

AS/A Level GCE Edexcel Biology – 8BI01, 9BI01

Entry Criteria

Students will be expected to achieve 5 GCSE passes grades A*-C including a minimum of grades AA in Double award Science or BBB in Triple award together with a grade B in Maths and English.

Subject Content

Assessment: There is regular assessment to determine progress in accordance with the school policy

Unit 1 6BI01: Lifestyle, Transport, Genes and Health (AS)

- . Structure and function of carbohydrates, lipids and proteins; enzyme action
- . Structure and properties of cell membranes; passive and active transport
- . Structure and role of DNA and RNA
- . Replication; protein synthesis
- . Monohybrid inheritance
- . Gene mutations
- . Principles of gene therapy; social and ethical issues

This unit is assessed by means of a written examination paper, which lasts 1 hour 30 minutes.

Raw marks: 80 UMS: 120
(AS level = 40%, A2 level = 20%)

Unit 2 6BI02: Development, Plants and the Environment (AS)

- . Cell structure and ultrastructure of eukaryote and prokaryote cells: cell specialisation
- . The role of meiosis
- . Genotype and environmental influence
- . Stem cell research and its implications
- . Biodiversity, adaptations and natural selection
- . Principles of taxonomy
- . Plant cell structure
- . Transport of water in plants
- . Uses of plant products

This unit is assessed by means of a written examination paper, which lasts 1 hour 30 minutes.

Raw marks: 80 UMS: 120
(AS level = 40%, A2 level = 20%)

Unit 3 6BI03: Practical Biology and Research Skills (AS)

Students write a report, either a record of a visit to a site of biological interest or a report of research into a biological topic. Students' practical skills will be assessed by the teacher against criteria provided in the specification

The report is externally marked by Pearson. The work must reflect the standard at Advanced Subsidiary level.

Raw marks: 40 UMS: 60
(AS level = 20%, A2 level = 10%)

Unit 4 6BI04 : The Natural Environment and Species Survival (A2)

- . Photosynthesis; energy transfer within ecosystems
- . Evidence for global warming
- . Evolution through natural selection and speciation
- . Nutrient recycling
- . DNA profiling and PCR
- . Structure of bacteria and viruses
- . Infectious diseases (eg AIDS and TB) and immunology

This unit is assessed by means of a written examination paper, which lasts 1 hour 30 minutes.

Raw marks: 90 UMS: 120
(A2 level = 40%, Total GCE = 20%)

<p>Unit 5 6BI05: Energy, Exercise and Coordination (A2)</p> <ul style="list-style-type: none"> . ATP, glycolysis, anaerobic/aerobic respiration . Control and functioning of heart; ventilation and cardiac output . Homeostasis . The nervous system . Impact of exercise on body, and improving performance . Hormonal coordination . Brain structure and development . Imbalances in brain chemicals . Human Genome Project 	<p>This unit is assessed by means of a written examination paper, which lasts 1 hour 45 minutes.</p> <p>Raw marks: 90 UMS: 120 (A2 level = 40%, Total GCE = 20%)</p>
<p>Unit 6 6BI06: Practical Biology and Investigative Skills (A2)</p> <p>Students will complete a written report of an experimental investigation, which they have devised and carried out</p>	<p>The report is externally marked by Pearson. The work must reflect the standard at Advanced GCE level.</p> <p>Raw marks: 45 UMS: 60 (A2 level = 20%, Total GCE = 10%)</p>
<p>Expectations</p> <p>Students are expected to undertake a minimum of 5 hours of Biology homework per week. In addition to this they are expected to read around the subject in advance of the lesson. Details of the learning outcomes are in their Study Guides with references to their text books. Students are expected to make accurate notes and practice past exam papers regularly. Students who are struggling with the course content are expected to approach their teacher and/or academic tutor in this subject for extra support. They must also have the correct stationary and a calculator for every lesson.</p>	
<p>Recommended Reference Books</p> <p>Edexcel AS Biology, Pearson, ISBN 978-1-4058-9632-0 Edexcel AS Biology Revision Guide, Pearson, ISBN 978-84690-598-8 Edexcel A2 Biology, Pearson, ISBN 978-1-4082-0602-7 Edexcel A2 Biology Revision Guide, Pearson, ISBN 978-84690-599-5 Advance Biology for you, Stanley Thrones, ISBN 0-7487-5298-6</p>	
<p>Useful websites</p> <p>http://www.edexcel.com http://highered.mheducation.com http://www.johnkyrk.com www.biologymad.com www.newscientist.com</p>	
<p>Careers Information</p> <p>An A level in Biology is a prerequisite to certain degree courses, in particular the medical/biomedical field. It can lead to further study in a wide range of areas including, Biology, Genetics, Biotechnology, Microbiology, Environmental Science, in addition to numerous other scientific and non-scientific disciplines e.g. teaching, law.</p>	