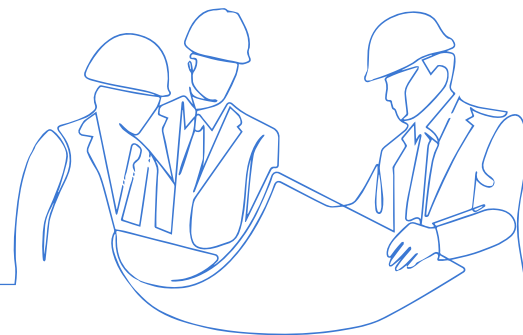


Design Engineering



About the course

The course is a technical design course and gives students the opportunity to use their skills and knowledge from maths and science at GCSE as well as new topics we will cover to develop solutions to engineering problems.

Students will cover topics such as materials, mechanisms, electronics, programming, computer aided design and we will introduce modern prototyping methods such as 3D printing. There will be opportunities to study and learn from existing designs and those currently being developed using new processes or materials.

Commercial and industrial designing is covered to allow students to develop their coursework products in Year 13 with a view to real world viability, ensuring they meet all of the relevant legal and safety standards.

Wherever possible we provide opportunities for students to use their knowledge and understanding to solve problems and to develop and practice their skills within realistic scenarios, including tight time constraints.

We have found that the best students have shown the ability to be independent and organised thinkers, have the ability to select and apply what they are taught and are careful and precise in their work and take a genuine pleasure in successfully solving complex problems.

Assessment

There are three separate assessments, all undertaken in Year 13.

The Principles of Design Engineering exam lasts for 1½ hours and accounts for 26.7% of the overall award and assesses students' knowledge and understanding of the topics covered in the course.

The Problem Solving in Design Engineering exam lasts 1¾ hours and is worth 23.3% of the A level. It requires students to read a resource booklet about a given topic area and then answer a series of questions where they analyse the issues faced by Design Engineers and also produce solutions to technical challenges including the use of maths and science.

The Non Examined Assessment started at the end of Year 12 and continuing throughout Year 13 is worth 50% of the A level. Students will identify a problem, research it, and interview a variety of stakeholders before developing a solution to a commercial level. They will then modify their design so they can produce a fully functional prototype in school.

Careers

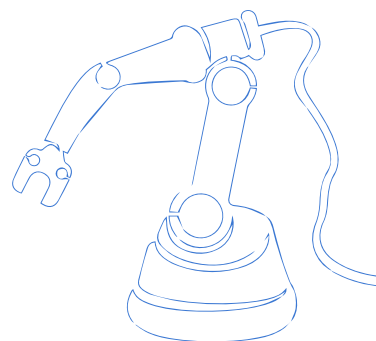
The course has been designed to naturally lead to a variety of courses at University and we have found it is commonly combined with maths and perhaps physics or computer science for those students wishing to follow an engineering based course, frequently at Russell Group universities. However, it also enhances several other technical courses and has been used in this way by lots of students in the past. It is also particularly suitable for those students wanting to pursue an advanced apprenticeship and we have had students successfully do this and take on apprenticeships with Nexus and the Merchant Navy in recent years.

Some of our previous students have completed the course before applying to start various roles within the armed forces

Entry Requirements

You must have achieved at least a grade 5 in Maths and this should be from the Higher tier.

You must also have achieved at least a 5 5 in Science. A grade of 5 or above from either a GCSE in Design Technology or an Engineering course would be extremely desirable, but this is not compulsory. We have taken students in the past who have not studied Design Technology and many of these have ultimately been very successful, but you do need to be aware that you will have some missing knowledge and some catching up will be necessary.



Find Out More

The exam board website has quite an amount of information including the full specification. This can be found at www.OCR.org.uk and look for A level in the Design Technology area.

You can also discuss the course and whether it would suit you with any of the teachers in the Design Technology department in school.

