



Hartismere
College



Applied Science

A STUDENT'S GUIDE TO APPLIED SCIENCE

What do I need to know or be able to do before taking this course?

In order to study this subject, it is usual to have a GCSE qualification in Science at Grade 4, or BTEC Science with your teacher's recommendation.

This course provides candidates with the opportunity to develop appropriate skills, knowledge and understanding of scientific ideas and practices used by organisations, businesses and industry. It is set in a vocational context by using research, planning, analysis and experiments. At Hartismere, we study AQA Applied Science.

What will I learn on this Level 3 course?

The course will enable you to:

- Understand scientific principles associated with the application of biology, chemistry and physics
- Expand your experimental and practical skills and techniques
- Develop your interest in different areas of science as a career
- Understand the roles and skills of scientists, the importance of science in the work place, the public and the media

What kind of student is this course suitable for?

This course will appeal to students who:

- have an interest in all three sciences and would like to extend their interest and enhance their chances of gaining employment in a science based industry.
- enjoy learning through using scientific practical skills, developing theory and writing scientific investigations. As the name suggests, this is all about applying science to relevant real-world situations.
- to continue their education in a science based course at college or university.

What will I study and who with?

The certificates are split into a total of six units, with Units 1, 2 and 3 making up the Level 3 Certificate, and the Extended Certificate consisting of Units 1 to 6. Teachers are allocated based on speciality where possible and therefore you will be working with a wide range of staff from the Science Department.

Unit 1 – Key Concepts in Science

Learners develop an understanding of key concepts across all three sciences:

Biology – cell structure, transport mechanisms, the heart, homeostasis, breathing and cellular respiration, photosynthesis and food chain productivity.

Chemistry – atomic structure, the Periodic Table, amount of substance, bonding and structure, enthalpy changes.

Physics – Useful energy and efficiency, electricity and circuits, dynamics

Unit 2 – Applied Experimental Techniques

Learners are introduced to new experimental techniques, reinforcing previous skills and developing precision and accuracy. Portfolios are created based on six different experiments, and learners perform research, evaluation and analysis of data generated.

Unit 3 – Science in the Modern World

Learners will analyse and evaluate scientific information to develop critical thinking skills and understand the use of media to communicate scientific ideas and theories. Learners will also find out about scientific careers through the different roles scientists take in organisations.

This unit will be supported by appropriate visits to organisations and talks by scientists in a variety of roles. It is assessed via written examination linked to pre-released background information based on a topical subject.

Unit 4 – The Human Body

Learners develop knowledge and understanding of the structure and function of the digestive system, the circulatory system, the musculoskeletal system, the nervous system and related transport mechanisms. Assessment focuses on occupations that require knowledge of the human body, and how measurement techniques are applied.

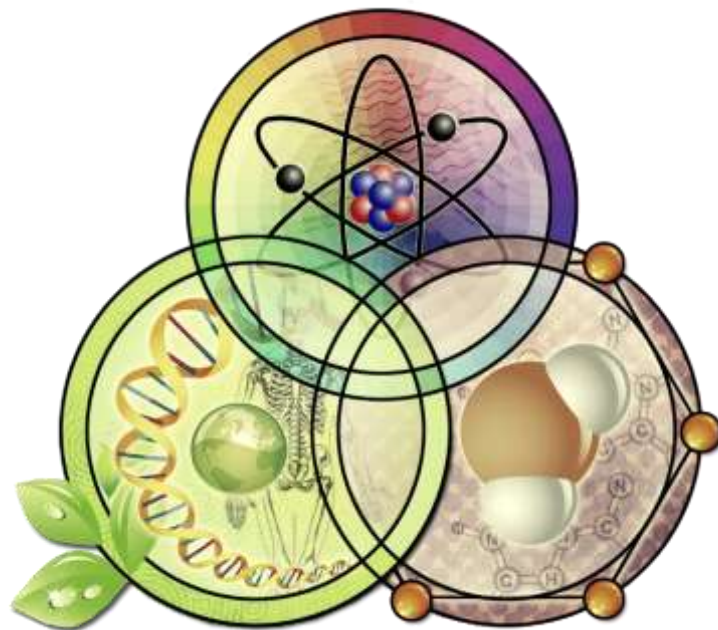
Unit 5 – Investigating Science

Learners take on the role of a research scientist and complete an individual investigation to produce a portfolio demonstrating detailed extension to scientific knowledge and practical skills.

Unit 6 – Option Topic

This unit will be based on the student requirements and specialisations of the teaching staff but could consist of investigations, practical work and portfolio completion into one of the following:

- Microbiology
- Medical Physics
- Organic Chemistry



Across all units there is a great deal of synopticity with topic content and structure and a chance for students to share ideas and experiences, developing invaluable skills across the two years of study.

What kind of qualification will I gain?

- The course in Year 12 consists of the Level 3 Certificate in Applied Science. This is the equivalent to an AS (certificate).
- Moving forward into Year 13 builds on the Level 3 Certificate and the qualification becomes an Extended Certificate, equivalent to an A level.
- Both qualifications carry UCAS points for gaining entrance to higher education.
- There are four levels of award – Pass, Merit, Distinction or Distinction*.

How is it assessed?

The assessment for the course is taken from a mixture of written external exams and coursework portfolios based on the experimental work performed in class.

Level 3 Certificate

- 2 exams Unit 1 and Unit 3 (pre-release material)
- 1 portfolio Unit 2

Level 3 extended certificate (in addition to Level 3 Certificate work)

- 1 exam Unit 4
- 2 portfolio Unit 5 and Unit 6

What could I go on to do at the end of my course?

Students with Applied Science qualifications have a wide range of possible career and higher education opportunities as you learn and use a wide variety of transferable skills. These include developing practical skills, working independently and improving your ability to analyse scientific processes involved in industry. These skills are in demand from employers, universities and colleges and are valuable in their own right. Many students use their qualification to go straight into employment rather than higher education. A wide range of occupations is open to students with a certificate or extended certificate in Applied Science. This can include careers such as research, laboratory work and nursing.

Contact:

Mr S Price
Head of Applied Science
Hartismere School
Castleton Way
Eye
Suffolk
IP23 7BL

Telephone 01379 870315
Email sixthform@hartismere.com
Website www.hartismere.com