KS3 Design and Technology Curriculum at Hall Park Academy: D&T and Food

We will support students to develop their technical knowledge and practical skills which will enable them to solve real world problems.

Term	D&T rotation	Food rotation
Year 7	**Technical drawing skills and graphic design**	**Healthy eating**
Content	-Use of colour within design and technology. -Introduction to technical drawing skills: -1-point and 2-point perspective -Biomimicry -Ergonomics -Anthropometrics -Materials: wood -50-mark assessment end of rotation paper	-Introduction to food hygiene and safety -Identifying hazards in a kitchen -Grown, reared and caught food -The Eatwell Guide and 8 healthy eating guidelines -Sensory analysis -Dietary needs -Analysing the work of successful chefs – Gordon Ramsay -50-mark assessment end of rotation paper
Year 8	**Designing a product to meet a design brief and specification.**	**Balanced diet**
Content	-Scales of production. -Properties of plastic. -Designing a product to meet a design brief. -Learning how to follow a specification. -Completing product analysis. -Bridge structure -Manufacturing with plastic Skills: -Measuring with accuracy -Vacuum forming -Filing -50-mark assessment end of rotation paper	-4 C's of food safety and hygiene ratings -Grown, reared and caught food -Religions and their dietary requirements – Hindu, Sikh, Rastafarians, Muslim, Christian, Judaism, -The Eatwell guide and function of nutrients -Allergies and intolerances – lactose, coeliac, nuts -Analysing the work of successful chefs – Sat Bains, -Environmental factors – organic, free range, fair trade -Sensory analysis -50-mark assessment end of rotation paper
Year 9	**Designing and manufacturing a USB lamp**	**Fake away**
Content	-Client profile -User needs -Dieter Rams -Creating a design brief and a specification -Types of wood joints -Electronic circuits and resisters -The importance of modelling and prototypes Manufacturing a USB lamp Skills: -Measuring with accuracy -Vacuum forming –Sawing –Sanding –Filing – Drilling -50-mark assessment end of rotation paper	-Nutrients – Protein – HBV/LBV, Carbohydrates, function of nutrients -Meal planning for teenagers -Impact of fast food on a childs diet -Environmental health officer -Hygiene ratings -Analysing the work of successful chefs – Clare Smyth -Grown, reared and caught food -Sensory analysis -50-mark assessment end of rotation paper

GCSE AQA Design and Technology Curriculum at Hall Park Academy

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Term	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Year 10	**Basic wood joints**	**Materials jointing**	**Drawing skills**	**CAD skills**	**Mock NEA**	**NEA 1 introduction**
Content	**Unit 3 - Materials:** - Papers and boards - Timbers - Metals and alloys - Polymers - Textiles	**Unit 4 - Common specialist technical principles:** - Forces and stresses - Improving functionality - Ecological and social footprint - The 6 R's - Scales of production	**Unit 5 - Timber based materials:** - Sources and origins - Working with Timbers - Commercial manufacturing **Unit 6 - Designing principles:** - Investigating primary and secondary data - The work of other designers and companies *Work experience is during half term 3.	**Unit 6 - Designing principles:** - Design strategies - Communication of design ideas **Unit1 – New and emerging technologies** - Industry and enterprise - Sustainability and the environment - People, culture and society	**Unit1 – New and emerging technologies** - Production techniques and systems - Informing design decisions **Unit 2 – Energy, materials, systems and devices** - Energy generation - Energy storage - Modern materials	**Re-cap on skills and how they will be used for the NEA.** **Students will focus on research for the NEA.** **Unit 2 – Energy, materials, systems and devices** - Smart materials - Composite materials - Systems approach to designing - Electronic systems processing - Mechanical devices
Year 11	**NEA 1 50% of the course: 100 marks**				**GCSE exams**	
Content	**Unit 7 – Making principles** - Selection of materials and components - Tolerances - Material management - Tools, equipment, techniques and finishes - Surface treatments and finishes	Substantial design and make task Assessment criteria:- -Identifying and investigating design possibilities -Producing a design brief and specification -Generating design ideas -Developing design ideas -Realising design ideas -Analysing & evaluating In the spirit of the iterative design process, the above should be awarded holistically where they take place and not in a linear manner Contextual challenges to be released annually by AQA on 1 June in the year prior to the submission of the NEA Students will produce a prototype and a portfolio of evidence Work will be marked by teachers and moderated by AQA			**Section A – Core technical principles (20 marks)** A mixture of multiple choice and short answer questions assessing a breadth of technical knowledge and understanding. **Section B – Specialist technical principles (30 marks)** Several short answer questions (2–5 marks) and one extended response to assess a more in depth knowledge of technical principles. **Section C – Designing and making principles (50 marks)** A mixture of short answer and extended response questions. Written exam: 2 hours Marks: 100 50% of the course	

GCSE AQA Food Preparation and Nutrition Curriculum at Hall Park Academy

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Term	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Year 10	**Food nutrition and health and Food choice**	**Food science and Food provenance**	**Food science**		**Food science**	**NEA mock**
Content	-Primary and secondary processing. -Function and chemical properties of bread ingredients. -Food miles. -Sensory testing. -Seasonal produce. -Nutrients. -Functions of water. -Environmental factors. Theme: Soup and bread. *Cooking skills and food safety will be developed and interleaved throughout the year.	-Sensory testing. -Function and chemical. properties of cake ingredients. -Additives -Proteins and foams. -Dextrinisation, -Caramelisation. -coagulation. -Nutrients. Theme: Cake.	-Pastry types. -Shortening. -Laminating. -Nutrients. -Finishing techniques. -Cooking methods: -boiling -steaming -frying -roasting -baking. Theme: Pastry *Work experience is during half term 3		-Emulsification. -Enzymic browning. -Cooking methods. -Nutrients. -Methods of heat transfer: -radiation -convection -conduction. Theme: Colloidal structures	This will give students the opportunity to put all their previous knowledge into practice in the form of a mock NEA. 3.2 Food, Nutrition and health: Macronutrients, Micronutrients, nutritional needs and health 3.3 Food Science: cooking of food and heat transfer, Functional and chemical properties of food 3.4 Food Safety: Food spoilage and contamination, Principles of Food Safety 3.5 Food Choice: Factors affecting food choice, British and International cuisines, Sensory evaluation 3.6 Food Provenance: Environmental impact and sustainability of food, Food processing and production
Year 11	**NEA 1 15% of the course**	**NEA 2 35% of the course**			**GCSE exams**	
Content	Task 1: Food investigation (30 marks) Students' understanding of the working characteristics, functional and chemical properties of ingredients.	Task 2: Food preparation assessment (70 marks) Students' knowledge, skills and understanding in relation to the planning, preparation, cooking, presentation of food and application of nutrition related to the chosen task. Students will prepare, cook and present a final menu of three dishes within a single period of no more than three hours, planning in advance how this will be achieved.			Paper 1: Food preparation and nutrition What is assessed? Food, nutrition and health Food science Food safety Food choice Food provenance Written exam: 1 hour 45 minutes 100 marks 50% of GCSE	

WJEC Level 1/2 Hospitality and Catering Curriculum at Hall Park Academy

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Term	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Year 10	**1.1 Hospitality and catering provision**		**1.2 How H&C provisions operate**	**1.3 Health and safety in H&C** **1.4 Food safety in H&C**	**2.1 The importance of nutrition** **2.2 Menu planning** **2.3 The skills and techniques of preparation, cooking and presentation of dishes** **2.4 Evaluating cooking skills**	
Content	-Carbohydrates and protein. -Commercial and non-commercial establishments. -Residential and non-residential establishments. -Types of service -Personal attributes -Types of accommodation -Kitchen brigade and hierarchy -Front of house and hierarchy -Qualifications and experience -Standards and ratings -Types of contract -Contributing factors and the environment **Practical skills will be developed throughout the year**		-Workflow -Types of equipment -Kitchen documentation -Customer requirements -Factors to consider when planning menus -Equality	-Health and safety laws: COSHH HASAWA RIDDOR EHO HSE. -Accidents and risks -The principals of HACCP -Food poisoning and symptoms -Types of bacteria -Allergens	-Nutrients – Maco and Micro nutrients -Age groups and dietary needs -Special dietary needs -Cooking methods and impact on nutrition -Factors affecting menu planning -Plan of production -Preparing and presenting food -Evaluating cooking skills	
Year 11	**Unit 2 NEA 60% of the qualification Hospitality and Catering in Action**				**Unit 1 written exam 40% of the qualification Hospitality and Catering in Action**	
Content	In this unit learners will gain knowledge and understanding of the importance of nutrition and how to plan nutritious menus. They will learn the skills needed to prepare, cook and present dishes. They will also learn how to review their work effectively. This unit is synoptic and draws upon the knowledge gained in Unit 1. Learners will need to apply knowledge gained in the following topic areas in order to be able to complete this assessment: -The operation of the front and back of house -Hospitality and catering provision to meet specific requirements -Health and safety in hospitality and catering provision -Food safety -Preventative control measures of food-induced ill health. NEA: 12 hours 120 marks			In this unit learners will gain a comprehensive knowledge and understanding of the hospitality and catering industry including provision, health and safety, and food safety. Topics 1.1 Hospitality and catering provision 1.2 How hospitality and catering providers operate 1.3 Health and safety in hospitality and catering 1.4 Food safety in hospitality and catering Assessment This unit is externally assessed through a written examination which contributes 40% to the overall qualification grade. Duration: 1 hour 20 minutes Number of marks: 80 Format: short and extended answer questions based around applied situations. Learners will be required to use stimulus material to respond to questions. Learner guide Knowledge organisers		

A-Level Design and Technology at Hall Park Academy

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<table>
<tr><th>Term</th><th>Half term 1</th><th>Half term 2</th><th>Half term 3</th><th>Half term 4</th><th>Half term 5</th><th>Half term 6</th></tr>
<tr><td>Year 12</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Content</td><td colspan="2">Preparation for the NEA.
A series of small, skills based projects that take place over terms one and two to provide students with the skills needed to complete the individual NEA.
These projects should cover a range of materials and processes outlined in the specification along with elements of CAD and sketching. They could also be used to deliver or reinforce elements of the theoretical knowledge that may be examined in Paper 1 and Paper 2.

Half term 1
Common Deadline – Pewter Keyring project-
Core materials:
metals/timbers/polymers/composites/papers and boards
CAD (2D design/Fusion)
Laser cutter use
Mould making
Pewter pouring/Casting
Filing/Buffing/Drilling

Half term 2 – Skills lamp project

Use of timbers/ joints/fixings/electronics/soldering
Skills including creation of various wood joints
Using fixings and finishing techniques
Use of pillar drill/sanding machine/chisels/tenon and coping saws</td><td>Miniature skatebaord-

Lamination, timbers, conversion, seasoning, finishing, jigs/templates. Tolerances, presentation drawing and rendering skills and techniques and use of fine liners</td><td>Furniture project
Design of a table/seat looking at User Centred Design, anthropometrics, ergonomics, inclusive design, CAD modelling, 3D printing. Presentation of design and model iterations

Designing task looking at the use and style of a design movement or designer (looking at design history) including:

• arts and craft movement
• Art Deco
• Modernism, eg Bauhaus
• Post modernism, eg Memphis.
• Phillipe Starck
• James Dyson
• Margaret Calvert
• Dieter Rams
• Charles and Ray Eames
• Marianne Brandt.</td><td>Start of NEA portfolio
AO1 Section A – Identifying and investigating design possibilities (20 marks)
Rationale for chosen context clearly identified.
Investigation including: disassembly, practical experimentation, visits, surveys and interviews, focus groups, primary and secondary research.
Investigation material thoroughly analysed and initial concepts generated.</td><td>AO1 Section B – Producing a design brief and specification (10 marks)
Produce a clear and challenging design brief and fully detailed design specification reflecting thorough consideration of investigations undertaken.

Designer case studies uploaded to Teams.</td></tr>
<tr><td>Year 13</td><td colspan="4">NEA 50% of the course
Practical application of technical principles, designing and making principles.</td><td colspan="2">Exams</td></tr>
<tr><td>Content</td><td colspan="4">AO1: Identify, investigate and outline design possibilities to address needs and wants.
AO2: Design and make prototypes that are fit for purpose.
AO3: Analyse and evaluate:
• design decisions and outcomes, including for prototypes made by themselves and others
• wider issues in design and technology.
AO4: Demonstrate and apply knowledge and understanding of:
• technical principles
• designing and making principles.</td><td colspan="2">Paper 1 - Technical principles
How it's assessed:
• Written exam: 2 hours and 30 minutes
• 120 marks
• 30% of A-level

Paper 2 - Designing and making principles
How it's assessed:
• Written exam: 1 hour and 30 minutes
• 80 marks
• 20% of A-level</td></tr>
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