



Northampton International Academy

Design and Technology Curriculum – Overview



Why Teach Design and Technology?

We believe that Design and Technology is at its core all about creativity and imagination. Students learn to design and make products taking into account the modern world and needs of others, allowing them to access a plethora of careers in the growing area of the creative industries and engineering.

Students have to consider others and understand their view points, think in creative ways to solve problems, learning practical skills an variety of media techniques and process in order to achieve an effective end result.

Design and technology requires a combination of divergent and creative thinking blended with theoretical understanding and practical skills.

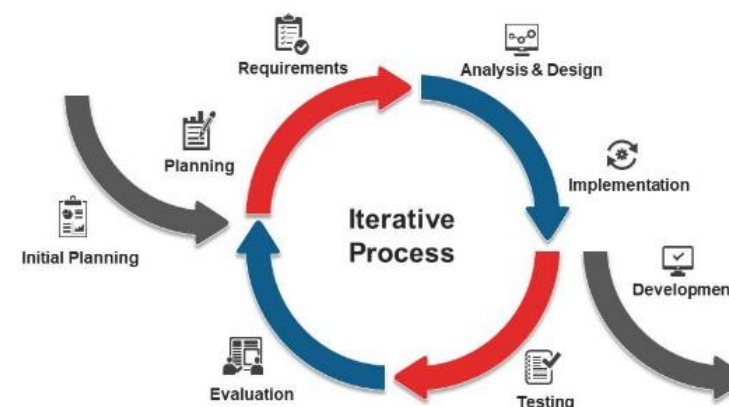
From designing objects for a commercial market through to clothing, furniture and Food, Design and technology equips students for their future by encompassing practical life skills and encourages students to be make appropriate decisions and solve problems.
– essential skills for the modern world.

We want our students to be able to think like designers,

- make decisions and find solutions

-and use practical skills to support their lives in the future.

Iterative Process Model



Substantive Knowledge

KS3			KS4
Food and Nutrition	Art Textiles	Product Design	Food

Disciplinary Knowledge

	Designing	Understanding contexts, user and purposes
		Generating, developing, modelling, and communicating ideas
	Making	Planning
		Practical skills and techniques
	Evaluating	Own ideas and products
		Existing products
		Key events and individuals

Curriculum Overview

The following table provides an overview of the projects taught in each year and term. The key aspects of design and technology are covered including, textiles, food, construction materials, mechanical components and in key stage 2 electrical components.

		Year 7	Year 8	Year 9	Year 10	Year 11
					GCSE	GCSE
	Food	Health and Safety Use of Hobs Knife skills Simple recipes with basic skills Bread, pasta, chicken	Health and Safety Use of Hob and Oven Knife skills, Combination foods with two or more elements batter, cheese sauce, eggs and meat	Health and Safety Use of Hob and Oven Meals combining multiple elements and using hob and oven. Proteins and carbohydrates	Health and Safety Use of Hob and Oven Learners gain a comprehensive knowledge and understanding of the hospitality and catering industry including provision, health and safety, and food safety	Health and Safety Use of Hob and Oven. Learners gain knowledge and understanding of the importance of nutrition and how to plan nutritious menus. Skills needed to prepare, cook and present dishes. Review their work effectively.
	Product	Wooden Robot Understand how to shape wood using tools safely Use materials economically.	Desk Lamp Understand how to combine multiple elements to create a 3D object using machines and tools safely.	Box Joints and joining methods.		
	Textiles	Friendly Monsters Hand Sewing techniques Applique techniques	Roller wrap- fabric holder Hand and machine sewing techniques Batik	Tote bag Hand and machine sewing techniques	AQA Art and Design- Textiles Introduction to a wide variety of techniques and artist through workshop projects. Sustained project – Humans Vs Nature	AQA Art and Design - Textiles Sustained project – ‘The World Around Us’ Exam project.



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Design and Technology Curriculum Map – Topics by Subject



		Year 7	Year 8	Year 9	Year 10	Year 11
		6x100 minute lessons per subject per academic year	6x100 minute lessons per subject per academic year	6x100 minute lessons per subject per academic year	57x100 minute lessons per academic year	57x100 minute lessons per academic year
Subjects Rotated around	Food Technology	Kitchen Safety and Hygiene - Fruit Salad - Frittata and Hash browns - Cheese scones - Chicken Sandwich - Cookies	Food Safety - Chicken Wrap - Cottage Pie - Pizza Wheels - Baked Mac and Cheese - Pineapple upside down cake	Food Poisoning and Bacteria - Health and Safety - Chicken Potato Curry - Beef Cupcakes - Pizza - Swiss Roll - International Cuisine	Hospitality and Catering (Theory and Practical based) Unit 1 Hospitality and catering provision How Hospitality and Catering providers operate Health and safety in Hospitality and Catering Food safety in Hospitality and Catering Health and Safety: responsibility of employers and employees Unit 2 The importance of nutrition – general overview Menu Planning – domestic planning The skills and techniques of preparation cooking and presentation of dishes Evaluating cooking skills Application of food safety considerations when preparing, storing and cooking. Commodities	Hospitality and Catering – Level 1/2(Theory and Practical based) Unit 1 Job requirements and working conditions in the Hospitality and Catering industry Factors affecting the success of Hospitality and Catering providers Operation of front and back of house Meeting customer requirements Food safety regulation Roles and responsibilities of Environmental Health Officers Unit 2 The importance of nutrition – special dietary needs & special groups Impact of cooking on nutritional value Menu planning – production planning, meeting customers' needs Recipe modification

	Product Design	Wooden Robots - Health and Safety - Understanding Product Design - Softwood - Hardwood - Using Hand tools safely - Using machine powered tools safely	Desk Lamp - Health and Safety - Use a variety of hand and machine powered tools safely - Sustainability - The Design Process - Joining elements together - Electronic systems	Whats in the Box? - The Iterative Design process - Design Specification - Wood Joints - Measuring accurately - Using a variety of hand and machine powered tools safely - Hinges and lids - CAD and CAM - Using a Laser cutter		
	Textiles	Friendly Monsters - Threading a needle - Taking inspiration from an artist - Hand sewing a variety of stitches - pinning - Adding components - Applique - Using paper templates - Making a 3D form	Roller Wrap - The design process - Analysing an artists work - The batik process - Using a sewing machine - Hand sewing - Constructing compartments - Creating a 3d product	Tote Bag - Comparing and analysing artists work - Creating a suitable design image using C.A.D. - Constructing a product - Embellishing a product	AQA Art Textiles Skills Development - Introduction to the course - Workshop lessons: Students Investigate new textiles techniques building upon prior knowledge including- - Pleats and tucks - Shibori - Hand embroidery - Applique - Heat transfer - Sewing machine skill - Developing ideas and using thumbnail sketches - Artist research and investigations - Mind maps - Collaborative Work Sustained Project - Humans V Nature: Students develop a sketchbook and personal response, inspired by the question of how we interact with the planet.	AQA Art Textiles The World around Us: Students develop a personal project inspired by the title ‘The world Around us’ Student led using a variety of media and techniques selected by the student. January onwards GCSE exam work. Students develop a personal set of work in response to one exam question. 10 hr exam