What are the entry requirements?
Meeting your progression grade — this will have been set at a minimum of Grade D at AS Biology plus meeting the AS entry criteria.

Topics
SNAB is taught through real-life biology. In the A2 year you study four topics. Each takes about half a term, including practical work. This gives time to do coursework and to revise for the exams. Here is a summary.

Topic 5: On the Wild Side
This topic builds an appreciation that photosynthesis is the primary process that underpins the majority of ecosystems, and provides students with an understanding of how ecosystems work. The topic continues by looking at whether climate change will lead to extinction of species or evolution by natural selection, and looks at the evidence for global warming and its effects on plants and animals. By the end of the topic students should appreciate how scientific understanding can make us aware of our responsibilities as stewards of the environment.

Topic 6: Infection, Immunity and Forensics
This topic starts by looking at how forensic pathologists use a wide variety of analytical techniques to determine the identity of a person or other animal, and to establish the time and cause of death of an organism, including humans. It then considers how bacteria and viruses use a variety of routes into their hosts and how hosts have evolved barriers and internal mechanisms to combat infections. These protections are not always successful and many people in the world still die from infectious diseases. This topic also investigates the evolutionary battles that take place between invading pathogens and their hosts.

Topic 7: Run for your Life
This topic begins with a study of muscle structure and function, and the ways in which energy is provided by means of aerobic and anaerobic respiration. The responses of the heart and respiratory system to exercise are included, with the concept of homeostasis and its importance in both the regulation of body temperature and at the molecular level with a reference to gene switching. The topic ends by considering the effects of both too much and too little exercise on the body, how medical technology is used in relation to sports, and the ethical positions with respect to the use of performance-enhancing substances by athletes.

Topic 8: Grey Matter
This topic begins by considering how plants detect and respond to changes in their environment. This is followed by details of the structure and function of the mammalian nervous system, including imaging techniques to investigate the brain. This is developed into an enquiry into how imbalances in brain chemicals may result in conditions such as Parkinson’s disease and its treatment with drugs. The topic requires students to discuss the ethics of the Human Genome Project and to consider the risks and benefits associated with the use of genetically modified organisms.

How will I be assessed?
Both Unit 4 and 5 are assessed by means of a written examination paper, which carries 90 marks, lasts one hour 30 minutes and will include:

- objective questions
- structured questions
- short-answer questions, and will also cover:
  - How Science Works
  - practical-related questions.

In Unit 5 One question will relate to a previously released scientific article that students will have studied during the course. This question carries a third of the marks of this unit. Students may be asked to summarise the information in the article, and explain or comment upon the biology and other issues within the context of the article. The article may draw on knowledge and understanding from any of the four units 1, 2, 4, and 5. A different article will be provided each year and the examination questions will change to reflect this.

What is the coursework like?
At A2, Unit 6 is entirely coursework consisting of:

- Individual practical investigation which includes a statistical analysis and is submitted as a written report.
- Write ups of coursework is based on the core practicals that you complete during the year.

ICT
At A2 there are animations to help you to understand the more difficult bits of biology. There are maths and chemistry tutorials to help you with these as you meet them in biology. There are also review tests (so you can check you know what you need to know before starting the next topic), more formal end-of-topic tests, an interactive glossary to explain terms in the student books, and so on. You access all this via the internet.

What are the progression routes?
Required to study the following topics at degree level:

- Agricultural Scientist, Animal technician technology,
- Biochemistry, Dentistry, Food Science, Sport and Fitness studies, Medicine, Nursing, Zoology,
- Environmental Science.

Awarding Body
Edexcel
Syllabus number 8048