

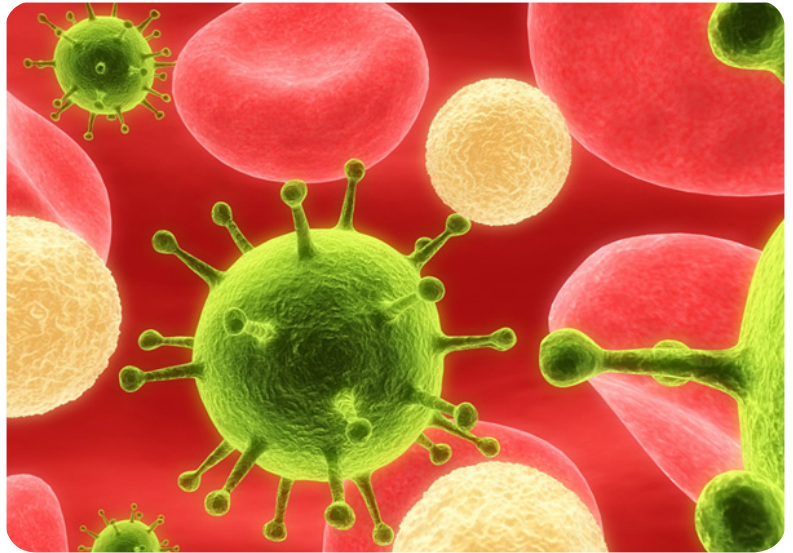
Biology

AS and A Level

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Exam Board: EDEXCEL



What is this subject about?

The course is designed to engage and inspire students by showing how an understanding of many contemporary issues requires a grasp of fundamental biological ideas. It will help you appreciate how society makes decisions about biology-related issues and how biology contributes to the success of the economy and society.

For the AS level you will study:

In the first year, the topics are 'Lifestyle, health and risk'; 'Genes and Health'; 'The voice of the genome' and 'Biodiversity and natural resources'. Through these topics you will learn about biological molecules, cell structure, DNA, genetics, the circulatory system, heart disease, diet, the use of plants and biodiversity. There is an emphasis on practical work in the laboratory. You will also spend half your lessons in an IT room as computers play an important role in the delivery of the course.

For the A2 level you will study:

In the second year, the topics are 'On the wild side'; 'Infection, immunity and forensics'; 'Run for your life' and 'Grey matter'. Through these topics you will learn about ecology, evolution, diseases such as HIV and TB, muscles, control in plants and mammals, and brain disorders and their treatment. As in the first year, there are many opportunities for discussing ethical issues such as the implications of The Human Genome Project and GM organisms and the use of drugs in sport. There is a residential field trip in the first term of the second year during which you will carry out your coursework investigation.

How is the course assessed?

20% coursework: In the first year you write a report on a visit to a site of biological interest; in the second year you carry out an individual ecological investigation which you devise and carry out on the residential field trip. 80% written examinations: Two exams in the first year and two exams in the second year.

What skills will I need and develop on this course?

You will use your knowledge and understanding to present scientific ideas and arguments, both in writing and orally, and you will use ICT to answer scientific questions. You will develop experimental skills including microscope use, analysis and interpretation of data and evaluation of methodology and data. You will discuss ethical issues of applications of biology in society.

Subject combination advice:

To progress to most degree courses related to Biology it is essential to study Chemistry at A level. Maths and Physics go well with Biology, as do Psychology, Geography and Geology.

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

Biological Science (but read note on Chemistry above), Sports Science, Sports Rehabilitation, Pharmacy, Medicine, Dentistry, Veterinary Science, Physiotherapy, Occupational Therapy, Nursing, Agriculture.

What are the formal entry requirements for this course?

Aside from the general entry criteria that the College requires, you will also need to achieve at least a Grade C in GCSE Science and in GCSE Additional Science (or grade Cs in GCSE Biology and GCSE Chemistry). Also Grade C in GCSE Mathematics. GCSE Applied Science or Additional Applied Science is not suitable.

What extra support / enrichment activities are on offer?

Although the emphasis is very much on students taking responsibility for their own learning, the Biology Department supports students by running regular revision sessions before each exam. In addition to the visit to a site of biological interest all students go on for their first year coursework, we offer a number of optional external talks and visits, for example to Surrey and Reading Universities and The Natural History Museum.

Can I do Human Biology at Esher?

No. Because the emphasis is on humans in Biology in syllabuses now so very few centres offer Human Biology as a separate course.

Do I need to take Chemistry alongside Biology?

You don't have to, but you should be aware that there is a lot of Chemistry in the Biology course, so it does really help. Plus, few universities take students on to a Biology degree without Chemistry. (Yes, I know a Biology degree might be the last thing on your mind at this stage, but you wouldn't be the first student to have changed their mind!)