

Some of the best GCSE
results in the South West!!

AQA GCSE DESIGN & TECHNOLOGY

- 50% NEA
- 50% Examination
- Areas of study will include: Core technical principles, Specialist technical principles, designing & making principles
- This will be taught through a mixture of theory and practical tasks (mirror frame, hand held game)

(NON EXAMINED ASSESSMENT) 50%

- Investigate possibilities (10)
- Produce a brief & specification (10)
- Generate designs (20)
- Developing designs (20)
- Realising designs (20)
- Analyse & evaluate (20)

N:B Making equates to 10% of final mark



EXAMINATION(50%)

- 2 hour Exam
- Mixture of questions:
- Multiple choice
- Short answer
- Long answer essay style questions
- Mathematical questions: (E.g. Working out area, percentages and quantities)
- Formal drawing skills. (Sketching, Isometric and Orthographic drawing)



OCR ENGINEERING DESIGN A VOCATIONAL STYLE AWARD

ENGINEERING DESIGN

INCLUDED ON THE
KS4 PERFORMANCE TABLES

Specification

OCR Level 1/Level 2

Cambridge National in
Engineering Design

J822
Version 1 (First teaching September 2022)

ocr.org.uk/cambridgenationals


Cambridge
Nationals


OCR
Oxford Cambridge and RSA

OCR NATIONALS

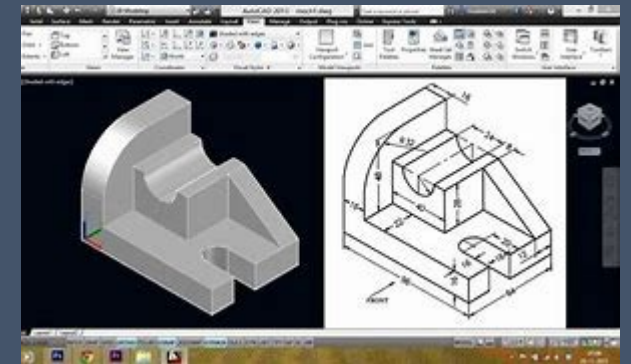
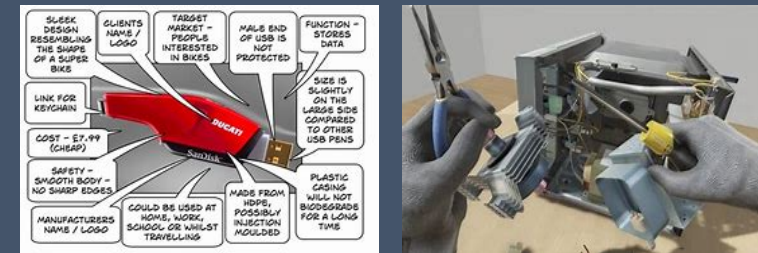
- **60% COURSEWORK** Areas of study will include:
 - Developing & presenting engineering designs
 - Design Realisation/modelling
- **40% EXAM**
 - Principles of Engineering
 - Projects yr 10 steady hand game, mobile phone design on Solid Works



Assessment guidance

Task	Assessment guidance
Task 1	<ul style="list-style-type: none"> Students should use ACCESS FM to analyse the specified product and compare products using an appropriate customer driven engineering matrix. Both primary and secondary research should be undertaken to identify the strengths and weaknesses of existing products. This should be completed individually, so it would be highly unusual to see the same output from all students in a cohort.
Task 2	<ul style="list-style-type: none"> You should ensure that students undertake a product disassembly carefully, under close supervision, and following safety guidelines, in order to analyse how it is made and assembled. Students should include step-by-step photographic evidence of the disassembly, and explain how they used tools and instruments safely.
Task 3	<ul style="list-style-type: none"> Students will require access to 3D CAD software in order to produce a virtual 3D model from the product specification provided. Different views of the virtual 3D model should be evidenced, and you should ensure that students simulate the operation of the product.
Task 4	<ul style="list-style-type: none"> Students are required to plan the production of a prototype, and will need to identify and plan the different stages required to manufacture the it. We provide a template for a risk assessment that students can use as part of their production plan.
Task 5	<ul style="list-style-type: none"> Students should follow their production plan in order to produce a prototype, working safely at all times. Students should take photographs at each stage, and you should encourage your students to keep a diary of the activities that they carry out. You should complete a Teacher Observation Record for this task.
Task 6	<ul style="list-style-type: none"> Students should evaluate their manufactured prototype against the product specification, and suggest a range of potential design improvements.

R040 DESIGN EVALUATION & MODELLING 912GLH)



Assessment guidance

This unit is assessed by an exam. The exam is 1 hour 15 minutes. It has two Sections — Section A and Section B.

- Section A has 10 marks
- Section B has 60 marks
- The exam has 70 marks in total

This will be conducted under examination conditions. For more details refer to the [Administration](#) area.

The Engineering Design '[Exploring our exams: a guide to our Sample Assessment Material](#)' gives more information about the layout and expectations of the exam.

A range of question types will be used in the exam, but it will always require students to use the skills of analysis and evaluation.

Teaching content	Assessment Guidance
1.1	<ul style="list-style-type: none">• Students may be required to recommend a design strategy for a particular product and justify their choice.
1.2.1	<ul style="list-style-type: none">• Students will need to be able to identify the key stages of the iterative design process and describe the stages involved in carrying out each process.
1.2.2 - 1.2.3	<ul style="list-style-type: none">• Students will need to know how to analyse existing products using ACCESS FM.• Students will need to understand how the stages of the iterative design process allow the development of the design based on a cyclic process of designing, making, evaluating, and refining of the prototype.
2.1.1 – 2.1.3	<ul style="list-style-type: none">• Students will need to know how to use ACCESS FM to produce an engineering design specification and knowledge of the scale of manufacture.• Students should know at least one example of a product produced by each scale of manufacture.• Students will need to know how designs are made sustainable through the consideration of the 6Rs, and should know at least one example of how a product is made sustainable by one of the 6Rs.• Students will need to be able to describe the influences on engineering product design.
3.1.1	<ul style="list-style-type: none">• Students will need to know each of the engineering drawing techniques and may be expected to identify each of the conventions or representations stated.• Students may also be expected to add dimensions using the conventions to provided drawings.
3.1.2	<ul style="list-style-type: none">• Students will need to describe at least one modelling method in the creation of a product prototype and give one example of a product produced using one of the modelling methods.

R038 PRINCIPLES OF ENGINEERING 1 HOUR 15 MINS

Assessment guidance

This unit is assessed by an exam. The exam is 1 hour 15 minutes. It has two Sections — Section A and Section B.

- Section A has 10 marks
- Section B has 60 marks
- The exam has 70 marks in total



EXAMINATION(40%)

1 hour 15 mins

Part A – includes 10 multiple choice questions (MCQs) •

Part B – includes short answer questions and extended response questions. One extended response question will be assessed using a levels of response mark scheme



DESIGN & TECH V ENGINEERING DESIGN

- Design & Technology
- Opportunity to develop and realise own designs based on a theme. NEA Consists of A3 folio 20 pages and outcome worth 50%
- Learn about wide variety of topics including sustainable design, metals, wood, plastics, smart materials, components, scales of manufacture, designers, design companies, design strategies, computing CAD/CAM
- 2 hour exam mixture of multiple choice, short answer and an extended answer question 50%
- Engineering Design
- Learn about wide variety of topics including sustainable design, metals, wood, plastics, smart materials, components, scales of manufacture, design strategies, computing CAD/CAM (Principles of Engineering design)
- Complete 2 assignments on set themes by exam board (Communicating designs & evaluating and modelling) worth 60%
- Large focus on precise working drawings, use of CAD and written tasks that are very analytical.
- 1 hour 15 minute exam worth 40%

Both courses will only do small amount of practical tasks as this is only worth approx 20% of overall mark.

- You will receive letters this week asking for money towards DT and engineering packs.

