

Higher Biology

Biology affects everyone and aims to find solutions to many of the world's problems. Biology, the study of living organisms, plays a crucial role in our everyday existence, and is an increasingly important subject in the modern world. Advances in technologies have made this varied subject more exciting and relevant than ever.

The purpose of the Course is to develop learners' interest and enthusiasm for biology in a range of contexts. The course is a broad and up-to-date selection of concepts and ideas relevant to the central position of life science within our society. It develops the concepts of biology. The Course allows learners to develop a deeper understanding of the underlying themes of biology: evolution and adaptation; structure and function; genotype and niche. Within each of the Units, the scale of topics ranges from molecular through to whole organism and beyond. In addition, to increase the relevance of the Course, within each Unit the most relevant applications of biological understanding are highlighted.

Recommended Entry

The expectation is that students will have attained an award in National 5 Biology of C or above. Pupils with a C at Nat 5 are likely to find the Higher course challenging. S6 pupils who have not completed Nat 5 Biology but have done well at Higher level in other Sciences and Maths should speak to Mr Fraser, Mrs Jarvie or Miss West.

COURSE CONTENT

Unit 1 Biology: DNA and the Genome (Higher)

The Unit covers the key areas of structure of DNA; replication of DNA; control of gene expression; cellular differentiation; the structure of the genome; mutations; evolution; genomic sequencing.



Unit 2 Biology: Metabolism and Survival (Higher)

The Unit covers the key areas of metabolic pathways and their control; cellular respiration; metabolic rate; environmental control of metabolism; genetic control of metabolism; ethical considerations in use of microorganisms, hazards and control of risks.



Unit 3 Biology: Sustainability and Interdependence (Higher)

The Unit covers the key areas of food supply, plant growth and productivity; plant and animal breeding; crop protection; animal welfare; symbiosis; social behaviour; mass extinction and



biodiversity.

ASSESSMENT

H Examination- a 2 part exam consisting of 25 marks for multiple choice and 95 marks for written response. This is worth 80% of your final grade. The question paper is used to assess whether the learner can retain and consolidate the knowledge and skills gained in individual Units. It requires learners to demonstrate aspects of challenge and application. Learners will apply breadth and depth of skills, and the various applications of knowledge - such as reasoning, analysing, evaluating and solving problems from across the Course to answer questions in biology.

H Assignment- The assignment assesses your scientific enquiry skills. It is similar to, but more rigorous than, the Nat 5 level assignment. This is worth 20% of your final grade.

H Units Only- Pupils who are not aiming to pass the exam will still have a practical experiment to complete, with write-up, and 3 unit assessments. These are all assessed internally.

Progression

Students who achieve Higher Biology may progress to:

Advanced Higher Biology

Units at Advanced Higher in Biology

HNC, HND or degree level study in Biological Sciences and Medicine, Nursing,

Physiotherapy, Dietetics, Radiography, Chiropody

Other further and higher education opportunities using the award for general or specialist entry purposes

A range of employment or training opportunities



Further information from: Mr Fraser, Mrs Jarvie or Miss West