BIOLOGY

WHY STUDY BIOLOGY?

Biology is an exciting and rapidly developing subject with a central place in the future of our society. Emerging areas of biological sciences are: Epigenetics, Bioinformatics, Stem cells, Antibiotics, Microbiology, Genomics, Genetic engineering, Gene therapy and Synthetic Biology. Students will explore ethical, social and moral issues arising from the frontier of biological sciences, in fields such as genomics, medicine, agriculture and conservation. During the course students will have opportunities to:

Extend their knowledge of organisms' physiology and anatomy. Deepen their understanding of biological processes and how these are affected by factors as well as how factors interrelate.

Develop investigative skills and competency with a range of scientific techniques and use of apparatus. Including taking part in a field trip where they plan and carry out their own ecological study.

Through practical and independent learning activities students develop problem solving, interpretation and evaluation skills, enhancing their resilience and confidence. They will also hone data processing skills and their ability to draw conclusions.

AFTER A-LEVEL BIOLOGY?

In recent years, some of our students have gone on to study undergraduate courses in:

Biochemistry, Biological Sciences, Geography, Biomedical Science, Cell Biology, Dentistry, Veterinary Medicine, Medicine, Nutrition, Psychology, Life sciences, Sport Science, Optometry, Pharmacy, Pharmacology and Physiotherapy.

Other students have used their Biology A-level to gain entry to courses in: Accounting, Business, Sports Management, Engineering, Law, Physics and Primary teaching. We have an excellent record of helping students gain admission onto their chosen courses, including Medicine, Dentistry and undergraduate studies at Oxford and Cambridge.

THE COURSE

The qualification is linear, which means that students will sit all the A-level exams at the end of their A-level course. Topics covered;

1. Biological molecules
2. Cells
3. Organisms exchange substances with their environment
4. Genetic information, variation and relationships between organisms
5. Energy transfers in and between organisms
6. Organisms respond to changes in their internal and external environments
7. Genetics, populations, evolution and ecosystems
8. The control of gene expression

(Topics 1-4 only for AS-level.)

In order to be able to develop their skills, knowledge and understanding in Biology, students need to have been taught, and to have acquired competence in appropriate areas of mathematics.

Overall, at least 10% of the marks in assessments for Biology will require the use of mathematical skills. These skills will be applied in the context of biology and will be **at least the standard of higher tier GCSE Mathematics.**

Practical assessments have been divided into those that can be assessed in written exams (15% of the marks available) and those that can only be directly assessed whilst students are carrying out experiments. A-level grades will be based only on marks from written exams.

A separate endorsement of practical skills will be taken alongside the A-level. This will be assessed by teachers and will be based on direct observation of students' competency in a range of skills demonstrated in 12 required practicals. Without practical endorsement the student will not attain the A-level qualification.

THE EXAMS

All external exams are taken at the end of Y13.

Paper 1

Any content from topics 1– 4 assessed, including relevant practical skills.
2 hours long, 91 marks, 35% of A-level.

short and long answer questions (76 marks)

extended response questions (15 marks)

Paper 2

Any content from topics 5– 8 assessed, including relevant practical skills.

2 hours long, 91 marks, 35% of A-level.

short and long answer questions (76 marks)

Comprehension questions (15 marks)

Paper 3

Any content from topics 1– 8 assessed, including relevant practical skills. 2 hours long, 78 marks, 30% of A-level.

Structured questions (8 marks)

Critical analysis of experimental data (15 marks)

One essay from a choice of two titles (25 marks)

A-level Results

Good Science and Maths GCSEs (Grade 7 or above) are helpful for making the transition from GCSE to A-level, as well as ensuring the best chance to achieve top grades.

Year	A*-C	A*-E
2024	50%	98.5%
2023	50%	97%
2022	77%	100%

A-level Biology Teaching Staff

Mrs Richardson, Dr Ingham, Mr Garbutt and Technician Miss Bastin