



**Course Leader: Mr S Ogleby**

**Examination Board: OCR**

Would you like to work towards opportunities which may assist in gaining an apprenticeship course? Have you got an interest in how things work and how to solve a design issue? Have you got a creative, inventive and innovative imagination? Do you enjoy both practical and design challenges? OCR National Awards in Engineering Design is suitable for students who are interested in solving problems using the design process, creative innovation and practical areas of study. The course focuses on applying the Design principles, using iterative processes and CAD to solve design problems, providing workable solutions. This course will help you to understand the processes of Engineering Design and how market requirements inform client briefs. Through material exploration, product deconstruction/ analysis and design activities you will develop skills in researching, computer modelling and model making learning how products are developed and how design engineers communicate design ideas effectively.

## WHAT WILL I STUDY?

Students will learn about the following :

- Design briefs, design specifications and user requirements
- Product analysis and research
- Developing and presenting engineering designs
- 3D design realization
- Engineering materials, processes and production
- Computer-aided manufacturing
- Understanding and applying iterative design processes.
- Creativity and imagination
- Design and make prototypes
- Solve real and relevant problems,
- Consider own and others' needs, wants and values

## HOW WILL I BE ASSESSED?

Please see below:

MODULE	ELEMENTS	ASSESSMENT	DATE	%
R105:	R105: Understanding core principles including the design cycle, specifications and user requirements .  1hr Written paper– Examination – 60 marks	1 hour	2020/2021	25%
R106:	Analysis of a Product including deconstruction, Researching suitable materials/ finishes and manufacturing processes	Centre assessed tasks OCR moderated Approx 10–12 hours – 60 marks	2020/2021	25%
R107:	Portfolio of developed ideas , using CAD and Engineering working drawings	Centre assessed tasks OCR moderated Approx 10–12 hours – 60 marks	2021	25%
R108	Producing a 3D design realisation and conceptual working model understanding the manufacturing processes	Centre assessed tasks OCR moderated Approx 10–12 hours – 60 marks	2021	25%

## SKILLS REQUIRED

- Innovative and creative thinking skills.
- Resilience when solving difficult problems.
- Ability to meet deadlines.
- Able to work independently and manage a project.
- Enjoys working in a practical environment with different tools, machinery, and processes.
- ICT skills to develop a professional portfolio of work.
- Good problem solving skills.

## CAREERS

**Engineers and technicians are among the most in-demand jobs in the world. Below are just a selection of careers you could venture into:**

Civil Engineering, Architecture, Robotics, Building Surveyor, Infra structure, Military equipment designer, Aerospace Design, new Gadget Designer, Engineering Designer, Automotive Engineering, Electronic Engineering, Sports Engineering, Maintenance Technician, Chemical Engineering, Computer Engineering, Nuclear Engineering, Petroleum Engineering and many more.

## PROGRESSION PATHWAYS

- A-Levels, and other level 3 courses, in Design technology
- Employment or on an apprenticeship.