

BTEC Extended Certificate in Engineering Level 3

Qualification Aims and Objectives

This is a two year course that offers an excellent progression from the BTEC Level 2 Engineering course. The full course consists of 4 units of work completed over two years. It is assessed internally and externally through project-based coursework assignments, including a range of practical tasks and presentations. In Year 12 there are two units of study. One is an internally marked piece of coursework and the other is a written exam that tests mathematical skills. The coursework is built around the Greenpower electric car project as part of a national competition where students working in teams will attempt to design and build their own racing car.

Course Outline

Year 12:

- Unit 1: Engineering Principles
- Unit 2: Delivering of Engineering Processes safely as a team

Year 13:

- Unit 3: Engineering Product Design and Manufacture
- Unit 10: Computer aided Design in Engineering

The full course consists of four units of work completed over two years with each unit building towards the final grade at the end of Year 13. Unit 2 is assessed internally through project based coursework, as well as the observation of practical tasks and presentations. In Year 12 there is a written exam that is externally assessed. In Year 13 there is an internally assessed coursework project and an externally assessed controlled assessment task.

This course is suitable for anyone who has completed the BTEC Level 2 Engineering course and wants to develop their skills to a higher level, working in areas of specialism including Computer Aided Design, electronics, fabrication and welding.

Working in teams, students will develop the design of their own electrical car working with CAD software used in industry. You will be working to compete in the National Greenpower racing series and as a team will be responsible for the management of each aspect of the project. This will involve business presentations to secure sponsorship for the best materials and equipment available as well as recruiting a team of drivers and pit crew for each race. You will explore electrical and electronic theory in developing the management of your race batteries to optimise your car's performance. You will apply mechanical principals as well as consider the impact of aerodynamics during the fabrication of your car.



Entry Requirements

Minimum of 5 9-4 grades in GCSE examinations including a Grade 5+ in Maths or a Merit+ in BTEC Level 2 Engineering

Future courses & possible careers

- Mechanical Engineering
- Electrical Engineering
- Civil Engineering

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