

## A-Level Biology at Yavneh College

Students must have achieved at least a Grade AB in Double Award Science GCSE (or Grade B in Biology GCSE) and at least Grade B in mathematics GCSE.

### **Course Outline - AQA A Biology**

Biology A Level will appeal to students who like solving problems within the context of planning and conducting investigations; will enjoy devoting private study time to the background reading of biological reviews and other scientific articles; are keen to develop the skills necessary to work safely with apparatus, biological material and living organisms; have an appreciation of life and living organisms and an interest in technological applications and their ethical, social, economic and environmental implications.

The course is divided into 6 units over 2 years. Units 1, 2 and 3 comprise the AS Level. Units 4, 5 and 6 comprise the A2 Level.

- Unit 1: Biology and Disease
  - Students examine how the symptoms and risk factors of various diseases are related to the physiology of digestive, respiratory and blood circulatory systems.
- Unit 2: The Variety of Living Organisms
  - The unit covers genetics and cytology; biochemistry and cellular organisation; exchange surfaces and mass transport systems; principles of taxonomy; genetic comparisons between species; adaptive responses by bacteria to antibiotics; biodiversity.
- Unit 3: Investigative and Practical Skills
  - Practical work relating to topics covered in Units 1 and 2.
- Unit 4: Populations and the Environment
  - Students study population dynamics; photosynthesis; respiration; genetic variation – inheritance, selection and how species arise.
- Unit 5: Control in cells and in organisms
  - This unit examines the detection of and response to internal and external stimuli; coordination of chemical and electrical stimuli, skeletal muscles; homeostasis; negative and positive feedback systems; the genetic code and gene cloning.
- Unit 6: Investigative and practical skills
  - Practical work relating to topics covered in Units 4 and 5.

### **Assessment**

Units 1 and 4 are examined by a written paper consisting of short answer questions, a short comprehension and a short structured essay. Unit 2 is examined by a written paper consisting of short answer questions, one longer data handling question and one longer question involving analysis and evaluation. Unit 3 is a centre-assessed

Practical Skills Assessment and an Investigative Skills Assessment exam. Unit 5 is examined by a written paper consisting of short answer questions plus a longer data-handling question and synoptic essay. Unit 6 is a centre-assessed Practical Skills Assessment and an Investigative Skills Assessment exam.

### **Why Study A Level Biology?**

A Level Biology is an excellent preparation for entry to degrees leading to careers in medicine, osteopathy, homeopathy, nursing, social work, physiotherapy, pharmacy, agriculture, horticulture, food industry, forensic science, environmental science, botany, freshwater and marine biology, applied biology, ecology, sports science, genetics, optics, microbiology and biochemistry.