



# BIOLOGY

A-LEVEL

## Examination Board: EDEXCEL

Biology is relevant to every aspect of your life and will give you a better understanding of the world around you and lead you to question why and how Biological processes occur. Do you have a curiosity about living organisms and a desire to understand how organisms and ecosystems function?

### Course content:

**Year 12:** The first year of the course provides you with the foundations in many Biological topics, building on your knowledge from GCSE. Concepts studied include the structure of molecules such as proteins and carbohydrates, the cell membrane, cell organelles and the cardiac cycle. You will also have the opportunity to apply your Biological knowledge, for example, to explain how heart attacks occur and how zoos conserve biodiversity.

**Year 13:** In the second year of the course you explore further topics including the biochemical reactions in photosynthesis and respiration, the immune system, the nervous system, interactions in ecosystems and modern genetic techniques. This part of the course also sees students linking different concepts from the two years together to see the bigger picture.

### Assessment:

The A level course is assessed by three written exams at the end of Y13. A series of core practicals are completed throughout the course, on which there are several questions in the exams. Questions involving the use of mathematical skills within Biology will contribute to 10% of the exam papers. A mark for competency of practical work, that is separate to the final A level grade, is awarded by the teacher, following ongoing assessment of practical skills.

### Skills acquired:

Through studying A-level Biology you will develop a wide variety of skills, applicable to many different future career paths and opportunities. Skills include evaluating the reliability of sources, judging the validity of scientific claims in the media, evaluating and describing patterns in data, statistical analysis of results and independent research. Through regular practical work you will develop your skills with more complex equipment and methods, such as using colorimeters and making chemical dilutions. The written aspect of the course will require attention to detail, the ability to learn and use key terms, and clarity in your explanations

### Links with other subjects:

There are several links to Chemistry, Geography, PE, Psychology and some with Physics and Maths, although the Maths skills required for A level Biology are no more advanced than GCSE level. However, do not be put off if you just decide to take one of the Sciences at A level. Having one Science in your A level choices can help develop your breadth of knowledge and keep your options open for the future.

### Possible careers:

Biology is a "facilitating subject" for Russell Group universities so will be highly regarded by many top universities and employers to help you gain entry onto a wide variety of courses and jobs. There are also many career areas that A-level Biology could lead directly into, such as Medicine, Veterinary Science, Agriculture, Fisheries, Forestry, Food Production, Microbiology, Biochemistry, Conservation and Ecology.

### Entry requirements:

To have the best chance of success at A-level, ideally you need to secure at least a Grade 7 in GCSE Biology or GCSE Combined Science. Any student who achieves a Grade 6, or has questions about their ability to do A-level Biology, should discuss their situation with Dr Jennings, Faculty Leader for Science.

### Student comments:

*"It's a really fascinating subject - it stimulates your brain!" "You get a really good revision programme and teachers give you plenty of help."*