

EASTBURY SUBJECT CURRICULUM

Subject

BTEC Level 3 Subsidiary Diploma

Overview

This BTEC qualification is at QCF level 3 and designed to provide highly specialist, work-related qualifications in Science. It gives learners the knowledge, understanding and skills that they need to prepare for employment or further studies in Science related areas and builds on the knowledge gained from Key stage 4 Science. On successful completion of this BTEC level 3 qualification the learner can progress to employment and/or continue their study in the same or related vocational area.

The BTEC Subsidiary Diploma course is delivered over 2 years, with the mandatory units (to complete the Certificate) delivered in Year 12 and the optional units delivered in Year 13. The course is delivered by 2 Teachers.
The chosen units are:

Year 12 (Certificate)

Unit 1 – Fundamentals of Science

Unit 2 – Working in the Science Industry

Unit 3 – Scientific Investigation (done as enrichment)

Unit 4 – Scientific Practical Techniques

Year 13 (Subsidiary Diploma)

Unit 5 – Perceptions of Science (done as enrichment)

Unit 11 – Physiology of Human Body Systems

Unit 18 – Genetics and Genetic Engineering

Unit 20 – Medical Physics Techniques

This course gives learners the opportunity to develop a range of skills and techniques, personal skills and attributes essential for successful performance in working life.

Year 12 – Term by term

<p align="center">Autumn & Spring (partly)</p>	<p>Teacher 1 (3 lessons per week) Unit 1 – Fundamentals of Science <i>(60 Guided Learning Hours – 20 weeks)</i></p> <p>The aim of this unit is to enable learners to develop the necessary practical techniques through 4 fit for purpose assignments. Learners will investigate the quantities necessary in chemical reactions, the structure and functions of cells, the calorific value of different fuels and develop skills in communicating scientific information.</p>	<p>Teacher 2 (2 lessons per week) Unit 2 – Working in the Science Industry <i>(60 Guided Learning Hours – 30 weeks)</i></p> <p>The aim of this unit is to enable learners to gain the knowledge and skills that an employee in the science industry needs to be an effective, efficient and safe member of a team through 4 fit for purpose assignment. Learners will know communication practices, how laboratories are designed, how information is stored in laboratory information management (LIMS) and how to work safely in a scientific workplace.</p>
<p align="center">Spring (partly) & Summer</p>	<p>Teacher 1 (3 lessons per week) Unit 4 – Scientific Practical Techniques <i>(60 Guided Learning Hours – 20 weeks)</i></p> <p>The aim of this unit is to enable learners to use a range of practical techniques used in science such as the analysis of substances, the separation of substances and the use of instruments/sensors. The variety of techniques in the content allows the unit to be tailored to reflect the focus of different areas of study, e.g. forensic science, biology, chemistry, physics, electronics and environmental science.</p>	<p>Teacher 2 (2 lessons per week) Unit 3 – Scientific Investigation <i>(60 Guided Learning Hours – 10 weeks)</i></p> <p>The aim of this unit is to enable learners to explore the protocols associated with scientific investigations. The unit is based around working as a research scientist, setting up an idea, testing it and then reporting the findings.</p>

Year 13 – Term by term

<p align="center">Autumn & Spring (partly)</p>	<p>Teacher 1 (3 lessons per week) Unit 11 – Physiology of Human Body Systems <i>(60 Guided Learning Hours – 20 weeks)</i></p> <p>The aim of this unit is to enable learners to use a range of practical techniques used in science such as the analysis of substances, the separation of substances and the use of instruments/sensors. The variety of techniques in the content allows the unit to be tailored to reflect the focus of different areas of study, e.g. forensic science, biology, chemistry, physics, electronics and environmental science.</p>	<p>Teacher 2 (2 lessons per week) Unit 20 – Medical Physics Techniques <i>(60 Guided Learning Hours – 30 weeks)</i></p> <p>The aim of this unit is to enable learners to explore the protocols associated with scientific investigations. The unit is based around working as a research scientist, setting up an idea, testing it and then reporting the findings.</p>
<p align="center">Spring (partly) & Summer</p>	<p>Teacher 1 (3 lessons per week) Unit 18 – Genetics and Genetic Engineering <i>(60 Guided Learning Hours – 20 weeks)</i></p> <p>The aim of this unit is to develop understanding of the principles of Mendelian genetics and to develop knowledge and practical techniques used in commercial, analytical and research laboratories.</p>	<p>Teacher 2 (2 lessons per week) Unit 5 – Perceptions of Science <i>(60 Guided Learning Hours – 10 weeks)</i></p> <p>The aim of this unit is to enable learners to develop their knowledge of how science is perceived. Learners will consider how people, society and the media interact with science. They will also consider how scientific ideas develop and the ethical/moral issues associated with some scientific advances.</p>
<p align="center">Homework</p>	<p>Homework is given every week and students are expected to spend 1 hour on each piece (this does not include using their non-contact time) Homework is primarily research based and is aimed at developing the independent learner and preparing learners for the next lesson. Please check planners, www.showmyhomework.com for tasks.</p>	
<p align="center">Additional information</p>	<p>The Science Department is well equipped and stocked to enable learners to access and complete the course. There is also a wide variety of specialist books to browse. The school has ICT suites that are accessible to all students for research and word processing. All these resources are available at any break time and after school to all students. Student progress is tracked through a carefully set-up and shared Centralised Mark Book that is only editable by Teachers with a locked version available to students.</p>	
<p align="center">Useful resources</p>	<p>The Edexcel and Pearson websites are very helpful and contain the specifications for all units covered as well as additional information about upcoming events. You can also find out what exhibitions are on in London to plan your own visit to any of the Science based Museums.</p>	