

# BRITISH & INTERNATIONAL BIOLOGY OLYMPIAD TOPIC AREAS COMPATIBILITY WITH OCR SYLLABUS

**Red highlighting = not on syllabus**

**Grey highlighting = some coverage as indicated in brackets.**

## 1. Cell Biology

**20%**

Structure and function of cells:

- chemical components
- organelles
- cell metabolism
- protein synthesis
- transport through membranes
- mitosis and meiosis

Microbiology -[use of microorganisms in food production and ways of preserving foods]

Biotechnology

## 2. Plant Anatomy & Physiology (with emphasis on seed plants)

**15%**

Structure and function of tissues and organs involved in:

- photosynthesis, transpiration and gas exchange
- transport of water, minerals and assimilates
- growth and development
- reproduction (ferns and mosses included)

## 3. Animal Anatomy & Physiology (with emphasis on vertebrates)

**25%**

Structure and function of tissues and organs involved in:

- digestion and nutrition
- circulation
- reproduction and development
- regulation (neural and hormonal)
- respiration
- excretion
- immunity

## 4. Ethology

**5%**

- behavioural systems
- conflict behaviour
- causes of behaviour

- learned behaviour

## 5. Genetics & Evolution

20%

- variation: mutation and modification
- Mendelian inheritance
- multiple allelism, recombination, sex linkage
- Hardy-Weinberg principle
- mechanism of evolution

## 6. Ecology

10%

- ecosystems
- bio-geochemical cycles (Nitrogen Cycle only)
- population structure and dynamics
- biosphere and man
- food relationships
- energy flow
- succession

## 7. Biosystematics

5%

- structure and function
- evolutionary and ecological relationships among typical organisms in major groups (Phyla and Classes only)

The percentages represent relative numbers of questions and are subject to change each year.