

# BIOLOGY

Exam Board: AQA



## Aims of the Course

To allow students to:

- Enhance their knowledge and understanding of living things, how they work and interact and how they are used and influenced by humans.
- Develop study and communication skills.
- Improve planning, practical, analytical and evaluation skills.
- Develop a more flexible and versatile approach for using biological principles in explaining observations.
- Apply knowledge, understanding and skills for use in higher education, careers and everyday life.
- Develop skills which enhance their ability to participate more effectively in adult life.

## Types of Learning Experience:

- Practical work, including microscopes, fieldwork, dissection (optional), projects, model-making.
- Written work: investigation reports, essays, practice exam questions, data-handling.
- Discussion, lecture-style, presentations, conference.
- Reading.

## Link Subjects:

Biology is a good partner for any subject but links particularly well with Chemistry, Geography and P.E.

## Progressing to Higher Education:

Biology is recognised for its rigour as an Advanced level subject suitable for entry to University and Higher Education, and particularly useful for continuing studies in any science related area.

## Careers:

Essential or useful for: Medicine, veterinary science, dentistry, biochemistry, marine biology, nature conservation, pharmacy, physiology, nursing, occupational therapy, sports science, physiotherapy, medical and research laboratory technician, forensic sciences, dietician and many others.

A successful A-Level Biology student will:

1. Develop a **broad knowledge base** in biology by regularly going over lesson material, taking opportunity to read biological material related to the current affairs, watching relevant videos, reading the A-Level Biological Sciences Review magazine and popular science books from the lab.
2. Develop good **communication skills** by using the guidance for planning investigations, writing investigation reports and longer-answer questions provided on Show My Homework and the One Drive shared area. They will lay out their written work in a logical, sequential and coherent manner, using appropriate scientific terminology to explain and justify points made.
3. Develop **analytical and mathematical skills** by using the guidance for plotting graphs and carrying out suitable statistical testing provided on Show My Homework and the OneDrive shared area. They will show their working in a thorough and organised manner, and be able to use it in the concluding processes.
4. Develop **effective revision techniques** by allowing sufficient time to memorise large quantities of factual material, use online resources to practise exam-style questions, listen to and act on feedback provided to develop exam technique, and adopt a very persistent approach to preparing for exams.
5. Develop **practical skills** by being attentive to instructions and being aware of their own safety and that of others. They will be able to plan and carry out practical tasks independently, and select appropriate equipment for these tasks to allow data to be successfully generated for analysis.

## Entry requirements:

A minimum of 5x Grades 9-4 at GCSE  
Level 6+ in English, Maths & Combined Science or  
Level 6+ in English, Maths, Science





## Units/Topics

### Year 1:

1. Biological Molecules
2. Cells
3. Genetic Information, Variation and Relationships between Organisms
4. Organism Exchange with the environment

### Year 2:

5. Energy Transfer in and between Organisms
6. Organisms Respond to Changes in their Environment
7. Genetics, Populations, Evolutions and Ecosystems.
8. The Control of Gene Expression

## 12 Required Assessed Practicals

- Enzymes
- Mitosis
- Dissection of animal or plant gas exchange system
- Growing microbes
- Chromatography
- Rate of respiration of yeast cultures.
- Animal Behaviour
- Species diversity and distribution

## Exams - AQA

3 Papers (all 2 hours)

**Paper 1** – Year 1 Content

**Paper 2** – Year 1 & 2 Content

**Paper 3** – Practical skills and a synoptic 25 mark Essay



## Maths Skills

10% of the marks in each exam will come from maths skills

**Includes:** Interpretation of data and statistical tests

Opportunities to complete Silver or Gold CREST Awards: <https://www.crestawards.org>.

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