

# Biology A Level AS & A2

**Edexcel Advanced Subsidiary (AS) | Advanced Level (A2)**  
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**Head of Science Department – Jonathan Newell**

## **You should do this course if.....**

You want to sustain and develop an enjoyment of, and interest in, biology and its applications. This course has a large human biology content.

Biology is a rapidly changing subject. You will develop essential knowledge and understanding in biology and the applications of biology, with an appreciation of their significance and the skills needed for the use of these in new and changing situations.

The social and ethical aspects of the course will also help you make informed and constructive comments on many of the scientific issues facing us today

## **Skills you will develop course:**

As well as knowledge and understanding of Biology:

Research skills (books, journals & the internet.

Identifying and evaluating resources

Clarity of oral and written expression

Discussion and presentation skills

Making revision notes

Answering examination questions

Using apparatus skilfully and safely

Producing and recording valid and reliable measurements and observations

Presenting and analysing data

## **AS UNITS**

**1 Lifestyle, Transport, Genes & Health**  
Cardiovascular system, diet & lifestyle.

Water, carbohydrates & lipids.

Risks to health.

Cell membrane & gas exchange surfaces.

DNA & protein synthesis.

Genetics.

Social & ethical issues surrounding genetic screening

## **2 Development, Plants & Environment**

Animal and plant cell ultrastructure  
Cell division.

Gametes, fertilisation, stem cells, gene expression and cell differentiation.

Importance of plant products.

Natural selection, species diversity and the role of zoos.

## **3 Coursework**

## **A2 UNITS**

**4 Natural Environment & Species Survival**

Photosynthesis. Ecosystems.

Climate change and the evidence for global warming. Our responsibilities to the environment. Forensics.

infectious diseases and immunity.

## **5 Energy, Exercise & Coordination**

Muscle & respiration

Homeostasis.

Medical technology and sports.

The brain and nervous system.

Drug treatment

The Human Genome Project.

Responses of plants to environment

## **6 Coursework**

# Biology

## AS and A2 Level

### How will you learn?

The course is based around concepts and contexts, such as Coronary Heart Disease.

A variety of resources are produced by the publishers, including a textbook and a website with a variety of online resources, with web links for each topic, and skills support.

Learning activities will include note taking, research and presentations, online interactive tutorials, worksheets, practical work and discussions

### Where does the course lead?

A-level Biology provides a useful background to a variety of higher education courses. It also provides a wide range of skills which will equip you to pursue other options.

A good grade in A level Biology is usually a requirement for university courses in medicine, veterinary science, dentistry physiotherapy, and other medically-related courses.

Biology students also go on to study: Biological Sciences, Sports Science/Health, Microbiology, Forensic Science, Biochemistry, Nursing, Zoology, Marine Biology, Teaching and many others.

There are also many opportunities for Biology-related employment in the scientific Civil Service, public health, medical and veterinary laboratory work, forensic science and the NHS.

### Assessment and Exams

#### AS

**Unit 1 1 hour 15 mins.**

**Unit 2 1 hour 15 mins.**

Both papers contain structured questions, objective questions, short answer questions and practical related questions

#### Unit 3 Coursework

A written report of either a visit to a site of biological interest or a biology topic together with practical work carried out during the course.

#### A2

**Unit 4 1 hour 30 mins.**

**Unit 5 1 hour 30 mins.**

Both papers contain a range of questions as before. One third of the marks for Unit 5 is related to specified pre-release reading.

#### Unit 6 A2 Coursework

Students will produce a written report of an individual experimental investigation which they have designed and carried out. This will be done on a compulsory 5 day residential Field Course in the Autumn term, for which the students have to pay.

### Entry Requirements

5C's at GCSE

Grade C or above in Science and Maths and also in Additional Science or Biology.