

AS/A Level Biology



Entry Criteria:

- You will need to achieve the pathway criteria, please see the prospectus for further information
- You will need to achieve a Grade 6 or above in GCSE Mathematics
- You will need to achieve a GCSE Science with a significant Biology component (for example, Core and Additional Science) at Grade 6 or above

Coursework/Examination Requirements:

AS Assessment	Two written examinations each worth 50%
A Level Assessment	Three written examinations each worth 33.33%

Awarding Body/Specifications: AQA

Advanced Level (A Level): Biology is the scientific exploration of the vast and diverse world of living organisms; an exploration that has expanded enormously in recent years to reveal a wealth of knowledge about ourselves and about the millions of other organisms with whom we share the planet. The Biology course encourages students to read widely and think constructively. **The following units will be covered on this course:**

AS/Lower Sixth Units

Biological molecules. All life on Earth shares a common chemistry. Despite their great variety, the cells of all living organisms contain only a few groups of carbon-based compounds that interact in similar ways.

Cells: All life on Earth exists as cells with basic features in common. All cells arise from other cells, by binary fission in prokaryotic cells and by mitosis and meiosis in eukaryotic cells.

Organisms exchange substances with their environment. The internal environment of a cell or organism is different from its external environment.

Genetic information, variation and relationships between organisms. Biological diversity - biodiversity - is reflected in the vast number of species of organisms, in the variation of individual characteristics within a single species and in the variation of cell types within a single multicellular organism.

Upper Sixth

A Level/Upper Sixth Units

Energy transfers in and between organisms. Life depends on continuous transfers of energy. In photosynthesis, light is absorbed and this is linked to the production of ATP.

Organisms respond to changes in their internal and external environments. A stimulus is a change in the internal or external environment. A receptor detects a stimulus. A coordinator formulates a suitable response to a stimulus.

Genetics, populations, evolution and ecosystems. The theory of evolution underpins biology. All new species arise from an existing species. Physiological pathways, cell structure, DNA as the genetic material and a 'universal' genetic code.

The control of gene expression. Cells are able to control their metabolic activities, the transcription and translation of their genome. Although the cells within an organism carry the same coded genetic information, they translate only part of it.

Progression: Any career that requires qualities such as adaptability, creativity, curiosity, tenacity and analytical skills. Former students have studied the following degrees at Higher Education: Medicine, Pharmacy, Oceanography, Zoology, Dentistry, Paramedic Science, Sports Science, Natural Science, Business, Midwifery, Geology, Law, Forensic Science, Genetics, Biochemistry, Biology Chemistry and many more.

Opportunities: Established links to the John Innes Centre which enables the loan of specialist equipment. We offer a wide range of extra-curricular opportunities alongside the course.