Oxford Cambridge and RSA Examinations

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RECOGNISING ACHIEVEMENT

Biology - Student Guide for Advanced Subsidiary/Advanced GCE Specifications

Biology at Advanced Subsidiary and Advanced GCE level will enable you to acquire a systematic body of biological knowledge and an appreciation of its significance. It is a subject that can provide you with great enjoyment and respect for all things living. This course develops many of the topics you may have already studied and introduces you to some of the exciting areas of Biology in the contemporary world. You may study, for example, the influence that genes have on our development, environmental issues and aspects of human health. Biology is a practical science subject so you will develop experimental skills and an understanding of the scientific method. It is hoped that this course will help you gain some understanding of the dynamic and exciting nature of biology today, and an awareness of the ethical, technological and economic aspects of the subject. Assessment of the AS and A GCE Biology course is by examination and coursework.

Before you start this course

You should have studied Science to Intermediate level by taking either Double Award Science GCSE or GNVQ Intermediate. You may have taken Biology as a separate subject at GCSE.

At AS you could well be taking four, or even five, subjects. Biology goes well with a range of subjects such as Chemistry, Physics and Mathematics.

You may wish to take Biology as your only science and combine it with subjects such as History, Art, English or a foreign language. Whilst these subjects will not give much support to your study of Biology, you may enjoy the diversity such combinations bring. In the second year of the course you will probably continue with three of your subjects or you could start a new AS.

An A level qualification in Biology could prepare you to study Biology or one of the Biological Sciences in Further or Higher Education. You may wish to take a more vocational course leading to a career in medicine, veterinary medicine, animal health, horticulture or agriculture.

This subject has 6 Units of Assessment:

- To get a certificate for Advanced Subsidiary (AS), you will need to have studied and been assessed on the three AS units.
- To get a certificate for Advanced GCE you will need to have studied and been assessed on the three AS units **plus** three further units known as A2 units.

Before taking the AS units of assessment you will study the following modules of work:

Module 2801 Biology Foundation.

In this module you will learn about the structure of cells and how they work, including cell division, how enzymes work and how genes control the cell. Also included is a section on ecosystems and ecology.

Module 2802 Human Health and Disease.

In this module you will learn about the way in which diseases, diet and smoking affect health, and how the immune system can protect the body against disease. Also included is a study of the effects of exercise.

Module 2803/1 Transport

In this module, which is shorter in length than 2801 and 2802, you will learn about transport systems in mammals and plants. A 60 minute written examination will test your understanding of this module.

Practical work is assessed by means of coursework or a 90 minute practical examination. Coursework may consist of several different pieces of work or one whole investigation covering the four aspects of planning, implementing, analysing and evaluating. The practical examination will be set on the core topics in Modules 2801 and 2803/1. It will include a planning exercise that will be written in the weeks just before the examination is taken.

Before taking the A2 units of assessment you will study the following modules of work:

Module 2804 Central Concepts

In this module you will learn about the way in which energy is used in organisms, including details of photosynthesis and respiration, population ecology, genetics and evolution, and control and co-ordination in animals and plants.

Module 2805 Options

There are five optional modules available of which you will study only one. You may be able to make a choice, or your teacher may choose one for the whole group.

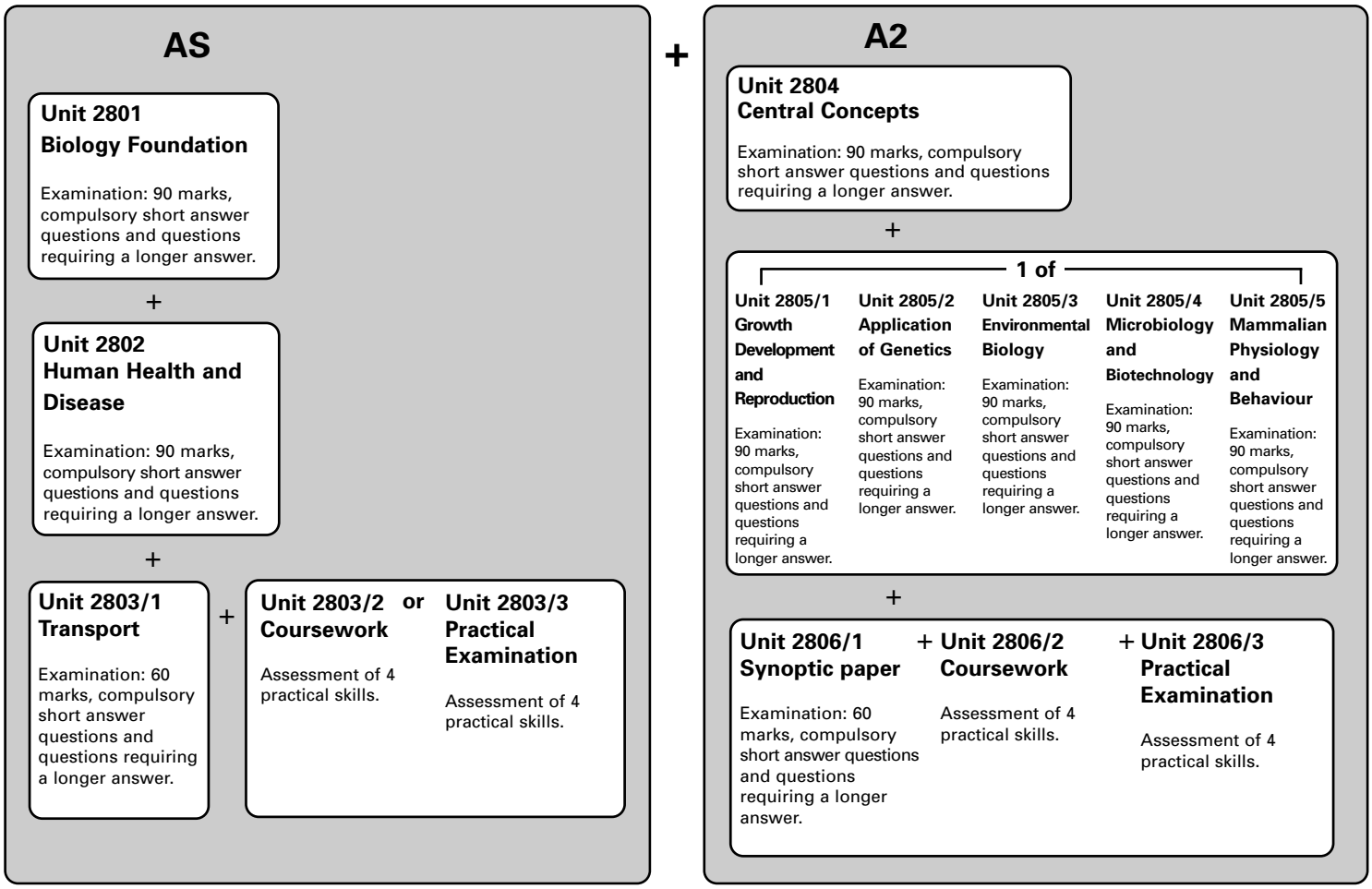
- **2805/1 Growth, Development and Reproduction**
  In this module you will learn about the growth of organisms and how it is controlled, and sexual and asexual reproduction in animals and plants.
- **2805/2 Applications of Genetics**
  In this module you will learn about variation and selective breeding, genetic engineering and study aspects of human genetics.
- **2805/3 Environmental Biology**
  In this module you will do some ecological fieldwork and learn about the effects of pollution, how agriculture affects the environment, and techniques of conservation.
- **2805/4 Microbiology and Biotechnology**
  In this module you will learn about the techniques used in microbiology, and how biotechnology can be used in food production, medicine and industry.
- **2805/5 Mammalian Physiology and Behaviour**
  In this module you will learn about mammalian nutrition, support and locomotion, the nervous system and behaviour.

Practical work for A2 is assessed in the same way as for AS, by means of coursework or a practical examination. As part of the assessment you will have to demonstrate knowledge of the topics covered for A2 in module 2804, as well as knowledge of the topics covered for AS in modules 2801 and 2803/1.

Synoptic Paper.

At the end of the A2 course you will take a paper (2806/1) that will test your knowledge and understanding of the topics in the AS modules and in module 2804 (Central Concepts). It will also test the skills in such things as data analysis that you have developed throughout the course. The paper will take 75 minutes and will consist of questions that expect you to make connections between different aspects of the syllabus and apply your skills to question material that may be new to you.

The assessment structure for Biology is:



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