

SUBJECT: Biology

QUALIFICATION:

QUALIFICATION LEVEL:

QUALIFICATION TYPE:

AWARDING BODY:

CATEGORY:

Qualification Accreditation Number (QAN):

DESCRIPTION

AS Unit 1 – BIOL 1 'Biology and Disease' (33%)

The physiology of the digestive, circulatory and breathing systems and how these are affected by communicable and non-communicable diseases. A study of how basic biology such as biological molecules, cell ultra-structure, enzymes, diffusion and active transport enable us to understand the symptoms of disease and risk factors in lifestyle.

AS Unit 2 – BIOL 2 'The Variety of Living Organisms' (47%)

The influences of genetic and environmental factors on variation between species of animals and plants. DNA structure, genes and chromosomes. Similarities and differences between living things at the molecular and cellular level. DNA replication, mitosis, and cell differentiation. Size and surface area in relation to gas exchange and transport in animals and plants. Classification and its molecular basis. Behaviour. Antibiotics and genetic variation in bacteria. Species diversity.

AS Unit 3 – BIOL 3

Practical Skills Assessment (PSA) and Investigative Skills Assessment (ISA) 20%

A2 Unit 4 – BIOL 4 'Populations and Environment' (33%)

Living organisms form ecosystems through which energy is transferred and chemical elements are recycled. Human activities affect this balance in a variety of ways. Genetic variation and isolation may lead to the formation of new species.

A2 Unit 5 – BIOL 5 'Control in cells and organisms' (47%)

The biology of the nervous and endocrine systems, including tropisms, taxes, reflexes. Control of heart rate, nerve impulse and synaptic transmission. Muscle contraction. Homeostasis, temperature and blood

sugar control, negative feedback. Genes, the genetic code, gene mutation, cloning, gene transfer, gene therapy, medical diagnoses, genetic fingerprinting.

A2 Unit 6 – BIOL 6

Practical Skills Assessment (PSA) and Investigative Skills Assessment (ISA) (20%)

WHAT WILL I LEARN?

Biology is the study of every aspect of life at every level of its organisation from atoms that make up biological molecules to the ecosystems that form the biosphere.

Modern biology is an enormous subject that has many specialism's including:

- Molecular biologists and Biochemists who work at the chemical level, with the aim of revealing how DNA, proteins and other molecules are involved in biological processes.
- Geneticists who study genes and their involvement in inheritance and development.
- Cell biologists who study their individual cell or groups of cells, often culturing them outside organisms. They investigate how cells interact with each other and the environment.
- Physiologists who find out how an organ system works in a healthy body
- Pathologists who study diseased and dysfunctional organs
- Ecologists who study interactions between organisms and their environment
- There are also biologists who specialise in particular groups of organisms such as bacteriologists, zoologists and botanists

WHAT ARE THE ENTRY REQUIREMENTS?

5 A*-C grades including at least a grade B at GCSE Chemistry and Biology

HOW WILL I BE ASSESSED?

See above

FUTURE OPPORTUNITIES?

Study Biology if you are interested in going into the medical industry, veterinary science or the pharmaceutical industry.

FURTHER INFORMATION

An ability to work hard and most importantly, independently. You must have a strong desire to put lots of effort into and appreciate the demands of a difficult subject