

KS4 Engineering Year 10 – Outline Programme of Study

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Big ideas/ topics	Understanding and interpreting technical information.	Practical Workshop Task.	Health and Safety in the workplace. Tools, machines and equipment. Engineering processes.	Starting the assessed practical task. Selecting suitable materials. Material properties.	Practical engineering outcome. Workshop diary	Report writing and evaluation of coursework project.
Key Knowledge	Understanding technical information needed to produce Engineered products. Using existing drawings and practicing own drawing skills.	Making a metal bottle opener, working from an existing drawing. Using a selection of hand tools, machinery and processes.	Assess the potential risks involved in the production stages of our engineered prototype. Recommend safety control measures to counter those risks. Select necessary tools and equipment and processes to produce component parts.	Selecting suitable materials for the component parts from the engineered information. Understanding of stock sizes.	Produce the craft vice using a range of tools, equipment and processes safely and effectively. Apply skills in a range of processes using a range of suitable materials. Produce a production plan.	Evaluate the quality of the final product against the specification given. Evaluate your practices and processes. Suggest improvements where necessary.

KS4 Engineering Year 11 – Outline Programme of Study

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Big ideas/ topics	Examining and interpreting Unit 2 design brief	Existing products	Designing to meet the specification	Evaluation	Exam preparation Revision	Exam preparation. exam
Key Knowledge	Examining functions of then primary product focusing on mechanical components and component properties	Analysing existing products and their functional properties to those required by the design brief	Understanding and presenting technical information. How to design to meet the specification. Drawing methods, sketching, CAD drawing and 3Dmodelling	How your designs meet the criteria of the design brief. Relate to materials, operation, tolerances, size, cost	Revision program relating to all aspects of course covering a broad range of engineering topics covered throughout the course. Completing past exam style questions.	Exam preparation. Completing past exam style questions. Exam.
Further information and reading list						

Further information and reading list

Exam Board WJEC, link; https://www.wjec.co.uk/qualifications/engineering-level-1-2/#tab_keydocuments

Course Textbook

WJEC Vocational Award Engineering Level 1/2 By Matthew Wrigley

Online Resources

- BBC Bitesize; <https://www.bbc.co.uk/bitesize/examspecs/zby2bdm>
- Technology Student.com; <https://www.technologystudent.com/>
- **You Tube** has many useful videos, just search topics the two below are very good.
 - Channel 4 Handmade Britain's Best Woodworker; <https://www.youtube.com/watch?v=fvSDJo5rnWM>
 - Engineering Connections (Richard Hammond) ; <https://www.youtube.com/watch?v=1OziCDoox5Y>

Ways to support and extend student learning in this subject



Support for pupils

The greatest challenge for many students is the quantity of subject content that is necessary to cover in the course. Our students tell us that breaking this down into manageable chunks (often in the form of flashcards) and quizzing / consolidating little and often is the best way of keeping on top of what has been covered. We also recommend applying that knowledge to exam-style questions as often as possible

Revision and lesson materials will be on each Google Classroom. You can refer to these to help your child with their homework or if they are absent from school.

Encourage students to attend the extra scheduled coursework catch up sessions where they can get extra teacher support.

Stretch and Challenge Pupils.

It is important to have lots of practice exam questions and scenarios to give a wider extension of exam practice.

Some past papers are available to download from the WJEC website:

https://www.wjec.co.uk/qualifications/engineering-level-1-2/#tab_pastpapers

Encourage students to attend the extra scheduled revision sessions.

Revision cards are very useful for knowledge and these can be created by the student which in itself is a form of revision.

To learn key words: identify key words that cannot not yet be recalled or spelt correctly. Create flashcards and complete regular quizzing at home