Engineering Curriculum Map

Exam

Revision

Students prepare for the exam using revision and exam practice.

Exam Technique

Students use their design brief, specification and feedback to evaluate their solution along with testing.

NEA Evaluation

The final prototype is manufactured independently and documented in making diary.

NEA Making

Students conduct a range of testing, modeling, sketching and evaluation to develop solution to the design brief.

NEA Planning

Generation of initial ideas

NEA Designing

Students investigate the context of their choice to identify a problem, customer, design brief and write their specification.

11

Students complete the start of a mock NEA based around the alarm project and have the main research pages ready to help with a smooth start to the actual NEA. They can explore the design process expected of them in this one project.

NEA Context & research

We teach the skills to explore the given context in depth and ways to conduct research

On June 1st in Year 10 AQA release the Contextual Challenges.

NEA!

Evaluation and scales of production

Evaluate the mock NEA and look at scales of production and ways to upskill and adapt ready for the real thing!

Making process

Manufacturing repeatability

PPE!

Computer Mouse

Exam technique and command word learning

Phone Stand

All tools for planning and design skills are re-visited and given context.

Bridges

Alarm Project

Elder Aid

Ergonomics, modelling, packaging

- A Aesthetics
- C Cost
- C Customer
- E Environment
- S Size
- S Safety
- F Function
- M Material

Acoustic amplifier project which includes formal drawing skills.

Used throughout each FPT to build skills necessary for exam

Ergonomics and engineering materials

Engineering Maths

Engineering project

Passive Speaker

General Project

10

Solidworks and CAD/CAM

Students focus on engineering terms and topics through a variety of focus practical tasks in year 9

Through practical lessons students learn the basic food commodities and start to understand provenance.

More in-depth into timbers and the practical skills involved with a variety of wood joints.

This is an introduction to CAD/CAM and the industry based software in order to produce 3D modelled outcomes.

Technology Project

Food and Nutrition project

9

Food Commodities

Timbers Trinket Box

CAD Intro to Solidworks and 2D design

Students are taught about macronutrients and the principles of the EatWell plate through a variety of practical lessons.

An introduction to the principles of iterative design through modelling. Life cycle of papers and boards.

By the end of this unit students will understand systems, flow charts, programming and robotics.

Origins of fabrics. Man made and natural. How to sew and use a sewing machine.

Textiles learning cube. Fabrics and design process

8

Systems and control Robot

Textiles Graffiti Project Iterative design and design movements

Food Healthy Eating

The focus for this unit is understanding Polymers and how to shape and form them.

Through a FPT, students are introduced to timbers. They learn about their categories, properties and stock form then how to cut, shape and finish them.

Learning is based around the basic techniques used for communicating ideas - Rendering, Isometric, Perspective, Crating.

Electronics LDR Night Light

Plastics Photo Frame

Timbers Funny Face (linkages)

Formal and informal drawing Throughout each rotation

7