

Engineering

What will I learn?

Advanced manufacturing is at the heart of the growth economy and WJEC engineering is a great foundation for learning in this area. The area of advanced engineering is one in which there are many opportunities for career progression via university or technical college. Course structure:

Unit 1 engineering design

You will learn about design process and how to analyse a product so you can see what features make it work and how it meets certain requirements. You will learn how to take ideas from different products in order to produce a design specification for a product, and redesign the product using CAD.

Unit 2 producing engineering products:

Through this unit, you will learn to interpret different types of engineering information to plan how to make engineered products. You will develop the skills to work safely with a range of engineering processes, equipment and tools. With these skills, you will learn to make a range of engineered products that are fit for purpose.

Unit 3 solving engineering problems:

Problem solving is critical to working in engineering. You will learn how engineers in the past have found solutions to problems and how engineers use their ideas to solve problems today. You will learn about materials, processes and maths and how engineers use them to solve problems. In solving problems, you will learn to follow a process and develop drawing skills to communicate your solutions.

Assessment

Examination

- Unit 3: Solving engineering problems | 1 hour 30 mins | 25%

Non-examined assessment

- Unit 1: Engineering design | 30 guided learning hours | 25%
- Unit 2: Producing engineering products | 60 guided learning hours | 50%

What skills do I need?

You will need to be able to:

- Work safely and independently.
- Develop accurate working products using a range of processes.
- Use Computer Aided Design.
- Analyse existing products, develop specifications and design ideas.

Could lead to:

The UK engineering industry is vast, with more than 6,000 organisations employing around 800,000 engineers. Career opportunities exist across a broad spectrum of sectors, from aerospace and defence to renewable energy and transportation and many of these sectors have a shortage of qualified engineers.