

OCR A-LEVEL BIOLOGY

COURSE CONTENT AND AIMS

Biology 'A' Level is an exciting course that builds on knowledge acquired at GCSE. Throughout the two-year course students will study biological molecules, cells, organisms that exchange substances with their environment, genetic information, variation and relationships between organisms, energy transfers in and between organisms, organisms response to changes in their internal and external environments, genetics, populations, evolution and ecosystems and the control of gene expression.

The 'A' Level Biology qualification is assessed over three separate papers. There is also additional certification that recognises practical skills. The course is designed to build on concepts and skills developed at GCSE.

Module 1: Development of Practical Skills: Tested in examinations and well as through 12 internally assessed experiments, which will act as practical endorsement, along with the A level grade.

Module 2: Foundations in Biology: The students will study: cell structure, biological molecules, nucleotides & nucleic acids, enzymes, biological membranes, cell division, cell diversity and cellular organization.

Module 3: Exchange and Transport: The students will study: exchange surfaces, transport in animals and transport in plants.

Module 4: Biodiversity, Evolution and Disease: The students will study: communicable diseases, disease prevention, immune system, biodiversity, classification and evolution.

Module 5: Communication. Homeostasis and Energy: The students will study: communication and homeostasis, excretion, neurones, hormones, plant and animal responses, photosynthesis and respiration.

Module 6: Genetics, Evolution and Ecosystems: The students will study: cellular control, patterns of inheritance, manipulating genomes, cloning and biotechnology, ecosystems, populations and sustainability.

TEACHING AND LEARNING STYLES

Typical classroom activities include discussions, debates, group work, research, model making and experimental work. Homework assignments include research and note-taking, questions and writing up experiments.

ASSESSMENT

'A' Level Biology is assessed over three separate papers: Paper 1 covers topics 1-4 and any relevant practical skills. Paper 2 covers topics 5-8 and any relevant practical skills. Both paper 1 and 2 have equal weighting of 35% of the final 'A' Level grade. Paper 3 assesses content from topics 1–8, including relevant practical skills. It is worth 30% of the final 'A' Level grade.

There is no longer a separate practical skills assessment that counts towards the Biology 'A' Level qualification. Instead there is a standalone certification that recognises practical skills. The exam board dictates a set list of practical techniques students will need to be able to demonstrate throughout the year in order to be awarded this additional certificate.

HIGHER EDUCATION AND CAREER OPPORTUNITIES

Biology 'A' Level combines well with Physics, Chemistry, Maths, Geography and P.E. Career opportunities exist in laboratory work, in industry, genetics, ecology, agriculture, horticulture, forestry, work with animals, health care, information science, e.g. in a museum or library, teaching, pharmacy, medicine and dentistry.