KS4 DESIGN AND TECHNOLOGY CURRICULUM IMPLEMENTATION ROADMAP



WHAT IS DESIGN AND TECHNOLOGY AT KS4: A GCSE in Design and Technology offers a foundation in the principles and iterative design practices of various 21st century design and manufacture industries. The qualification offers flexibility in the approaches students use to apply knowledge and understanding of these practices and principles when designing and making prototypes that solve real and relevant problems.

QUALIFICATION AND WHAT TO ACHIEVE:

Students will achieve a GCSE grade 9-1 in Design and Technology. The GCSE is made up of 2 components. In the written exam students can chose on category to focus on for the in-depth knowledge section. The internal assessment contextual challenge is set by the exam board.

Internal assessement

Design Principles exam. (120mins) Exam: May/June of year 11 100 marks 50% weighting

External assessment

Non examined assessment NEA (40 hours) Start: June 1st - year 10 100 marks 50% weighting

YEAR 11: From June of Year 10 until the end of the spring term, students work independently to complete a 40 hour Iterative design challenge (non examined assessment) from a contextual challenge set by the OCR examination board. Alongside this, students prepare for a 2 hour Design **Principles** written paper that will be taken in May/June. The written paper contains 15% maths based questions and tests students knowledge & understanding of core principles and an in-depth knowledge of at least one of the following

- categories: Paper and board
- Timbers
- Metals
- Polymers
- Textiles



YEAR 10: Using skills gained in year 9, students complete a number of **challenge based projects**. They will be expected to work independently and at times in a team. Their creativity is encouraged in order to develop their problem solving skills. Topics, including, sustainability and iconic designers and their products are explored, building on the core knowledge. Students are expected to present their ideas in a formal professional manner in preparation the for the "Iterative design Challenge" in year 11 and for the real world.

YEAR 9: Students focus on developing the skills needed to access the Iterative design challenge and the design principles exam through a series of teacher led projects. These cover the main categories in the subject. Students are encouraged to be aware of health and safety implications and be responsible for working independently and safely.



KS4AQA²FOOD PREPARATION & NUTRITION CURRICULUM IMPLEMENTATION ROAD MAP

WHAT IS FOOD PREPARATION AT KS4 A practical based course which focuses on practical cooking skills to ensure students develop a thorough understanding of nutritional science, food provenance and the working characteristics of food materials. This AQA qualification focuses on nurturing students' practical cookery skills to underpin scientific principles and give a strong

understanding of nutrition. Food preparation skills are integrated into <u>5 core topics</u>: • C1 Food, nutrition and health • C2 Food science • C3 Food safety • C4 Food choice • C5 Food provenance

12 Key Skills - delivered in practical lessons - **S1.** *General Practical Skills* **S2**. *Knife Skills* **S3**. *Preparing Fruit* & Vegetables **S4**. Use of the Cooker **S5**. Use of Equipment **S6**. Cooking Methods **S7**. Prepare, Combine, Shape **S8**. Sauce Making **S9**. Tenderise & Marinate **S10**. Dough S11. Raising agents S12. Setting Mixtures



principles relating to ingredients, health & nutrition in depth at KS4

KS4 ENGINEERING STUDIES CURRICULUM IMPLEMENTATION ROAD MAP

WHAT IS ENGINEERING AT KS4: NCFE Engineering Technical Award is a technical qualification for KS4 learners. They are a technical alternative to GCSEs with equivalent levels of rigour & challenge.

The Level 1/2 Technical Award in Engineering is designed to provide learners with the skills, knowledge and understanding of the applied study of good engineering practices and an understanding of working in the sector.

LINKS FROM KS3: The research, development & manufacturing skills from all KS3 DT topics especially CAD, **Technical Drawing and Systems &** Control. In addition, English, Science, Maths & ICT are key, allowing students progression for independent learning at KS4 engineering.

- Resubmission available

Independent Learning Knowledge Organiser Assessment QUALIFICATION AND WHAT TO ACHIEVE: To be awarded Level 1/2 Technical Award in Engineering, Core unit Summer homework

Practical

KEY:

YEAR 11: From the start of the academic year to November, student will undertake revision as well as using their knowledge organisers to help prepare for their exam. Student will use their experience from the Mock Synoptic Project to prep them for the actual Synoptic Project starting on the last week of the Autumn term. Student will work independently to create a portfolio with 21 hours of work to develop, design, plan

and manufacture a working **prototype** from a given brief set by the examination board

Learners must also achieve a minimum of a Level 1 pass in the internal and external assessments. The grade available are Level 1, Pass, Merit and Distinction and Level 2 Pass, Merit and Distinction (An overall Distinction* requires 2 Distinction grades from both mandatory units) **External assessment** Internal assessment - Engineering exam (90) mins Synoptic project (21 hours) - 40% weighting - 60% weighting - Exam occurs in November & March of year 11 - Starts in Dec' of year 11

- 2nd retake available

learners are required to successfully complete 2 mandatory units.

YEAR 10: Students will complete 2 core topics. End of topic tests, knowledge organisers and a Sweet Dispenser mini project will underline understanding.

Students will visit Jaguar Land Rover in the W. Midlands to see first hand engineering. The trip is curriculum based to assist students understanding of careers, pro' planning, materials, process etc providing real world engineering experience.

Half way through the year, students will undertake a Mock Synoptic Project as a 'dry run' in preparation for year 11. Summer homework will require students to evaluate their knowledge organisers in preparation for their year 11 exam in November of that year.

YEAR 9: Students will complete 3 core topics. End of topic tests, knowledge organisers and mini projects will underline understanding. These mini projects are CAD/CAM to allow students to work independently. A materials project based on NHS face shields and a Mousetrap Car project to place Maths and Science theoretical knowledge into practical knowledge.



Does your curriculum implementation/plan answer all these questions?

- What is being taught?
- When is it being taught?
- How does knowledge build on previous learning?
- Is the national curriculum referenced?
- What are the key concepts that need to be learnt?
- How are the needs of all learners addressed?
- How is your curriculum relevant?
- How is knowledge and understanding to be assessed?