



Applied Science (AQA)

Level 3 Certificate/Extended Certificate in Applied Science (AQA)

Science is a subject that affects all aspects of our lives. For example, by advancing knowledge in stem cell research, leading to the development of new treatments for serious illnesses. Despite this, the media perception of science is not always positive, and is often down to a lack of understanding of the science being discussed. Scientific advances often raise moral and ethical issues – is it right for the NHS to pay for a very costly lifesaving drug to treat cancer when cuts are being made in other areas? What issues are raised by the potential of three parent babies? Science often asks more questions than it answers, and this course will equip you with the knowledge and the skills to make your own judgements on scientific issues.

Content and Assessment

Year 12 - Unit 1: Key Concepts in Science (16.6% of Extended Certificate - written exam)

This exam includes questions based on chemistry, physics and biology, with a mixture of short and longer answer questions.

Year 12 - Unit 2: Applied Experimental Techniques (16.6% of Extended Certificate - assessed practical work)

This unit is based on practical work linked to unit 1, and is internally assessed with external

moderation. You will carry out 6 investigations and present detailed scientific reports for each one.

Year 12 - Unit 3: Science in the Modern World (16.6% of Extended Certificate - written exam)

This unit is based on pre-release material, focussing on the work of scientists and their role in society. It includes a mixture of short and extended answer questions.

Year 13 - Unit 4: The Human Body (16.6% of Extended Certificate - written exam)

This unit focusses on human anatomy and physiology, with applications in the health sector. It builds on units 1 and 2 where the knowledge and practical skills gained are applied to human biology.

Year 13 - Unit 5: Investigating Science (16.6% of Extended Certificate – assessed practical work)

This unit allows students to use the knowledge gained during the course in an extended practical investigation. The students first plan and then carry out the investigation before writing a detailed report. This report is internally assessed with external moderation.

Year 13 - Unit 6a: Microbiology Portfolio (16.6% of Extended Certificate – assessed practical work)

This unit will develop your knowledge and understanding of key microbiological concepts and techniques used in biotechnological industries. The unit has a significant number of practical experiments. You will produce a portfolio for this, which is internally assessed with external moderation.

Teaching

The examined units will involve a mixture of taught material and independent research. In particular, preparation for unit 3 will involve in depth discussions about topical news items and the issues that arise from these developments. The practical work in unit 2 closely follows the examined work in unit 1 with an emphasis on interpreting data and drawing conclusions. Units 5 and 6 in year 13 work will follow large extended projects, where an emphasis will be on time management and organisation.

The Future

The Applied Science qualification is useful where a broad scientific knowledge is required. This qualification is supported by a range of universities, and taken alongside other qualifications, it can fulfil the entry requirements for a number of science-related higher education courses including: physiotherapy, biomedical and sports science, and is particularly relevant to those wishing to undertake a vocational course such as nursing.



Independent Learning

Independent learning tasks in Applied Science

<p>1. Review each lesson's notes and using a relevant textbook find key chapters, then add to the class notes you have made with relevant/interesting additional material. Advanced biology/chemistry and physics textbooks are available for your use in the library and in science.</p>	
<p>2. Use Bloodle! The Applied Science section will contain relevant material for your studies, which will regularly be uploaded.</p>	
<p>3. Use the internet and the school library to research areas by checking in the journals such as BBC Focus magazine, Biological Sciences Review and New Scientist. Also regularly check for scientific articles in The Guardian, The Independent and The Telegraph (all available for free online). This will be particularly useful for Unit 3</p>	
<p>4. Regularly proof read your scientific reports, checking that all the required information is included and fully referenced. Seek and act on feedback from members of staff.</p>	
<p>5. Regularly attend independent study sessions, which are a chance to work through your own material at your own pace whilst in the presence of the Applied Science staff.</p>	
<p>6. For each of the Sciences, take a letter at a time and produce a key word glossary, check your own ability to be able to use each key word appropriately.</p>	