

KS4 Curriculum handbook subject page

Subject: GCSE Biology

Syllabus: Edexcel Biology GCSE (1BIO)

What will I learn?

The key ideas specific to the Biology content include:

- life processes depend on molecules whose structure is related to their function.
- the fundamental units of living organisms are cells, which may be part of highly adapted structures, including tissues, organs and organ systems, enabling living processes to be performed effectively.
- living organisms may form populations of single species, communities of many species and ecosystems, interacting with each other, with the environment and with humans in many different ways.
- living organisms are interdependent and show adaptations to their environment.
- life on Earth is dependent on photosynthesis in which green plants and algae trap light from the Sun to fix carbon dioxide and combine it with hydrogen from water to make organic compounds and oxygen.
- organic compounds are used as fuels in cellular respiration to allow the other chemical reactions necessary for life.
- the chemicals in ecosystems are continually cycling through the natural world.
- the characteristics of a living organism are influenced by its genome and its interaction with the environment.
- evolution occurs by a process of natural selection and accounts both for biodiversity and how organisms are all related to varying degrees.

How will I be assessed?

There are two exams at the end of the two years, both of which are one hour and forty five minutes long.

Paper 1:

Content overview

- Topic 1 – Key concepts in biology
- Topic 2 – Cells and control
- Topic 3 – Genetics
- Topic 4 – Natural selection and genetic modification
- Topic 5 – Health, disease and the development of medicines

Paper 2:

Content overview

- Topic 1 – Key concepts in biology
- Topic 6 – Plant structures and their functions
- Topic 7 – Animal coordination, control and homeostasis
- Topic 8 – Exchange and transport in animals
- Topic 9 – Ecosystems and material cycles

How will this prepare me for my next steps?

GCSE Biology will provide the foundations of knowledge needed to embark upon further study and careers at A-Level. This in itself opens up career paths in the fields of Medicine, Dentistry, as well the other Life Sciences.

Contribution to UTC/Studio aims

Not only will you learn the subject content, but you will also develop critical thinking skills required to understand and challenge complex ideas, applying them in arrange of contexts. By combining practical science skills with carefully structured learning of theory, we support students in exceeding expectations in learning sequences that are innovative, stimulating and exciting, leading them to successful careers and life experiences.

Careers/job ideas

Apart from leading to studying A-Level Biology, taking GCSE Biology there is a range of vocational qualifications (such as BTECs, NVQ/SVQs, and diplomas) linked to an interest in biology, such as:

- applied science
- health and social care

Furthermore, There is a range of apprenticeships that link to an interest in biology, including:

- animal care assistant
- gardener or landscaper
- health care assistant
- dental nurse
- laboratory technician
- beauty massage therapist