

**Overview:****OCR A Level Design & Technology: Design Engineering**

Design Engineering is focused towards engineered and electronic products and systems; the analysis of these in respect of function, operation, components, and materials in order to understand their application and uses in engineered products/systems that have commercial viability.

Students will gain a real understanding of what it means to be a design engineer, alongside the knowledge and skills sought by higher education and employers.

Expectations:

A Level Design and Technology: Design Engineering requires students to engage in both practical and theoretical study. This specification requires students to cover design and technology skills and knowledge as set out below. These have been separated into:

- Principles of Product Design (01)
- Problem solving in Product Design (02)
- Iterative design project (03/04)

The final grade is determined from the iterative course work weighted to 50% and two exams both making up the other 50%

Within the Design Engineering this requirement is 25%, this extra 10% covering the specific mathematical skills associated with scientific formulae. In addition, Design Engineering learners could utilise scientific formulae to justify their design decisions and consideration of functional success of any product.

A range of hand machine and digital technologies including CAD/CAM are expected to be used as appropriate in learners' modelling, experimenting, and prototyping

Some of the theoretical knowledge is expected to be gained through private study. Students will be given individual assignments that will contribute to a knowledge base for all students. Students will on occasion be expected to present their findings to the rest of the group.

Extra-Curricular Activities / Independent Learning Opportunities:

After school and lunch-time clubs will be available to enable students to learn and explore skills that can be used to enhance and extend their learning. 6th form Engineering students can work with Oundle School developing a Green Powered car in preparation for track racing.

Career Pathways:

A qualification in Design Engineering can create pathways in a vast number of creative industries. Students learn critical skills and produce a detailed portfolio. This qualification can lead to careers in further education pathway, apprenticeships or a career in engineering and the manufacturing industries.

If you can mix your creative skills and problem solving with a mathematical approach, this course might suit you well.

A Level Design Engineering can lead on to degrees in design, engineering and architecture