

A LEVEL BIOLOGY

Biology is the study of the variety, complexity and interdependence of the living world. Studying this subject is to take part in a discipline that stretches back to the Classical World, yet in recent decades has seen revolutions in fields such as genetics (thanks to the work of the Human Genome Project) and clinical therapies designed to treat diseases once thought to be incurable, such as certain cancers or cystic fibrosis.

Understanding living organisms, from single-cells to human beings themselves, has a variety of practical applications. Whether you intend to become the next surgeon-general or your interests lie in biochemistry, psychology, medicine or even veterinary science, then taking the first step is to study biology.

Whilst challenging and thought-provoking, biology is the clear choice for students with an inquisitive mind. Biology is at the core of many major scientific disciplines such as Biochemistry, Biotechnology and Biophysics. Even Exobiology – the question of life elsewhere in space – is a fast growing specialism.

COURSE OUTLINE

In year one you will study biological molecules, cells, how organisms exchange substances with their environment and genetic information, variation and relationships between organisms.

In year two your study will include energy transfers in and between organisms, how organisms respond to changes in their internal and external environment, genetics, populations, evolution, ecosystems and the control of gene expression.



ASSESSMENT STRUCTURE

You will sit all of your A Level examinations at the end of the course. Examinations are two hours each, 100% written and contain a mixture of multiple choice, long as well as short answers.

| YEAR | TITLE | CONTENT | WEIGHTING |
|----------------|---------|-----------------------------------|-----------|
| End of Year 13 | Paper 1 | Cells, organisms & genes | 35% |
| End of Year 13 | Paper 2 | Energy, environments & ecosystems | 35% |
| End of Year 13 | Paper 3 | All content & practical skills | 30% |

ENTRY REQUIREMENTS

Competition for places will be high as the sciences are a popular choice at A Level as well as university. As a result to ensure we strive for the highest success students will ideally have Grade Point 7-9 (Grade A*/A) at science or biology GCSE. The minimum GCSE grade required is Grade point 6 (Grade B). Some of the content overlaps with the physics and chemistry curricula. Studying these subjects alongside biology would be advantageous. Studying biology would also complement A levels which are essay based and/or those which have a heavy reading load such as geography, history, English and modern foreign languages.



Declare the past, diagnose the present, and foretell the future.
- Hippocrates



PROGRESSION ROUTES

Progression routes following a solid performance at A Level in biology are very promising.

Related degree courses accessible with this qualification include most life science options such as genetics, cell biology, botany but could range as wide as engineering, mathematics, computer science and general sciences. You will find biologists working all over the world in almost every setting imaginable. Careers include medicine, veterinary sciences, dentistry, physiotherapy, optometry, biological and biomedical sciences, forensic sciences and marine biology.

RECOMMENDED EXTRA CURRICULAR ACTIVITIES

In order to secure a place on a science based university course, or in the world of work, it is highly recommended that you participate in extra-curricular subject related activities and clubs. In addition to numerous clubs and societies taking place every week in Science, we also offer:

Nuffield Research Placements

You will have the chance to work alongside professional scientists on a research project for four weeks during the summer holiday.

Crest Award Gold

Organised by the British Science Association, the Award gives students the chance to choose, plan and carry out a project of their choice.

Primary Science Assistance

Sixth Form students are encouraged to volunteer their enrichment time in local primary schools to help with the teaching of science but also to help complete Duke of Edinburgh Gold.

RECOMMENDED READING LIST

New Scientist magazine

The Origin of Species by Charles Darwin

Your Inner Fish: A Journey into the 3.5-Billion-Year History of the Human Body by Neil Shubin

The Double Helix by James D. Watson

TOP 5 UNIVERSITIES CURRENTLY FOR THIS SUBJECT

1. Cambridge
2. Oxford
3. Imperial College London
4. York
5. Durham

COURSE/QUALIFICATION DETAILS

Qualification: A Level Biology

Specification: AQA

Code: 7402

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