

Course Content

The A-Level Biology course is a 2 year course worth a maximum 56 UCAS points. The course contains 8 units each of which contain practical skills assessments that must be passed to gain the qualification.

AS

Unit 1—Biological molecules

This section of the unit will look at the biochemistry behind many of the common biological molecules such as carbohydrates, lipids, proteins, water, enzymes and DNA. You will learn about their structures, uses and importance in living organisms.

Unit 2—Cells

In this unit you will learn about the structures of both Prokaryotic and Eukaryotic cells before going on to look at cell replications, transport mechanisms and the immune system response.

Unit 3—Organism Exchange Substances

You will be studying the exchange systems in plants and animals.

Unit 4—Genetics

This is an essential unit for anybody planning on studying for a degree in Biology. You will spend time looking at the structure of DNA and learning the processes of replication, translation and transcription. You will look at meiosis and the effect of genetic mutations on organism.

A-level

All AS Biology topics plus:

Unit 5—Energy Transfers in Organisms

In this unit you will look at the complex chemical reactions that take place during photosynthesis. You will also revisit and extend your knowledge of the reactions of respiration which includes looking at energy within food chains and nutrient cycles.

Unit 6—Responses to internal and external environments

You will study the heart and circulatory systems and spend time developing your knowledge of how things such as water and sugar levels are controlled.

Unit 7—Genetics, Populations, Evolution & Ecosystems

You will look at genetics, specifically inheritance and how this leads to evolution and speciation.

Unit 8—Gene Expression

This unit will allow you to look at the process of how genes are passed on and the mechanism for genetic mutations. This will then allow you to further explore the topics of cancer, recombinant DNA technology and how we carry out genetic fingerprinting and recombinant DNA techniques.

Skills and Qualifications Required: The skills you will need to develop and extend will include practical lab skills, report writing and research techniques. There will be an expectation that after each practical you will write up the investigation in full during your private study time as well as analysing and presenting data and being able to draw conclusions based on your evidence.

Due to the technical nature of this subject entry requirements are grades 66 in your GCSE Sciences, one of which must be Physics if you took the triple award and a grade 6 for GCSE Mathematics.

Assessment : The course will be assessed at the end of the 2 years with three 2 hour exams. Paper 1 is made up of 76 marks of short & Long answer questions and 15 marks from extended response questions. Paper 2 is made up of 76 marks of short & long answer questions and 15 marks from comprehension questions. Paper 3 is made up of 38 marks of practical questions and 15 marks of critical analysis questions and a 25 mark essay question.

A Pathway To...

A good stepping stone for a variety of careers, for example, hospital pathologist, forensic scientist, food technologist, environmental scientist, nature



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Mrs Alaka Email AlakaA@ThomasBecket.org.uk