

Engineering Design OCR Technical Award



What topics will I be covering?

R105 – Design briefs, design specifications and user requirements

Students explore the requirements of design briefs and specifications for the development of new products and how consumer requirements and market opportunities inform these briefs. They develop their understanding of the design cycle, the requirements for a design brief and design specification, and the importance of research data in developing a design solution.

R106 – Product analysis and research

Students find out how to perform effective product analysis through both research and practical experience of product assembly and disassembly procedures. This helps them develop skills in critical analysis and an understanding and appreciation of manufacturing processes, design features, materials used and the principles behind good design.

R107 – Developing and presenting engineering designs

Students develop their knowledge and skills in communicating 2D and 3D design ideas, including effective annotation and labelling. They use detailed hand rendering as well as computer-based presentation techniques and computer-aided design (CAD) software.

R108 – 3D design realisation

Students produce a model prototype and test design ideas in a practical context. They evaluate the prototype against the product specification and consider potential improvements to features, function, materials, aesthetics and ergonomics in the final product.

How much work is required after school?

Extended learning is required throughout the course and opportunities will be made available to use the academy facilities after school.

How is the work assessed and when?

Unit R105 is assessed through a practical exam. The exam is one hour long and is set and marked by the exam board.

Units R106, R107 and R108 are assessed by completing written and practical coursework in the classroom and workshop. These three units will be marked internally and moderated by the exam board



What do I need to achieve a good grade?

A growth mind-set, with a 'can do' attitude. An interest in learning about how things work and a desire to carry out practical work and problem solve

If I want to study the subject after GCSE, what grade must I get?

Students must pass the level 2 qualification in order to progress onto a BTEC or Technical Award in Engineering Level 3.

What career options lead from this subject?

Engineer, Aerospace Engineer, Chemical Engineer, Electrical Engineer, Mechanical Engineer.

