

# AS and A2 Biology

**Board and Syllabus:** OCR Biology

## Nature of the Course

This course enables students to acquire a systematic body of biological knowledge and an appreciation of its significance. The subject is hugely enjoyable and develops an understanding and respect for all living organisms. Some of the topics studied at GCSE are taught in greater depth and many exciting areas of Biology in the contemporary world introduced. A wide range of experimental skills and an understanding of scientific method are acquired. The dynamic nature of biology today and an awareness of the ethical, technological and economic aspects of the subject are stressed. The course is biased towards animal/human studies; for example there is a 'Human Health and Disease' unit in the first year and a 'Mammalian' Physiology/Behaviour' unit in the second year. An A level qualification in Biology could prepare you to study Biology or one of the Biological Sciences (eg Marine Biology, Molecular Biology, Genetics, Microbiology) in higher education. Alternatively, you could select a more vocational course, eg Medicine, Veterinary Medicine, Dentistry, Physiotherapy, Animal Health, Agriculture. Assessment of the course is by examination and coursework.

## Course Content

### Lower Sixth (AS)

Unit Title	% A Level
Biology Foundation	15%
Human Health and Disease	15%
Transport	10%
Coursework	10%

### Upper Sixth (A2)

Unit Title	% A Level
Central Concepts	15%
Synoptic Paper	10%
Coursework	10%
Option	15%

**Biology Foundation** Cell Structure, Biological Molecules, Enzymes, Cell Membranes and Transport, Genetic Control of Proteins, Nuclear Division, Energy and Ecosystems

**Human Health and Disease** Introduction, Diet, Gaseous Exchange and Exercise, Smoking and Disease, Infectious Diseases, Immunity.

**Transport** Mammalian Transport System, Heart, Transport in Plants.

**Central Concepts** Energy and Respiration, Photosynthesis, Populations and Interactions, Meiosis, Genetics and Gene Control, Classification, Selection and Evolution, Control, Co-ordination and Homeostasis.

**Option** Mammalian Physiology/Behaviour or Growth/Development/Reproduction or Ecology.

## General

Biology remains the most popular A level option at Taunton School with seven very experienced teachers and one technician within the Department. Schemes of work are divided into units with clear objectives and student checklists.

The following are just some of the essential components on offer:

- A range of practical and investigative work (eg Mendelian/Molecular Genetics/Dissection)
- Assessed coursework (one piece for AS level)
- Use of Computer Room for CD-ROM's, word-processing, data analysis, Internet
- Use of Biology Web Site – links to internet sites, CD roms, magazine and internet key word databases, unit checklists, digital pictures, worksheets, data-logging, dissections
- Data-logging with computers (15 class laptops and sensors)
- Interactive white board
- Field Course for ecological work (local area, eg Quantocks / Exmoor, and sometimes S France)
- Trips, eg Bristol Zoo
- 'Olympiad' – an international competition for advanced students
- 'CREST' Award Scheme for advanced experimental work
- Nuffield placements in universities and industry (eg London, Bristol, Southampton)
- Regular outside speakers (Scientific Society)
- Careers advice