



Kimberley
School

Science

Sixth Form

AS/A2 Level

2017-2019

Biology

What is Biology?

Biology is the study of life and living things and how living things interact with their surroundings.

Who is it for?

Biology A level is aimed at students who wish to study Biology at a higher level than GCSE. It is a well-respected qualification that is recognised by all higher education institutions and employers. It is a good preparation for medical and paramedical careers such as nursing, medicine, dentistry, veterinary science, physiotherapy, etc, but can also be used for entry into other careers such as scientific research, banking, law, teaching, etc.

Course requirements

Grade B GCSE Biology and Maths. In addition, students will be monitored closely for effort and quality of work throughout their year 11 studies. Students who do not demonstrate the necessary attitude and effort in their studies, in the opinion of their science teachers, will be discouraged from taking biology A level. The final decision on acceptance onto the course will be taken by the Science Department in conjunction with Head of Sixth Form.

The A Level Reform

Starting in September 2015, the system of Science A Levels (biology, chemistry, physics) in England and Wales underwent radical change, with the government replacing the AS/A2 system which has been in existence since 2000.

How will the new A Level system be different from the present one?

- Science A-Levels have moved to a linear structure where all the work completed in Year 12 and 13 will be examined at the end of Year 13.
- The AS examination will still exist, but the marks will not count towards the final grade as is currently the case.
- The AS, therefore, will become a stand-alone qualification taken at the end of Year 12.

This means that if a student sits the AS Level exam at the end of Year 12, and then continues his studies to A-level qualification, the AS grade will become redundant and the student will be assessed on all of the first year modules again in the A-level exam.

Is there any point, therefore, in sitting the AS exam if a student has decided to continue to A-level?

The Kimberley School will enter its sixth form science students for the AS exam, irrespective of whether the student will continue the course to A-level.

There are two main reasons for this:

1. the student will gain invaluable experience in sitting real public exams.
2. the grade achieved will be a true indicator of progress made and therefore will be a deciding factor on whether the student is invited to continue onto the A-level course.

The course is made up of:

AS Level Biology

Module 1: Development of Practical Skills in Biology

This module covers the practical skills that students will develop throughout the course. The practical skills in this module can be assessed within written examinations

Module 2: Foundations in Biology

Includes:

Cell structure; Biological molecules; Nucleotides and nucleic acids; Enzymes; Biological membranes; Cell division, cell diversity and cellular organisation.

Module 3: Exchange and Transport

Includes:

Exchange surfaces
Transport in animals
Transport in plants.

Module 4: Biodiversity, Evolution and Disease

Includes:

Communicable diseases, disease prevention and the immune system
Biodiversity
Classification and evolution

How will you be assessed?

AS Papers 1 and 2 can assess any content from Modules 1 to 4 above

Paper		Marks	Duration	Weighting	
Paper 1	Breadth in biology	70	1 hr 30 min	50%	
	Section A	Multiple choice			20
	Section B	Structured questions covering theory and practical skills			50
Paper 2	Depth in biology	70	1 hr 30 min	50%	
	Structured questions and extended response questions, covering theory and practical skills	70			

A Level Biology

Modules 1 – 4. Same as for AS Level

Module 5: Communication, Homeostasis and Energy

Includes:

- Communication and homeostasis
- Excretion as an example of homeostatic control
- Neuronal and Hormonal communication
- Plant and animal responses
- Photosynthesis and Respiration.

Module 6: Genetics, Evolution and Ecosystems

Includes:

- Cellular control
- Patterns of inheritance
- Manipulating genomes
- Cloning and biotechnology
- Ecosystems, Populations and sustainability.

How will you be assessed?

Paper		Marks	Duration	Weighting	
Paper 1	Biological processes	100	2 hr 15 min	37%	
	Section A	Multiple choice			15
	Section B	Structured questions and extended response questions covering theory and practical skills			85
Paper 2	Biological diversity	100	2 hr 15 min	37%	
	Section A	Multiple choice			15
	Section B	Structured questions and extended response questions covering theory and practical skills			85
Paper 3	Unified biology	70	1 hr 30 min	26%	
	Structured questions and extended response questions covering theory and practical skills	70			

Practical endorsement for biology

In addition to the 3 written exam papers, candidates complete a minimum of 12 practical activities throughout the two years to demonstrate practical competence. The performance is reported separately from the A-level grade as a pass/fail by the teacher.

See Dr. R. Del Buono for further details.