



Biology

Exam Board: Edexcel

A Level



Specification B

A Level

The specification is designed to engage and inspire students by showing how an understanding of many contemporary issues

requires a grasp of fundamental biological ideas. Biology links into a wide range of Life Science careers.

Entry requirements

Most students would be required to have a minimum of a grade 7 in Combined Science or separate Biology GCSE. Numeracy skills are essential for all science A levels so a grade 6 or higher at GCSE Maths. Literacy skills are also of great importance: writing, analytical and logical reasoning so a grade 6 or above in GCSE English Language.

Other general skill required are: research skills, sketching/drawing, note taking, scan reading, computing, interest in current affairs, memory/recall skills, the ability to absorb and analyse data, creativity, wide technical vocabulary and the ability to discuss scientific ideas with suitable supporting evidence.

Course outline

Overarching topics

- Topic 1: Biological Molecules
- Topic 2: Cells, Viruses and Reproduction of Living Things
- Topic 3: Classification and Biodiversity
- Topic 4: Exchange and Transport

Specific topics

- Topic 5: Energy for Biological Processes
- Topic 6: Microbiology and Pathogens
- Topic 7: Modern Genetics
- Topic 8: Origins of Genetic Variation
- Topic 9: Control Systems
- Topic 10: Ecosystems

Assessment structure

Paper 1 (90 marks 30% weighting) 105 minutes

- Topic 1: Biological Molecules
- Topic 2: Cells, Viruses and Reproduction of Living Things
- Topic 3: Classification and Biodiversity
- Topic 4: Exchange and Transport
- Topic 5: Energy for Biological Processes
- Topic 6: Microbiology and Pathogens
- Topic 7: Modern Genetics.

Paper 2 (90 marks 30% weighting) 105 minutes

- Topic 1: Biological Molecules
- Topic 2: Cells, Viruses and Reproduction of Living Things
- Topic 3: Classification and Biodiversity
- Topic 4: Exchange and Transport
- Topic 8: Origins of Genetic Variation
- Topic 9: Control Systems
- Topic 10: Ecosystems

Paper 3 (120 marks 40% weighting) 150 minutes

This paper will include questions from Topics 1–10. This paper will include synoptic questions that may draw on two or more different topics.

Exam Structure:

All papers may include multiple-choice, short open, open-response, calculations and extended writing questions.

All papers will include questions that target mathematics at Level 2 or above (a minimum of 10% of the marks across the three papers will be awarded for mathematics at Level 2 or above).

All papers will include questions that target the conceptual and theoretical understanding of experimental methods.

Practical assessment

There are 16 core practicals that cover all of the 12 techniques required for the practical competency measure.

Knowledge of all core practicals can be tested within exam papers.

Core practicals form part of the practical competency assessment.

What other subjects complement the course?

Chemistry, Physics, Maths, Psychology or Geography.

