

# A-Level Biology



# Overview of A-Level Biology, by Mrs Ferguson (Head of Biology)

- ▶ Here at Southam College we have a team of highly skilled, experienced and knowledgeable A-level biology teachers, who are all passionate about teaching the subject.

# Why do the biology teachers love biology?

- ▶ I have always loved learning about science, biology in general and biomedical science in particular, and I really like understanding how the human body works, and why it goes wrong.
- ▶ Other members of the biology team are specialists in biochemistry, botany, zoology and epidemiology -and one of us is an ex-zookeeper.

# Why might you be thinking about studying biology at A-Level?

- ▶ Some of you may already have a specific career path in mind, such as medicine, veterinary science or physiotherapy, for which biology is a given.
- ▶ You may be thinking about choosing other subjects that compliment biology, such as chemistry, physics or maths.
- ▶ Other subjects that go well with biology are geography, psychology and PE or sports studies.

# Why might you be thinking about studying biology at A-Level?

- ▶ And, of course, some of you are thinking about choosing biology because you want to study at a more detailed, advanced level a subject that you enjoy, that you're interested in and you're curious about.
- ▶ This is the best reason.
- ▶ Either way, the biology A-Level will equip you with a well-balanced breadth and depth of knowledge that encompasses mammalian physiology, genetics, biotechnology, biochemistry, ecology and botany.

# Why should you study biology at Southam College? What can we offer you?

- ▶ As I've already mentioned, we have amazing teachers here.
- ▶ We also have a proven track record of students consistently gaining excellent results, enabling them to take their next step to university, an apprenticeship or further training.

# Why should you study biology at Southam College? What can we offer you?

- ▶ Our facilities are fantastic, with modern labs, specialist equipment and the support of a crack team of expert technicians.
- ▶ This enables us to deliver high-quality practical investigations, including dissections, enzyme-controlled reactions, microbiology and ecological surveys to fulfil the practical endorsement qualification.

# What do you need to know?

- ▶ Our students tell us that they enjoy the biology practicals and feel they prepare them for hands-on lab-based university courses.
- ▶ They have enjoyed learning more about particular aspects of biology, such as excretion, genetics, biotechnology and physiology, and pathology of human organ systems.



# What do you need to know?

- ▶ They are also quite clear that choosing A-Level Biology is not an easy option - it is a demanding course, requiring a depth and breadth of knowledge that can only be gained by working consistently hard throughout the two year course.
- ▶ You need to be self-motivated, be able to learn independently, be disciplined and hard-working. As I am always saying to my sixth form students, 'it's not just enough to be clever'.

# How will we support you?

- ▶ You will be supported by your teachers, and if you're struggling, we will put in place personalised intervention to help you with the parts of the course you may be finding difficult.
- ▶ We will also provide you with lots of exam practice and revision resources.

# Where might an A-Level in Biology take you?

- ▶ Well, the sky is the limit. We have had students successfully gain access to the competitive medicine and veterinary science courses, and lots more in the medical field such as nursing, midwifery and physiotherapy.
- ▶ Many students choose to base their degree on biology, for example biochemistry, bioengineering, ecology, marine biology, biomedical science and straight-up biology.
- ▶ Others have chosen related degrees such as psychology, sports science and ecology.

# Where might an A-Level in Biology take you?

- ▶ And even if you decide not to continue studying biology, an A-Level in the subject is recognised as a robust, facilitating qualification that is considered very favourably by universities and will enable you to apply for a huge variety of degree courses.
- ▶ In short, an A-Level in Biology opens doors, as opposed to narrowing your options.

# Year 12 - topics you will study:

- ▶ Cells structure
- ▶ Biological molecules
- ▶ Nucleic acids
- ▶ Enzymes
- ▶ Cell membranes
- ▶ Cell division
- ▶ Exchange surfaces
- ▶ Transport in animals
- ▶ Transport in plants
- ▶ Communicable diseases, disease prevention and the immune system
- ▶ Classification and evolution
- ▶ Biodiversity

# Year 13 - topics you will study:

- ▶ Communication and homeostasis
- ▶ Excretion as an example of homeostatic control 5
- ▶ Neuronal communication
- ▶ Hormonal communication
- ▶ Plant and animal responses
- ▶ Photosynthesis
- ▶ Respiration
- ▶ Cellular control
- ▶ Patterns of inheritance
- ▶ Manipulating genomes
- ▶ Cloning and biotechnology
- ▶ Ecosystems
- ▶ Populations and sustainability

# Entrance requirements:

- ▶ Separate sciences:
  - ▶ At least a grade 7 in Biology, and at least a grade 6 in Physics, Chemistry and Maths
- ▶ Combined science:
  - ▶ At least a grade 77, and at least a grade 6 in Maths

# Further sources of information:

- ▶ If you would like to look in more detail about what is covered in the A-Level Biology course, have a look at the specification:
- ▶ <https://www.ocr.org.uk/Images/171736-specification-accredited-a-level-gce-biology-a-h420.pdf>
- ▶ If you have any queries about the course, please contact Mrs Ferguson at Southam College:  
ferguson.k@welearn365.com