



SUBJECT & QUALIFICATION: Eduqas Tech Award Engineering

Why is the study of Engineering important?

Engineering is a driving force in the UK's economy, accounting for 21.4% (£1.2 trillion) of the UK's £5.7 trillion turnover in 2018¹. However, there is a considerable shortage of appropriately skilled workers in the engineering sector. One of the reasons for this is due to a lack of awareness among young people of the educational routes into engineering occupations, despite the fact that pursuing STEM subjects remains a priority for many young people, and, according to Engineering UK², the proportion of young people aged 11 to 14 who said they would consider a career in engineering was 54.7% in 2019.

What skills will the study of Engineering teach you?

Unit 1 provides learners with the opportunity to interpret different types of engineering information in order to plan how to produce engineering products. Learners will develop knowledge, understanding and skills in using a range of engineering tools and equipment in order to produce and test an end product.

Unit 2 allows learners to explore how an engineered product is adapted and improved over time, and it offers learners the opportunity to apply their knowledge and understanding to adapt an existing component, element or part of the engineering outcome that they produced for Unit 1.

Unit 3 introduces learners to a range of considerations that impact on engineering design and how modern engineering has had an impact on modern day life at home, work and in society in general.



OPEN ELEMENT SUBJECT OVERVIEW

What will you know and understand from your study of Engineering ?

WJEC Level 1/2 Vocational Awards (Technical Awards) provide students with opportunities to study vocational subjects alongside GCSEs and other general and vocational qualifications as part of a broad programme of study. They are primarily designed for learners aged 14-16 and offer an experience that focuses on 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.

How are you assessed in Engineering?

You will carry out tasks/assignments throughout the course. Your teacher will mark these, and so you will receive feedback as to how you are getting on. The assessment for Unit 3: solving engineering products, is an exam, which is sent away to be marked.

Key Assessment Objectives

Unit 1: Manufacturing Engineering Products Controlled assessment: 20 hours 40% of qualification.
80 marks

An assignment brief will be provided by WJEC that will include a scenario and several tasks available via the WJEC Secure Website.

Unit 2: Designing Engineering Products Controlled assessment: 10 hours 20% of qualification
40 marks

An assignment brief will be provided by WJEC that will include a scenario and several tasks available via the WJEC Secure Website.

Unit 3: Solving Engineering Problems Written examination: time of exam - 1 hour 30 minutes 40% of qualification
80 marks

Questions requiring objective responses, short and extended answers, based around applied situations. Learners will be required to use stimulus material to respond to questions.



How can Engineering support your future?

The study of Engineering can lead to a wide range of careers. This course is a fantastic foundation for developing skills that you can take with you into a wide range of careers. It aims to give you an understanding of the workings of the Engineering industry. This curriculum pathway can lead to a full range of education and training at Post 16 level.

Study of Engineering can lead to a wide range of careers:

The UK is regarded as a world leader in engineering, which covers a wide range of exciting and rapidly developing areas such as renewable energy, space, low carbon, aerospace, automotive, agri-food and bioscience. People with engineering skills are always in demand in the UK and this is set to continue. There are different areas of engineering students can explore:

- Electrical Engineer
- Automotive Engineer
- Aerospace Engineer
- Mechanical Engineer



OPEN ELEMENT SUBJECT OVERVIEW

Engineering Course Overview		
Term	Year 1	Year 2
Autumn 1	Unit 3 Solving Engineering Problems Communicating as Engineers	Unit 1 Manufacturing Engineering product: controlled assessment
Autumn 2	Unit 3 Solving Engineering Problems Engineering equipment and materials	Unit 1 Manufacturing Engineering product Controlled assessment
Spring 1	Unit 3 Solving Engineering Problems Materials, Health and safety	Unit 2 Designing Engineering Products: controlled assessment
Spring 2	Unit 3 Solving Engineering Problems Planning and processes	Unit 2 Designing Engineering Products: controlled assessment
Summer 1	Unit 3 Solving Engineering Problems Environmental considerations, engineering developments and mathematical techniques	Unit 3 Solving Engineering Problems Written exam preparation
Summer 2	Unit 3 Solving Engineering Problems Design briefs and specifications	Exam Preparation