

Exam Board: WJEC
Qualification: Level 1/2 Vocational Award in Engineering (Technical Award)
Assessment Information: 2 controlled assessments:
total 30 hours, 60%
1 exam 1h 30 min, 40%

[Link to official specification](#)

Department Information:
The Design Technology department empowers students to explore creativity and innovation through hands-on learning. Our curriculum covers product design, engineering, and Textiles, emphasizing sustainability and real-world applications. With good facilities, we cultivate technical skills and critical thinking, preparing students for future careers in the dynamic field of design.
By integrating these values into the curriculum and classroom culture, we can cultivate well-rounded students who excel not only in Design Technology but in their overall personal development.

ACHIEVE in the curriculum:
Ambitious: We encourage students to tackle complex design challenges that push their creative boundaries. We support students in setting personal and team goals for projects, fostering a growth mindset. Happy: We create a collaborative and supportive classroom atmosphere where students feel comfortable sharing ideas. We regularly recognize and celebrate individual and group successes, big or small. Integrity: We teach students the importance of ethical practices in design, including sustainability and fair sourcing of materials. We encourage students to take responsibility for their work and decisions, promoting honesty in all aspects of the design process. Endurance: We instil a mindset of perseverance by emphasizing the importance of learning from failure and iterating on designs. By implement projects that require sustained effort and commitment, helping students understand the value of endurance in achieving their goals. Versatility: We encourage students to learn and apply a variety of techniques and tools, from digital modelling to hands-on fabrication. We present problems that can be approached in multiple ways, promoting creative thinking and adaptability.

Curriculum Aims & Intent:
The aim of this course is to provide students with a solid grounding in basic engineering skills, including (but not limited to) the use of hand tools and machinery, project planning (materials, time, budget, H&S), technical drawing (hand drawing and CAD). This vocational course is an excellent first step to a career in Engineering and/or provides learners with a wide range of valuable transferrable skills for other career paths, including: practical, organisational, and teamwork skills, among others.

Resources:
WJEC.co.uk
Textbook: Level 1/2 Vocational Award – Engineering. Author: Matthew Wrigley. ISBN: 978-1-86085-751-5

How we keep parents informed:
Year 10 - Progress reports are published 4 times per year, in October, November, March and July, with a face-to-face parents' evening in March.

How parents can help their child:
*Support with good attendance.
Support with homework completion and timely submission.
Attend parents' evenings.
Communicate concerns at earliest opportunity.*

What we study and when:					
Term	Unit, Topic Or Summary Of Work Covered	Knowledge, Understanding & Skills Developed	ACHIEVE / Personal Development Focus	How The Work Is Assessed	Careers Links
1 1 (Sept – Oct HT)	<i>Introduction to engineering (inspiring students with real world careers links): H&S; hand tools; processes 1; interpreting drawings 1; practical 1; evaluation 1. Introduction to project planning. Machines 1. Start practical 2.</i>	<i>H&S. Engineering tools, uses and processes theory. Interpreting drawings theory. Practical 1: parts tray, requiring the application of H&S, tools, processes and drawings knowledge, followed by evaluation. Intro to project planning. Machines 1 (inc lathe?) start practical 2: pen pot (applying project planning knowledge, possible amendment to include basic lathe use).</i>	<i>Ambition – inspiring students with where engineering could take them in their further career. Equipping students with core knowledge to achieve excellence in engineering.</i>	<i>Written work and practical work are graded separately, against set criteria, providing students with clear understanding of where improvements can be made.</i>	<i>Introduction video highlights the wide range of careers Engineering can lead to.</i>
2 (Oct HT – Christmas)	<i>Project Planning Cont. Interpreting Engineering Drawings 2. Introduction to Materials 1. Risk Assessments. Practical 3.</i>	<i>Continue to build project planning knowledge. Interpreting engineering drawings 2. Complete practical 2. Materials intro. Practical 3: bottle opener (applying interpreting engineering drawings knowledge, risk assessments and materials knowledge).</i>	<i>Versatility – building both theory and practical knowledge in a range of topics.</i>	<i>As above</i>	<i>Periodic links to engineering careers provided, relevant to term tasks.</i>
3 (Jan – Feb HT)	<i>Communicating as Engineers. Understanding and producing technical drawings by hand and using CAD. Orthographic and isometric projections. Materials 2. Practical 4.</i>	<i>Understand the difference between orthographic and isometric projections and learn to construct each, by hand or using CAD. Practical 4: pewter cast keyring (applying materials and CAD knowledge).</i>	<i>Collaboration – industry standard drawing conventions enabling effective communication with others.</i>	<i>CAD and hand drawings are graded separately with feedback given between, against set criteria.</i>	<i>Periodic links to engineering careers provided, relevant to term tasks.</i>
4 (Feb – Easter)	<i>Engineering Machines and Processes; Introduction to lathe use and taps and dies. H&S 2: risk assessments. Briefs and</i>	<i>Understanding lathe parts and basic turning processes. Using a tap and die. Writing risk assessments and understanding and writing briefs and specifications. Practical 5 copper lamp project (applying risk assessment and brief/specification knowledge).</i>	<i>Integrity – a challenging practical in terms of H&S (use of blow torches) which requires integrity throughout.</i>	<i>Written work and practical work are graded separately, against set criteria, providing a understanding of where</i>	<i>Periodic links to engineering careers provided, relevant to term tasks.</i>

	<i>specifications 1. Practical 5.</i>			<i>improvements can be made.</i>	
5 (Easter – May HT)	<i>Lathe processes continued. Revision for controlled assessment 1.</i>	<i>Further lathe practise and confidence building. Project planning recap/practise in preparation for controlled assessment. Tap and die recap. Mini practical 6: locking screw project (applying lathe and die knowledge).</i>	<i>Endurance – to revise and practise a wide range of knowledge for the controlled assessment.</i>	<i>Verbal feedback on mini practical 6 prior to beginning controlled assessment.</i>	<i>Periodic links to Engineering careers provided, relevant to term tasks.</i>
6 (May HT – Summer)	<i>Controlled assessment preparation/revision and start (project planning phase).</i>	<i>Revision and practise of key tasks likely to be in controlled assessment prior to release of brief. Post release, students begin project planning phase before summer holiday.</i>	<i>Integrity and ambition – to complete assessment tasks independently to the best of their ability.</i>	<i>Controlled assessment submitted in December and externally moderated.</i>	<i>Periodic links to Engineering careers provided, relevant to term tasks.</i>