# A LEVEL BIOLOGY

DIXONS SIXTH FORM ACADEMY

## What is Biology?

Biology is the scientific study of living organisms and how they interact with each other and their environments. Biology is a wide-ranging subject from molecular biology to field ecology. Biology explores how living systems are constructed, as well as how they develop, communicate, interact, reproduce, defend themselves, and change the environment around them.

## Why students choose this course

Biology suits students that enjoy Science GCSE and wish to study the subject to a far greater level of complexity. It also appeals to students that have good memory skills and want to learn about what goes on inside living organisms.

It is a Science A level that appeals to enquiring minds and whilst it is often chosen to compliment with other Science A levels, Maths and Psychology, Biology can be taken with any combination of other subjects.

## What the course covers

Students study 8 content topics over two years, these are:

1 **Biological molecules**
Carbohydrates, lipids, proteins and DNA. Students study how large molecules are formed, bonding and properties.

2 **Cells**
Cell structure as seen through the electron microscope, cell division processes, the mammalian immune system.

3 **Organisms exchange substances with their environment**
Gas exchange in fish, plants, insects and mammals, the circulatory system, digestion.

4 **Genetic information, variation and relationships between organisms**
Genes, protein synthesis, taxonomy (classification) and diversity in ecosystems.

5 **Energy transfers in and between organisms**
Photosynthesis, respiration, ecosystems and nutrient cycles.

6 **Organisms respond to changes in their internal and external environments**
Nerves and the nervous system, muscles and homeostasis.

7 **Genetics, populations, evolution and ecosystems**
Inheritance, populations and evolution.

8 **The control of gene expression**
Mutations, molecular gene technology and the control of gene expression.

The majority of this course is theoretical; however, students will complete a number of set practical activities during the course and there will be a field trip to complete an ecological investigation.

**The complete specification can be viewed on the AQA website. www.aqa.org.uk**

# What students can do with this course

A Level Biology is particularly useful and sometime required for progression to many science-based university courses such as animal science, biology, zoology, ecology, clinical science, marine biology, life sciences, medicine, environmental science, forensic science or any other subject related to the natural world.

For many biological science degrees, A Level Chemistry is also required. Biology A Level is also a well-respected A Level that can help students progress to non-science degree choices such as History, Economics or Law.

Possible career choices that require A Level Biology include biological testing, biotechnology, independent research, food industry jobs, nutrition, medicine, doctor, nurse, veterinarian, zoologist, zookeeper, animal care, veterinary nurse, scientist, museum curator, natural history filmmaker amongst a huge range of others.
In fact, having an A Level in Biology will stand you in good stead for a huge range of careers.

# How this course is assessed

100% Examination; three exams at the end of the course. A Level content is assessed through two 120-minute exams, one covering topics 1-4 (Y1) and the other topics 5-8 (Y2), plus the associated practical skills from the 12 required practical lessons in the course. The third exam covers data analysis and extended writing

# Entry requirements

All our course entry requirements are detailed in the Entry Requirements document located in the admissions section of our website.

# Further Reading

The website below features notes on each Biology topic to give you a snapshot into the content you will be learning:
http://www.a-levelnotes.co.uk/biology-aqa-as-level-notes-new-spec.html

# Student Profile:

Before D6A, Sagda, Sarah & Sulafa were students at Dixons Macmillan. Sagda (A*A*A*) is studying dentistry at Manchester, Sarah (A*A*A*) is studying medicine at Leeds & Sulafa (A*A* Distinction*) is studying occupational therapy at Bradford.

**“We enjoyed Biology because we got to learn about the world around us whilst also learning about ourselves. It was interesting learning about all the processes that are constantly happening in our bodies and how they explain how we function as humans.**
**As well as being an enjoyable subject, Biology was also great in terms of how we learnt it. This is because the modules all built on each other, allowing us to link our previous knowledge to what we were currently learning so we were able to increase our understanding. In summary, Biology is such a diverse topic that there is something in there that everyone will enjoy.”**