

A Level Biology



➤ Introduction

A-Level Biology explores the science of life – from the microscopic molecules that build living cells, to complex organisms, ecosystems, and the interactions that shape our world. This course develops your understanding of biology as a dynamic and evolving science, grounded in evidence, experimentation, and critical thinking.

➤ What will I learn?

You will develop knowledge and skills across key biological themes, including:

- Biological molecules – the chemistry of life
- Cells and microscopy – structure, function, and cell specialisation
- Human & plant physiology – transport systems, gas exchange, immunity
- Genetics + DNA – inheritance, gene expression, and variation
- Organisms and their environment – ecosystems, nutrient cycles, and adaptation
- Homeostasis – maintaining internal balance
- Evolution & natural selection – changes in species over time
- Energy transfers – respiration and photosynthesis

You will complete 12 required practicals that build lab skills in:

- Microscopy
- Biochemical tests
- Enzyme investigations
- Population sampling
- Dissection
- Statistical analysis

These are vital preparation for university-level science and are assessed through practical questions in your exams and a separate practical endorsement.

➤ Other subjects?

Most common trio for medical careers: Biology, + Chemistry and Maths.

In addition:

- Mathematics (useful for data analysis, statistics, genetics, physiology).
- Psychology (links to brain biology, behaviour, research skills).
- Physics (supports physiology, medical imaging, biomechanics).

➤ How will I be assessed?

Component	Type	Duration	Weight
Paper 1	Exam	2hrs	35%
Paper 2	Exam	2hrs	35%
Paper 3	Exam	2hrs	30%

Key Information:

There will be two externally assessed AS exams which will be covering contents taught in year 12.

- All components are externally assessed – no coursework.

➤ Opportunities

By the end of the course, you will be able to:

- Think scientifically and critically
- Analyse experimental results and data
- Communicate complex ideas clearly
- Apply biological knowledge to unfamiliar situations
- Understand ethical and societal impacts of scientific advances
- These skills support careers in medicine, research, veterinary science, biochemistry, pharmacy, biotechnology, environmental science, psychology, and more.

➤ Future Careers

Studying A-Level Biology can lead to many exciting pathways. It is especially valuable for careers in science, healthcare, and the environment. Many students go on to study subjects such as :Medicine, Dentistry or Veterinary Science. Also consider:

- Biomedical Science / Biochemistry
- Nursing, Midwifery or Paramedicine
- Physiotherapy and Sports Science
- Psychology or Neuroscience
- Pharmacology or Pharmacy
- Genetics and Biotechnology
- Environmental Science or Marine Biology, Zoology, Botany and Animal Science.

➤ Course Information

Course Code - 7402

Examination Board - AQA