

AS/A2 Level BIOLOGY



Course Guide

Level 3 Two-year course

2010/11

This course will suit any student interested in a career involving Biology, or who needs a Science A Level. This course will also appeal to those with an analytical approach or who are interested in the biology behind many current issues.

Subject introduction

The Advanced Biology course covers the Biology of a range of organisms, both plant and animal, with an emphasis on how the science relates to real life situations and human interests.

Year 1 study outline

Topic 1: Lifestyle, Health & Risk

This topic looks at how lifestyle may affect health, concentrating on a cardiovascular disease story. The biology covered will include heart and circulation, and also the chemistry and function of food.

Topic 2: Genes and Health

This topic considers DNA structure and replication, and all structure and replication in the context of Cystic Fibrosis. There is some ethical debate about genetic screening to isolate certain conditions.

Topic 3: The Voice of the Genome

This topic considers the most fundamental biological story there is – development from a single egg into a complex multicellular organism. The role of the genome in the control of development is considered. DNA replication and mitosis are among the biological ideas studied in detail.

Topic 4: Biodiversity and Natural Resources

This topic focuses on biodiversity and the wealth of natural resources used by humans. The measurement of biodiversity is considered along with how diversity has come into existence by natural selection.

Year 2 study outline

Topic 5: On the Wild Side

Looks at the evidence for global warming and its effects on plants and animals.

Topic 6: Infection, Immunity & Forensics

Covering bacterial and viral infections, the body's defences against infection (including the immune system), antibiotics, and the uses of biological techniques and forensic pathology.

SEE WHAT'S NEXT

Topic 7: Run for Your Life

Covering the skeleton, muscle action, biochemistry of respiration, effects of exercise, and use of performance-enhancing drugs.

Topic 8: Grey Matter

Covering the structure and functioning of the nervous system, the development of vision, effects of drugs and learning.

Special features

There will be opportunities for visits, past years have enjoyed visits to Colchester Zoo to assess its role in conservation, the Human Genome Project, and the National History Museum. During Year 2, students may be offered the opportunity to study ecology during a field course at Flatford Mill in Suffolk.

Subject combinations and careers

This course is clearly suitable for any career involving Biology, including medicine, physiotherapy, nursing and laboratory work. Biology also counts as a Science qualification for a range of jobs and courses.

Many Biology-based courses at university also require AS/A2 Level Chemistry.

Methods of assessment

AS – 20% coursework comprising an essay on a topical issue.

A2 – 10% coursework – an investigation into any area of Biology the student is fascinated by.