

## The Course

Biology follows the OCR Advancing Biology (Biology B) specification. The content is as follows:

### Module 1:

Practical skills are taught including planning, implementing, analysing, evaluating, independent thinking, use and application of scientific methods and practices, research and referencing, and use of instruments and equipment. Students will also have to collate a portfolio of practical work covering 12 practical activity groups. This is not coursework but will be monitored by the awarding body, and students are granted a pass/fail in addition to the academic grade.

### Module 2:

You will learn a range of topics: blood smears and staining, flow cytometry, blood clotting, enzymes used in medical diagnosis, blood donation and storage, the cardiac cycle, ECGs, heart attack/ cardiac arrest, defibrillators, resuscitation, transpiration and translocation.



### Module 3:

In module three, you will learn about topics such as stem cells and their uses, pregnancy, fetal development and disorders, DNA bar-coding, TB, HIV/AIDS, the role of the HPA, immunity, vaccinations, antibiotic resistance, lung, bowel and breast cancer, MRI, CT scans, PET scans, bronchitis, asthma, asbestosis and emphysema.

### Module 4:

This module will teach about exercise and training programmes, muscle contraction, EPOC, gametogenesis, pregnancy testing, IVF, donor sperm insemination, menopause, prostate hyperplasia, crop production, food fraud, food crime, and food safety, pollination and cell signalling.

### Module 5 :

PKU, Huntington's disease, sickle cell anaemia, CF, blood groups, Down's syndrome, gene therapy, PCR, brain injuries, strokes, ethics of brain death, psychological and physical drug dependency, colour vision, control of heart rate & body temperature, hypothermia and hyperthermia, diabetes, kidney failure, kidney organ donation and Alzheimer's.



### **Why study Biology?**

This A Level course is exciting and stimulating. It builds on your knowledge gained at GCSE and looks at real-world situations. You will study Biology using a context-based approach. The course is designed to give you relevant and exciting settings to explore complex biological ideas, from stem cells, genetic engineering and cloning, to developments in treating the diseases that affect the world.

### **What skills will I need?**

The course emphasises practical skills with many opportunities to develop hands-on experience and problem-solving in an experimental context. These skills, including planning, drawing, analysing and evaluating, will be assessed in a written paper at the end of the A Level course. In addition, you will develop biological literacy skills which are assessed at the end of the course using an Advance notice article. A minimum of 10% of the assessment papers will assess Level Two Mathematics (above GCSE), but it is not a requirement to study A Level Mathematics.

### **What do I need to study Biology?**

Students will require a Grade 7 in either Biology GCSE or both Core and Additional Science GCSE or two Grade 7s in Combined Science, one of which must be in Biology. In addition, Grade 7 in Chemistry and Mathematics would be an advantage.