacturing skills to create a mould using CAD/CAM and different wood working saws to produce a piece of jewellery.</p>	<p>Students will:</p> <p>Consider the user before selecting materials tailored to their user to create mood lighting.</p> <p>Learn how apply wood, acrylic and metal to create a lamp tailored to their users' requirements.</p>	<p>Students will:</p> <p>Be introduced to food preparation and nutrition.</p> <p>Learn how to change ingredients to make healthy alternatives.</p>	<p>Students will:</p> <p>Learn about allergens and Intolerances and the importance of people's health and wellbeing.</p> <p>Develop knowledge of diets and preferences.</p>	<p>Students will:</p> <p>Develop understanding of the eat well guide and nutrients in foods.</p> <p>Demonstrate cooking skills and ability to create their own dish to given theme.</p>

Angle Poise Lamp	Desk Tidy	Phone Holder	Food hygiene, Health & Safety	Food hygiene, Health & Safety	Food hygiene, Health & Safety
<p>Students will:</p> <p>Re purpose a tin can to produce an angle poise lamp.</p> <p>Learn about different types of linkages, design movements, soldering techniques and joining techniques to product an angle poise lamp.</p>	<p>Students will:</p> <p>Produce a desk tidy tailored to a target market/customer.</p> <p>Learn to visualise their design ideas through the use of modelling and apply changes via customer feedback before building a desk tidy making use of wood joinery, CAD/CAM and moulding techniques.</p>	<p>Students will:</p> <p>Create a promotional item for a popular event happening in or around the local area.</p> <p>Make use of CAD/CAM techniques that can be shaped using moulding machines and apply this to wood to create a functioning phone holder and charger.</p>	<p>Students will:</p> <p>Learn how to make pasta and dough using a pasta machine.</p> <p>To understand the impact on food miles and carbon footprint.</p>	<p>Students will:</p> <p>To understand the difference between the primary and secondary processing of food.</p> <p>To make macaroni and Cheese and to write a production plan.</p>	<p>Students will:</p> <p>Learn about seasonality - why food is good at certain times of the year and how it can be grown or brought in from other countries for demand.</p> <p>Demonstrate cooking skills and ability to create their own dish to given theme.</p>

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
YEAR 10 AQA DT	Designing, Modelling and Prototypes	Manufacturing processes	Origins of materials	Smart materials, Sustainability	Mock NEA	NEA – Commence
	<p>Students will:</p> <p>Respond to a given design brief and independently design and develop a product with a focus on ergonomics and anthropometrics.</p> <p>Further develop and enhance their design techniques to support realising their designs.</p>	<p>Students will:</p> <p>Realise design through practical activities by working with foamboard, wood, metals and plastics.</p> <p>Further enhance their knowledge of manufacturing techniques by practicing vacuum forming and learning about a range of different industrial manufacturing methods.</p>	<p>Students will:</p> <p>Learners will investigate the materials, components and processes used in the production of engineered products.</p> <p>Learn how polymers metals and timbers are made and available in stock forms.</p>	<p>Students will:</p> <p>Further enhance their knowledge of materials by learning about smart materials and sustainable design.</p> <p>Apply knowledge of materials to designs and evaluate sustainability issues in product design.</p>	<p>Students will:</p> <p>Begin a mock NEA assessment and develop researches pages to assist with the development of a chosen concept.</p> <p>Create research pages, design ideas, technical drawings and working prototype.</p>	<p>Students will:</p> <p>Learners will choose from a selection of design briefs and begin to research in preparation for design and developing ideas.</p> <p>Create a detailed mind map, customer profile, analyse a range or products and write a design specification.</p>
YEAR 11 BTEC ENGINEERING	UNIT 1A Engineering Sectors	Exam	Exam and practical write up	Practical Write up		
	<p>Students will:</p> <p>Learners will explore the links between the various engineering sectors and the role of design in the production of engineered products.</p> <p>Explain how engineers from different sectors generate an engineered product, with reference to sizes of organisations and the job roles involved.</p>	<p>Students will:</p> <p>Be given engineering briefs with problems you need to respond to. Your response will include possible solutions that you will test against the brief.</p> <p>Learners will produce solutions to problems using different combinations of practical engineering skills, including making as part of the engineering design and make process.</p>	<p>Students will:</p> <p>Continue to produce solutions to problems using different combinations of practical engineering skills, including making as part of the engineering design and make process.</p>	<p>Students will:</p> <p>Write detailed notes and evaluate their engineering Skills after completing their practical exam</p>		

GCSE NEA 2 Theory: Food Safety	GCSE NEA 2 Theory: Food Provenance	GCSE NEA 2 Theory: Food Science	GCSE NEA 2 GCSE Revision	GCSE Revision NEA 2 practical & evaluation
<p>Students will:</p> <p>Analyse the task brief and research the task brief Students will learn about Keeping foods safe when storing, preparing & cooking of food.</p> <p>- NEA 2 NEA 2 Plan, prepare, cook & present a range of dishes.</p>	<p>Students will:</p> <p>Plan technical skilled dishes relative to the chosen task brief. Students will learn about farming, global impacts & food processes.</p> <p>-NEA 2 Plan, prepare, cook & present a range of dishes.</p>	<p>Students will:</p> <p>Justify 3 final dishes and write a time plan. Students will learn about preparing, cooking & presenting the dishes.</p> <p>- NEA 2 Plan, prepare, cook & present a range of dishes.</p>	<p>Students will:</p> <p>Analyse & evaluate dishes. Re visit GCSE units for written exam.</p> <p>- NEA 2 Plan, prepare, cook & present a range of dishes - - GCSE revision.</p> <p>-Revision -Plan, prepare, cook & present 1 dish.</p>	<p>Full individualised preparation for exam.</p>