Biology
AQA A level Biology

Biology is the scientific study of life and living organisms. Biology is one of the most popular A-level, offering a solid foundation in understanding complex biological processes. The A-level Biology course provides a comprehensive overview of the subject, covering key areas in cellular, organismal, and ecological biology.

Topics you will study

Year 12:

Biological Molecules: structure and function of proteins, carbohydrates, lipids, and nucleic acids
Cells: cell structure, cell division, transport across cell membranes, and cell recognition
Organisms Exchange Substances with Their Environment: gas exchange, nutrient absorption, and transport systems in animals and plants
Genetic Information, Variation, and Relationships Between Organisms: DNA structure, gene expression, diversity in species, and the importance of biodiversity

Year 13:

Energy Transfers in and Between Organisms: photosynthesis, respiration, and energy transfer within ecosystems
Organisms Respond to Changes in Their Internal and External Environments: nervous coordination, homeostasis, and response to environmental changes
Genetics, Populations, Evolution, and Ecosystems: inheritance patterns, gene pool, population genetics, and the impact of human activity on ecosystems
The Control of Gene Expression: genetic mutations, regulation of gene expression, and techniques in gene technology

Why study this subject?

- Gain Insight into Life Processes: Biology gives an understanding of the functions and interactions of living systems, from cellular to ecosystem levels.
- Develop Analytical Skills: Learn how to evaluate scientific research, experiments, and hypotheses critically.
- Prepare for the Future: Study the science behind health, conservation, and biotechnology, exploring areas essential for modern challenges in medicine, environmental management, and genetics.

Why study this subject at Aston?

- Excellent outcomes year on year
- Expert Teaching Staff: A highly qualified team, including 20+ years of teaching and research experience.
- Excellent enrichment opportunities, including university lab visit and mentoring for medical school applications

Assessment

Your grade will be based on three 2-hour exams in the summer of Year 13.
Paper 1: Year 12 topics (Biological Molecules, Cells, Organisms Exchange Substances, Genetics and Variation)
Paper 2: Year 13 topics (Energy Transfers, Organisms Response, Genetics and Populations, Gene Control)
Paper 3: Synoptic paper covering topics from both years and including data analysis and an essay question

Links particularly well with these subjects

Chemistry, Maths, Psychology, Medical Science, Applied Science, Health and Social Care

Entry requirements

Grade 6 or above in GCSE Biology or Combined Science and grade 5 or above in Mathematics.

Useful for careers in....

Biology is particularly useful for careers in Medicine, Veterinary Science, Genetics, Ecology, Environmental Science, Biochemistry, Microbiology, Biotechnology, Forensic Science, and Conservation.