

applied science

BTEC National Subsidiary Diploma and
National Diploma

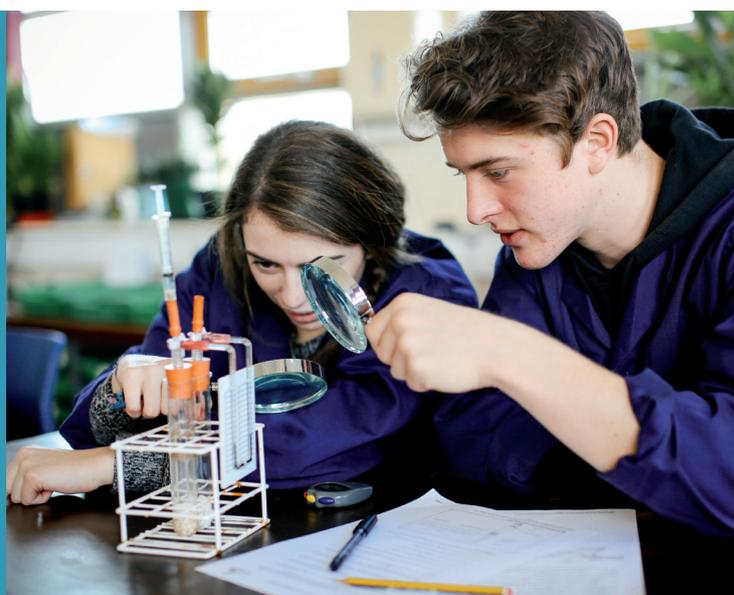
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Exam board: Pearson Edexcel



What is this subject about?

BTEC Applied Science is a challenging and worthwhile qualification for students with an interest in science, particularly from a practical point of view. The course reflects the fact that it is Applied Science by focusing on practical scientific investigation and work-related assignments, rather than a broad range of scientific theory for its own sake.

It gives you the opportunity to study science beyond GCSE in a way that enables you to succeed and do well even if you have found it tough going to achieve strong results in exam based courses at GCSE. This is because it is assessed through coursework assignments rather than through exams. This means you can check your thinking and understanding with your teachers as you go along, rather than being faced with having to learn and memorise a large body of tricky scientific theory and knowledge – and then have to apply it under exam conditions to solve problems you will not have seen before.

The Diploma qualification is equivalent to two A Levels and the Subsidiary Diploma qualification is equivalent to one A Level.

What will I study over the two years?

The course approaches a number of scientific ideas in a practical and experimental way - mainly from across Biology and Chemistry, with some Physics. This includes practical work on the structures of different types of cells and tissues and how the cells function, on chemical reactions, and on different types of energy. These ideas underpin the science involved in a wide range of human activities. The practical work includes experimental work connected with the scientific investigation of a range of chemical and biological substances, and using microscopes to examine biological samples. You also learn how to communicate scientific ideas, and about how scientific laboratories operate and function. In the second year you will take more specialised units in line with the interests and goals of the class.

Those taking the Diploma course will take an additional three units in each year. This will include the opportunity to plan and carry out an independent investigation and develop skills in mathematical analysis. Students on the Diploma course will also develop their knowledge of how science is perceived and will need to consider how people, society and the media interact with science, including the consideration of ethical issues. Students will undertake units to further develop their knowledge of topics from Physics, Biology and Chemistry which may include areas such as astronomy, human reproduction and regulation and microbiology.

Please note we do not offer BTEC Engineering. Whilst the BTEC Applied Science course includes some elements of Physics, the general focus is much wider with more of an emphasis on Biology and Chemistry. The course could however lead to an engineering degree via a foundation year.

How is this course assessed?

The course is assessed throughout the two years by a number of practical and written coursework assignments. Coursework assignments may include written documents, group presentations and practical work. These coursework assignments are centre-assessed and then externally moderated by the exam board.

What skills will I need and develop in this course?

The course develops a wide range of skills needed for life, in work and at university. This includes research, time management, self-organisation, giving presentations, and the ability to write well and precisely. You will develop strong practical skills in scientific measurement, experiment and investigation. The methodical and careful approach needed in laboratory work is of wide benefit – not just in science!

What can the course lead to in terms of higher education and future careers?

Diploma course: The BTEC Diploma course in Applied Science enables progression onto a range of biological, biomedical, biochemical, zoological, animal science, forensic science, healthcare, and environmental degree courses at a number of universities, as well as a range of other science-based degrees, including in engineering, via a foundation year. The Diploma course also enables you to qualify and enter a career as a science technician.

Subsidiary Diploma course: Students taking this course have used the science base to enable them to progress to a wide range of university courses including BSc courses in Sports Science, Sports Therapy, Teaching, Paramedics, Nursing, Radiography, and Equine Science, as well as broader based Foundation degrees in Biomedical Science and Animal Behaviour. In combination with one or more A levels from Maths / Physics / Chemistry / Biology a wider range of more specialised science degrees are feasible. Students have also used the course to enter science related work and training including an IT apprenticeship at a laboratory and working as support staff in an operating theatre. It is also suitable for progression on to higher education in fields not particularly related to science as part of an appropriately chosen overall programme of study.

What are the formal entry requirements for this course?

In addition to the College's standard entry requirements you will need to have achieved a minimum of:

- Grade 4's in GCSE Combined Science or in triple science (in GCSE Biology and in GCSE Chemistry and in GCSE Physics)
- Grade 4 in GCSE Maths

Our expectation for this course is also that you have achieved a minimum of a Grade 4 in GCSE English. For some students there will need to be a discussion at enrolment about whether an A Level or a BTEC science programme is appropriate, and that decision will be taken on the basis of your GCSE results, both specifically in the related subjects as outlined above, but also more broadly.

What extra support/enrichment activities are on offer?

In addition to giving you full support with your assignments we plan a range of visits and also input from speakers to give insight into how science is actually practised in the real world. For those studying the Diploma in Applied Science, we will support you in undertaking a Science related work experience placement in Year 1.

Subject combination advice:

BTEC Science can be combined with a wide variety of other courses. It goes well with A Level courses where there is some science orientated thinking such as Psychology, Geography and PE. It fits well in a science programme containing A Levels in Biology and/or Chemistry. It is particularly helpful alongside BTEC Health and Social Care as a preparation for degrees in nursing and related fields, and similarly alongside BTEC Sport or A Level PE as a preparation for degrees in sport related fields. In finalising a programme of courses, consideration should be given to the extent to which courses support each other and to the overall quantity of coursework involved.