

Year 10 Engineering

GCSE Engineering is a practical subject perfect for students who prefer a more hands-on approach to learning. This vocational GCSE provides students with a taste of the real working world, as well as an opportunity to explore the engineering sector. Students will learn about how to create design briefs, how businesses convert design briefs to design specifications, production planning and the application of technology to manufacturing. The engineering industry is vast and varied and there are many different businesses students could potentially work for within it.

Methods of deepening and securing knowledge:

Revisiting prior learning	Practical sessions are used as opportunities to revisit prior learning. Before students embark on a piece of practical session, they are reminded of the links to the key theory covered in the course. The practical work itself allows students to apply their prior learning in real-life contexts, which helps to secure students' understanding.
Spaced-practice	Spaced-practice in design technology/engineering involves students reviewing material over a long period of time. This gives their minds time to form connections between the ideas and concepts so knowledge can be built upon and easily recalled later. Independent study is used to encourage students to revise learning that has been covered so far in the course. Regular revision activities, such as low-stakes tests, are also used as spaced-practice strategies.

	Autumn term 1	Autumn term 2	Spring term 1
Topic(s)	Team bridge design and make.	Electronics.	Engineering drawing.
Assessment	Assessment by end of unit test and ongoing assessment.	Assessment by end of unit test and ongoing assessment.	Assessment by end of unit test and ongoing assessment.
CEIAG <i>(Careers that are linked to that topic)</i>	Looking at structural engineering and the role of the designer.	Looking at the electronics industry and associated roles.	Designers and world-wide recognised technical language of drawing, BS8888.

	Spring term 2	Summer term 1	Summer term 2
Topic(s)	Engineering CAD/CAM.	Metalworking sponce project.	Engineering maths/NEA preparation.
Assessment	Assessment by end of unit test and ongoing assessment.	Assessment by end of unit test, product and ongoing assessment.	Assessment by end of unit test and ongoing assessment.
CEIAG <i>(Careers that are linked to that topic)</i>	Looking at the effects of CAD/CAM on industry and jobs.	Job opportunities in the metalworking industries.	Realisation of calculations and algorithms used in engineering situations.

Independent Study

Students in Year 10 have access to the course materials through Google Classroom. Independent study is accessible through this platform and is given either each week or once a fortnight. Independent study is generally used to secure prior learning through practice to develop confidence and memory.