

BIOLOGY

We will be teaching the new OCR AS / A level specification in Biology:

- Teaching from September 2008
- First testing of AS Modules from January 2009
- Kent College Biology Department has a wealth of experience with OCR including examination experience and were involved in the revisions of the specification. The new specification includes all the more interesting components of the old specification and has been updated to include modern topics.
- The resources supplied by OCR and their partnership publishers look very interesting and well presented. Again, we were involved in the production of many of the resources supplied by OCR and their partnership publishers.

Basic Structure of the Course:

There will be four teaching Units:

AS Unit 1 (F211)	Cells, Exchange and Transport
AS Unit 2 (F212)	Molecules, Diversity, Food and Health
A2 Unit 1 (F214)	Communications, Homeostasis and Energy
A2 Unit 2 (F215)	Control, Genomes and Environment.

- Unit 1 at AS and A2 is shorter so that it can be taught before Christmas and can be tested in January of that year. This should spread the burden of assessment over the course.
- There will be an A* grade on offer for candidates who achieve high marks at A2.
- How Science Works is incorporated throughout the course.

Practical Assessment

Practical work makes up a good proportion of the course and is used to consolidate the theory teaching. We use the school farm and surrounding areas to carry out fieldwork at both AS and A2. In addition, we have the opportunity to carry out field trials on growth and competition between plants as part of an exciting new joint venture with Canterbury College.

Assessment of practical skills takes the form of tasks set by OCR. These are conducted as practical sessions under controlled conditions. There will be three categories of task:

- A qualitative task
- A quantitative task
- An evaluative task

These will be assigned as practical sessions during the course – they will be conducted at the appropriate time during the teaching of the relevant topic. These will be marked internally and a sample will be sent for external moderation by the examination board.

Details of the Units:

AS Biology

Unit 1 (F211) Cells Exchange and Transport

Module 1 Cells

Cell Structure

Membranes

Cell Division and Diversity

Module 2 Exchange and Transport

Exchange Surfaces and Breathing

Transport in Animals

Transport in Plants

Unit 2 (F212)Molecules, Biodiversity, Food and Health

Module 1 Biological Molecules

Biological Molecules

Nucleic Acids

Enzymes

Module 2 Food and Health

Food and Food Production

Health and Disease

Module 3 Biodiversity and Evolution

Biodiversity

Classification

Evolution

Maintaining Biodiversity

A2 Biology

Unit 1 Communication, Homeostasis and Energy

Module 1 Communication & Homeostasis

Nerves

Hormones

Homeostasis

Module 2 Excretion

The Kidneys and Excretion

Module 3 Photosynthesis

Plants and Photosynthesis

Module 4 Respiration

Respiration

Unit 2 Control, Genomes and Environment

Module 1 Cellular Control and Variation

Genetic control of the cell

Meiosis and variation

Module 2 Biotechnology and Gene Technologies

Cloning in Plants and Animals

Biotechnology

Genomes and Gene Technologies

Module 3 Ecosystems and Sustainability

Ecosystems

Populations and Sustainability

Module 4: Responding to the

Environment

Plant Responses

Animal Responses

Animal Behaviour

How the new A level be assessed:

<u>AS Units</u>	Time allowed	Weighting
Unit 1 Question paper with a range of structured questions	One hour	15%
Unit 2 Question paper with a range of structured questions, including extended writing	One hour 45 minutes	25%
Unit 3 Completion of tasks set by OCR, marked by teachers using specific OCR mark schemes	Approximately one double lesson per task	10%
<u>A2 Units</u>		
Unit 1 Question paper with a range of structured questions which may be synoptic	One hour	15%
Unit 2 Question paper with a range of structured questions, including extended writing. Includes synoptic topics	One hour 45 minutes	25%
Unit 3 Completion of tasks set by OCR, marked by teachers using specific OCR mark schemes		10%
		100%

Course Requirements

There are no specific skills required but the course is quite different from GCSE in both content and in the demand placed on the student. An interest in and a desire to study Biology are essential. Pupils who are willing to spend time studying on their own will do very well and will enjoy the course. We aim to instil a deep interest in the subject, which can be maintained in courses of further education and beyond.

Beyond A level Biology?

There are numerous university courses linked with Biology, all of which can lead to careers in that discipline. These include to name but a few: Biology, Horticulture, Agriculture, Forestry, Medicine, Veterinary Science, Dentistry, Genetics, Microbiology, Pharmacy, Radiography, Biotechnology, Physiotherapy, Nursing - and Teaching.

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