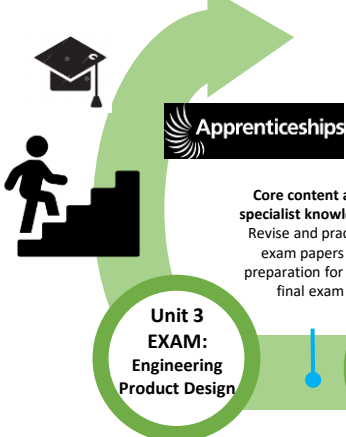


ENGINEERING



Apprenticeships

Core content and specialist knowledge: Revise and practice exam papers in preparation for your final exam



Designing: Build on your CAD Engineering drawing knowledge to enable you to design for third party manufacture and understanding



Designing: Develop you evaluative and design skills to solve problems and develop products for a given specification

Theory: You will evaluate products in terms of their materials, manufacture and impact on the environment



Manufacture: You will manufacture a toolbox to evidence 4 different ways of cutting, joining, and shaping.



Theory: You will consider suitability of production methods in industry with regard to sustainability, accuracy and suitability for batch production

Unit 3 EXAM: Engineering Product Design

EXAM REVISION

Unit 44 Coursework: Toolboxes

YEAR 13

After choosing options in year 11, focus your studies in BTEC Level 3. A qualification recognised by industry and further education alike. Develop the tools and confidence to become a more independent learner and progress on to your next adventure!

KS5

Manufacture: You will learn about a range of different processes including CNC work and level up your orthographic skills



Unit 2 Coursework: Engineering Process as a Team

Theory: You will learn industrial applications of processes, safety and quality checking systems to manufacture a shelf bracket

Designing: You will carry out a set of CAD Drawings, accurately applying the BSI standards in each projection



Manufacture: You will manufacture 15 screwdrivers in groups of 4. Taking it in terms to be manager and ensuring they are identical

Theory: An examination on the application of Algebra/Trigonometry, Static Engineering Systems – forces, loads, stress, Dynamic Engineering Systems – kinetic parameters and principles



EXAM REVISION

Unit 1 Exam: Engineering Principles

Introductory Project: Phone Holder



Core content and specialist knowledge: Revise and practice exam papers in preparation for your final exam



Theory: You will learn mathematical and design problem solving skills to apply in your exam



Theory: You will test materials to understand different properties and their affect on products

Theory: You will learn about bike and roller-coaster development to apply in your exam

Manufacture: You will learn about a range of different processes for your exam through the manufacture of the light



YEAR 12

Unit 3: Exam Solving Problems

EXAM REVISION

Problem Solving

Product Development & Life Cycle

Desk Light Project

Theory: Allows you to look in depth at the components, materials and manufacture of a product

Designing: You will learn how to draw in orthographic projection and BSI standards



Manufacture: You will safely and accurately manufacture the given product from the exam board



Designing: You will be developing your design and modelling skills alongside CAD work

Designing: You will develop a given product from the exam board to third party understanding



Dyson Disassembly

Whistle Project

Unit 1: Manufacturing Engineered Products

Pizza Cutter Project

Unit 2: Designing Engineered Products

YEAR 11

Unit 2: Designing Engineered Products



YEAR 10

Inspiration Board: Why did you choose this subject? Who inspires you?

Unit 1: Manufacturing Engineered Products

Desk Tidy & Inspiration board

3D/ENGINEER Concrete light

Pre-GCSE Taster Term 1



KS4

Modelling: You will practice your design and modelling skills before manufacturing their mood lights. Develop and adapt to make a quality product



Manufacture: You will be introduced to using a range of tools and equipment safely and accurately



Planning: Evidence your understanding of the workshop. Planning in the correct order, naming the tools and considering quality checking and safety



Practical & Theory: Continue to evaluate your work and develop better solutions working to a given design brief

Planning for Manufacture

Independent Problem Solving

YEAR 9



Mood Light

Team Problem Solving

Teamwork Practical: Build structure has high and as strong as you can, using only the given resources.

Theory: What do you already know about Engineering? And Introduction to structures

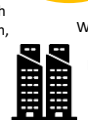
Introduction to the workshop: Health and Safety



YEAR 7/8

Practical & Theory: An introduction to sustainability, and why as designers and engineers its important to consider a products impact on the environment. Moving onto modelling a wind turbine

Practical & Theory: Introduction to aerodynamics and another team practical to build on your teamworking skills



KS3

After choosing options in year 9, focus your studies in WJEC Technical Award, through exciting, real life projects. Deepen your understanding of Engineering in the world around us whilst developing products that help various needs and users.

Work in more depth on projects, honing your practical skills, improving your resilience & problem solving whilst developing independence in the workshop.

Experience a wide range of fun and exciting projects that teach you valuable skills in the workshop, understanding different materials and how they work. Alongside problem solving and teamwork