

BIOLOGY AS/A2



CAREER POSSIBILITIES

Biology develops the skills of planning, evidence gathering, analysis and critical thinking. As well as the more obvious career links such as medicine, dentistry, nursing, ecology, veterinary medicine, etc., it is looked favourably upon for a large number of non-science careers and courses, including Law, Computing, Accountancy, Teaching and Sports Science. This list is by no means exhaustive and there is a huge number of other careers and degree courses which look favourably on Biology. Biology clearly combines well with the other science subjects and mathematics but is also commonly taken alongside subjects such as psychology, sport and geography.

THE PROGRAMME

In Year 12 (and AS) biology students will study: Cell structure and Microscopy; Biochemistry; Nucleotides and Nucleic Acids; Enzymes; Biological Membranes; Cell Division, Cell Diversity and Cellular Organisation; Exchange with the environment; Transport in animals; Transport in plants; The immune system and disease; Biodiversity; Classification and evolution. For the full A level, all of the above topics are studied, plus: Communication and homeostasis; Excretion; Nervous Communication; Hormonal Communication; Responses to change; Photosynthesis; Respiration; Genetics and Cellular control; Patterns of Inheritance; Manipulating Genomes; Cloning and Biotechnology; Ecosystems; Populations and Sustainability.

During VI Form lessons, you will experience various teaching methods and styles such as demonstrations, practical work, lectures, handouts/notes, ICT work and one-to-one support. You will be expected to work much more on your own than you did at GCSE and to take a greater responsibility for your own organisation and learning.

There are five main areas that A level students need to be prepared for: organising time, coping with workload, note-taking, reading around the subject and self-motivation. Students will sit the AS exams at the end of the first year of study. All exams will have questions covering the whole of the relevant subject content – there are no “module” exams – and include a range of question styles: multiple choice, structured questions and longer answer, essay questions.

WHY STUDY THIS SUBJECT?

Biology is the study of life and is therefore a very wide-ranging subject, examining the functioning and inter-dependence of living organisms from the molecular level, through the microscopic and whole-organism levels, to global issues of ecology and sustainability. Biology is regarded as the youngest of the main sciences and every day there are new discoveries being made as more and more focus is given to biological research, which is a rapidly-expanding field. Many of the big challenges that face the world in the 21st century, such as coping with climate change, feeding an expanding population, combatting disease, etc. will all need to be answered with the help of biologists.