

Faculty : Science
Subject : Key Stage 5 Biology

Course Introduction:

The course involves a diverse range of topic areas, essentially the study of living things, from minute bacteria to the enormous Blue Whale and from tiny algae to a gigantic Aspen tree, and the changes that take place between them and their environment. You will complete practical work as an integral part of the course and hopefully this will make the topic much more interesting and enjoyable.



Topics/Modules to be covered:

Topic 1: Biological Molecules

All life on Earth shares a common Chemistry. Despite great variation, cells of living organisms contain only a few carbon-based compounds that act in a similar way.

Topic 2: Cells

All life on earth exists as cells. They all have basic features in common. This topic looks at the similarities and differences between cells.

Topic 3: Organisms exchange substances with their environment

The exchange of substances between the internal and external environment takes place at exchange surfaces. The processes of transport and these surfaces are studied here.

Topic 4: Genetic information, variation and relationships between organisms

This topic studies how and why organisms show variation and includes the importance of biodiversity within an ecosystem.

Topic 5: Energy transfer in and between organisms

Life depends on continuous transfers of energy. The processes of respiration and photosynthesis are studied in this topic, along with how energy and nutrients are transferred within ecosystems.

Topic 6: Organisms respond to changes in their internal and external environments.

This topic studies how our nervous system responds to changes in our external environment, as well as maintaining a constant internal environment.

Topic 7: Genetic, populations, evolution and ecosystems

This topic looks at how new species can arise from existing ones and how all species can be linked by similarities in DNA.

Topic 8: The control of gene expression

All cells contain the same DNA; however cells can control their activities by the expression of particular genes. This is how cells become specialised to carry out a particular function.

(The above content has been taken from the AQA Specification for AS and A-level Biology, version 1.0 September '14)

Assessment:

Topics 1,2,3 and 4 are assessed at the end of year 12 in two written exams for the AS qualification.

Topics 1-8 are assessed at the end of year 13 in 3 written exams for the full A-level.

Practical skills will be assessed within the written exams as well as a practical endorsement with the full A-level.

The AS is a standalone qualification and the grade does not contribute to the A-level grade.

Homework expectations/key deadlines:

Students are expected to conduct 5 hours of study per week for this subject in addition to their lesson time. Homework is set on a weekly basis and will form part of this non-contact time but the rest is independent study, revision, pre-lesson learning and reading around the subject.