Engineering Science

Engineering Science enables learners to apply knowledge and understanding of key engineering facts and ideas, and to understand the relationships between Engineering, Mathematics and Science. The course will develop a range of technological skills, including skills in analysis and problem solving, design skills, skills in the use of equipment and materials, and skills in evaluating products and systems.

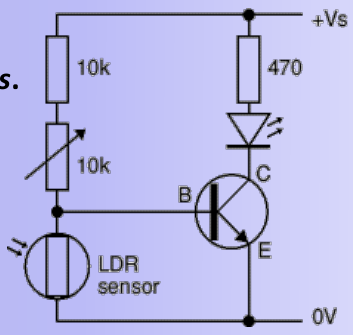
Course Structure:

Pupils will follow a BGE curriculum until Christmas of S3 to reduce their assessment load and increase engagement with level 4 benchmarks.
More specifically, pupils will:

- ***Produce systems diagrams, including open and closed loop and be able to identify sub-systems.***
- ***Design and build or simulate solutions to a range of engineering problems.***
- ***Select and use formulae to calculate outcomes to engineering problems.***
- ***Identify and describe the function of specific components to justify their use within the solution to a problem.***
- ***Evaluate and explain design decisions around an engineering solution, including the advantages, disadvantages, consequences and the social, economic and environmental impact.***

Post-Christmas pupils will follow a range of topics from the National 5 Units:

1. ***Engineering Contexts & Challenges.***
2. ***Electronics & Control.***



Careers & Opportunities:

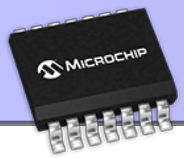
Engineering Science leads onto, and is a preferred entry qualification for, degree courses in most engineering disciplines such as:

Electrical
Electronic
Structural
Civil
Mechanical
Energy
Environmental
Sound
Aerospace
Agricultural

Many other courses and careers in areas such as the sciences, maths, ICT and product design will involve, or are supported by, elements that are covered within the Engineering Science course.

S3 Engineering Science

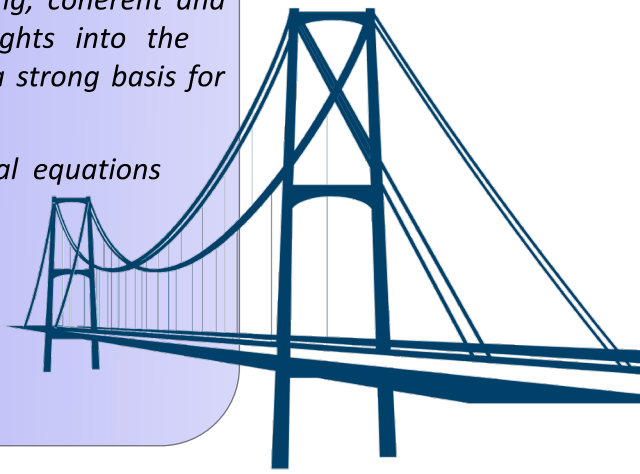
Engineering Science



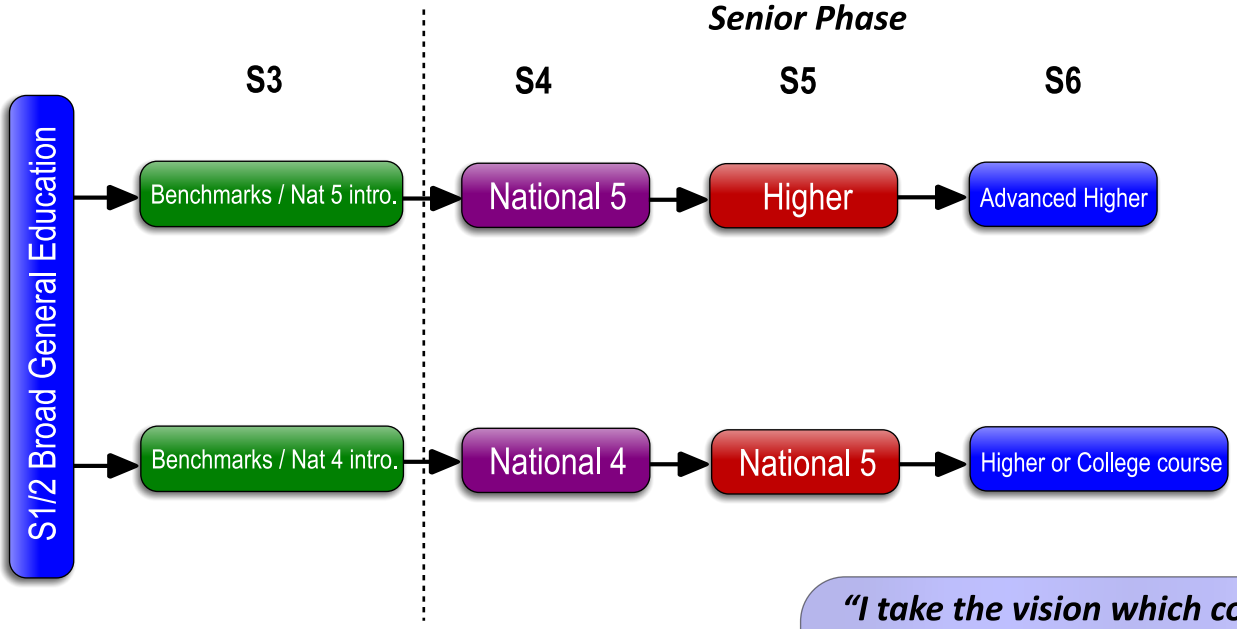
Course information:

Pupils will bring together elements of Science, Technology, and Mathematics, then apply these to real-world challenges, and build challenging, coherent and enjoyable journeys for learners through all levels. With insights into the opportunities and challenges in Engineering, the units provide a strong basis for further study or a career in any branch of engineering.

The S3 Engineering Science course involves using mathematical equations and problem solving skills to investigate, design, simulate and construct engineered solutions to real life problems. This will include both analogue and digital electronics, computer programmable microchips, computer simulations, mathematical equations, pneumatics, mechanisms, energy production and structures.



The Learner Journey for Engineering Science



"I take the vision which comes from dreams and apply the magic of science and mathematics, I am an Engineer, I serve mankind, by making dreams come true."

S3 Engineering Science