BIOLOGY

WHERE CAN IT TAKE YOU?

Medicine, Dentistry & Veterinary Science

For Medicine and Dentistry you would need to complete the UKCAT or BMAT which are online skills assessments taken at registered test centres. It is also essential that you complete work experience in a caring context before you apply to University. For Veterinary Science you will need experience working with small animals and large animals (other than horses). You will then progress to complete a degree at University and potentially specialise in a particular area of Medicine, Dentistry or Veterinary Science or enter one of many other career paths that these degrees would open to you.

Environmental Biology & Ecology

To follow a degree course in these areas you need to enjoy working in the field, collecting and analysing field data about animals and plants. Career options include research, consultancy, working with national and global health, conservation and environmental charities or outreach organisations, such as museums, science centres and broadcast companies. You could gain employment with companies such as the Water Board, Environment Agency or Wildlife Trust among others. There are a number of relevant degree courses available for example Biology, Marine Biology, Ecology and Environmental Biology.

Biomedical Sciences

If you like the idea of working in a laboratory, for example a hospital pathology or haematology lab, a biomedical science degree could be for you. Common employers of Biomedical Scientists include the Medical Research Council, where you could become involved in cutting edge research, NHS Blood and Transplant, and the Health and Safety Executive. You may also look for opportunities with academic departments at universities, forensic laboratories, charity- or government-funded laboratories, the food and drink and pharmaceutical industry.

Biotechnology

A number of Biology degrees including Microbiology, Cell Biology, Biochemistry and Genetics could lead on to careers in Biotechnology. You could work in a laboratory for a large biotechnology company in e.g. stem cell research, genetic engineering, recombinant DNA technology, gene therapy, or industrial processes such as brewing. Alternatively, you may wish to access career areas such as Agricultural or Biomedical Engineering, Epidemiology, Biophysics, and Food, Plant or Soil Sciences.

Animal Sciences

Animal science focuses on the physiology, reproduction, nutrition, health, behaviour and welfare management of productive, captive and companion animals. This degree can therefore provide a route into a range of jobs involving pets, working animals, livestock and wildlife. You could work with local or national animal charities focusing on rescue and rehoming, or campaign and fundraise for international charities, protecting animals worldwide. Animal nutrition is a growing area with opportunities in animal health and zoos and sanctuaries are common employers, as are organisations involved in using genetics to improve domestic animal breeding programmes.

Alternative Careers

Studying Biology at A Level develops many transferrable skills, including analytical skills, quantitative assessment, critical thinking and problem solving, which are highly regarded by many professions. A Biology degree can therefore lead on to a variety of careers in areas as diverse as the Foreign Office, Law, the Financial sector, Primary and Secondary Teaching, Business, HR, Media, IT and Journalism among others.

FURTHER CAREER INFORMATION

Biology is a dynamic and innovative discipline which allows entry to many different career pathways. Biologists understand scientific concepts and master scientific terminology meaning that their critical thinking and language skills are highly developed.

They can carry out complex mathematical and statistical calculations and present their findings effectively using data in the form of tables, graphs and charts to support this. Biology students learn to be precise, systematic, and pay attention to detail, giving rise to a vast range of transferrable skills that can be applied to both scientific and non-scientific jobs after completing their studies.

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What to Expect

What does the course involve?

The Biology A-level course (AQA) takes you from the microscopic world of the cell through to the global impact of man on our environment, exploring recent scientific developments and technological advances. You will be taught through a combination of practical work and theory with a variety of approaches including discussion, group and independent work and scientific investigations.

The content of the first year A-level includes essential biochemistry, cell biology, immunology, organ structure and function and the fundamentals of transport systems in plants and animals.

The second year of the course covers the biochemistry of respiration and photosynthesis, energy transfers and ecosystems, inheritance, basic physiology of systems such as nerves, muscles and homeostasis and the diversification of technology surrounding DNA. A-level study also provides the opportunity to practice field techniques including your own personal analysis of a chosen habitat.

Biology is a very versatile qualification, not only allowing you access to careers in the scientific field, but also developing a vast array of transferrable skills needed for any chosen profession.

Many of our students progress to higher education and courses they have taken include Biology, Medicine, Veterinary Science, Dentistry, Marine Biology, Pharmacology, Molecular Biology, Biomedical Science, Forensic Science, Microbiology and other scientific careers.

Can I take additional qualifications?

If you choose to study Biology, you will usually take it alongside two other A-levels or BTEC subsidiary diplomas. In exceptional circumstances the course can also be taken alongside a BTEC Extended diploma.

How will I be assessed?

A-level examinations in May/June after 2 years
Exam 1 (2 hours, worth 35%) including short and long answers and extended writing
Exam 2 (2 hours, worth 35%) including short and long answers and comprehension
Exam 3 (2 hours, worth 30%) questions on practical technique, critical analysis of experimental data and an essay

12 compulsory practicals, 15% of examinations will be based on practical skills leading to the award of the Practical Endorsement.
10% of examinations will be based on mathematical skills

What are the costs?

There are no charges to study this A-level course at the centre, but you will be expected to contribute to the cost of the essential field course conducted at a field centre near Sudbury (3 days), costing approximately £80.

What is the duration?

This is a two year course.

Entry Requirements

Grade 6 in GCSE Biology or Grade 66 in Science
Grade 5 in GCSE English Language
Grade 6 in GCSE Mathematics is preferred due to the high mathematical content of the subject, Grade 5 will be considered based grade profile across relevant subjects (Biology, Chemistry, Physics, English Language).
Average GCSE point score 5.5

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