

Engineering @ Caedmon

Purpose of study:

WJEC Level 1/2 Vocational Award in Engineering offers a learning experience that focuses learning for 14-16-year olds through applied learning, i.e. acquiring and applying knowledge, skills and understanding through purposeful tasks set in sector or subject contexts that have many of the characteristics of real work.

The qualification is built from discrete units, but allows for both synoptic learning and assessment. Each unit has an applied purpose which acts as a focus for the learning in the unit. The applied purpose is the vehicle through which the learning contained in the unit is made relevant and purposeful. It is also the means by which learners are enthused, engaged and motivated to study engineering.

The applied purpose provides the opportunity for authentic work-related learning, but more than this, it will require learners to consider how the use and application of their learning impacts on individuals, employers, society and the environment.

The applied purpose will also enable learners to learn in such a way that they develop:

- skills required for independent learning and development
- a range of generic and transferable skills;
- the ability to solve problems;
- the skills of project-based research, development and presentation;
- the fundamental ability to work alongside other professionals, in a professional environment;
- the ability to apply learning in vocational contexts.

The qualifications have been devised around the concept of a 'plan, do, review' approach to learning where learners are introduced to a context for learning, review previous learning to plan activities, carry out activities and review outcomes and learning.

This approach mirrors engineering production and design processes and also provides for learning in a range of contexts thus enabling learners to apply and extend their learning. As such, the qualification provides learners with a broad appreciation of work in engineering related industries and wider opportunities for progression into further education, employment or training.

The qualification has been designed to build on the skills, knowledge and understanding acquired at Key Stage 3, particularly skills related to literacy, numeracy, use of technology and design.

Year 10 Engineering @ Caedmon

Our aim in Y10 is to not only to equip our students with the knowledge, understanding and skills to achieve a level 2 qualification but to also assist them in progressing to the world of work. Y10 students will learn about the vast range of careers in the engineering industry and they will learn and practise many different engineering processes. Their learning will also give students the opportunity to develop transferable skills that will be beneficial now and, in their futures, such as communication, problem solving, planning, and personal organisation. All students will complete their Unit 1 controlled assessment (a design-based task) during Y10, allowing for more time in Y11 to successfully complete Unit 2 and to prepare for the final exam.

		Assessment
Autumn 1	<p>Producing Engineering Products: Pen Holder Interpret engineering drawings. Accuracy and quality control. H&S Risk assessments of tools/equipment. Produce a product Production diary.</p> <p>Solving Engineering Problems: Materials & Sustainability Materials and their properties. Material testing. Environmental impact.</p>	Ongoing assessment and feedback. Self-assessment of practical skills in production diary. Final outcome.
Autumn 2	<p>Solving Engineering Problems: Dyson Vacuum Product analysis. Product disassembly. Components and functions.</p> <p>Designing Engineered Product: Tape Dispenser Design specification. Drawing techniques. Creative design ideas. Final technical engineering drawing. Design portfolio.</p>	Ongoing assessment and feedback. Self-assessment of design skills in design portfolio. Final outcomes. Written test.
Spring 1	<p>Unit 1 Designing Engineered Products: Controlled Assessment Assignment Design brief set by the exam board.</p>	No feedback allowed during completion of assignment.
Spring 2	<p>Unit 1 Designing Engineered Products: Controlled Assessment Assignment Design brief set by the exam board.</p>	No feedback allowed during completion of assignment.
Summer 1	<p>Producing Engineering Products: Door Hook Interpret engineering drawings. Production plan to include quality control and health & safety. Production diary to include photographic evidence. Manufacturing processes. Tools and equipment. Health and safety</p>	Ongoing assessment and feedback. Self-assessment of practical skills in production diary.

Summer 2	Producing Engineering Products: Door Hook Produce a product. Production diary to include photographic evidence. Evaluate accuracy and quality. Manufacturing processes. Tools and equipment. Health and safety	Ongoing assessment and feedback. Self-assessment of practical skills in production diary. Final outcome.
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Year 11 Engineering @ Caedmon

Our aim in Y11 is to consolidate students' previous learning in order to complete their Unit 2 controlled assessment assignment (a practical based task) successfully and confidently. We also aim to prepare and support students to manage their time effectively when completing their controlled assessment and revising for their written exam in June. Throughout Y11, we will encourage students to continue applying the transferable skills developed in their Y10 learning to optimise their future success in education and employment.

Autumn 1	Unit 2 Producing Engineering Products: Controlled Assessment Assignment Drawings set by exam board.	No feedback allowed during completion of assignment.
Autumn 2	Unit 2 Producing Engineering Products: Controlled Assessment Assignment Drawings set by exam board.	No feedback allowed during completion of assignment.
Spring 1	Solving Engineering Problems: Exam Preparation Materials and their properties. Material testing. Finishes. Manufacturing processes. Tools and equipment. Health and safety	Practice exam questions and feedback.
Spring 2	Solving Engineering Problems: Exam Preparation Drawing techniques. Maths techniques.	Practice exam questions and feedback.
Summer 1	Solving Engineering Problems: Exam preparation Engineering developments. Effects of engineering. Environmental impact.	Practice exam questions and feedback.
Summer 2	Unit 3 Solving Engineering Problems: EXAM Preparation up to date of engineering exam.	Exams