



BIOLOGY CURRICULUM MAP

FURTHER STUDY

Biology university study
Post-graduate study

CAREER PATHS

Researcher, Forensic Scientist, Biochemist, Education and Training

SKILLS

Critical analysis, interpretation, evaluation

Assessment: Paper 1 (Biological processes) and Paper 2 (Biological diversity) Mock (100 marks each). Sat in the hall. Paper 3 (Unified biology) given in lesson. Covering all content

Assessment: Paper 1 (Biological processes) and Paper 2 (Biological diversity)- all Y12 content, neuronal communication, respiration, cellular control, patterns of inheritance

Assessment: Hall based exam covering all content from Year 12, neuronal communication and cellular control

Revision and Examination Preparation

Excretion, Ecosystems Plant and Animal Responses

- Role of the liver
- Kidney structure
- Divisions of the nervous system
- Types of muscle
- Energy transfers
- Succession
- Recycling in ecosystems
- Types of dialysis
- The nephron
- Knee jerk reflex
- Muscle structure
- Affecting succession

Assessment: Two 45 mark assessment, mixture of multiple short and long answer questions, and a synoptic element on cell structure, biological molecules, nucleotides, nucleic acids, enzymes, cell division, biological membranes, and communicable disease, exchange surfaces, transport in animals, and biodiversity.

Assessment: Two 45 mark assessment, mixture of multiple short and long answer questions, synoptic elements on cell structure, biological molecules, nucleotides, nucleic acids, enzymes, cell division, biological membranes, and communicable disease, exchange surfaces, biodiversity, transport in animals and plants, and classification

Hormonal Communication Photosynthesis Manipulating Genomes, Cloning and Biotechnology

- Hormone action
- Glucoregulation keywords
- Structure of the chloroplasts
- Thin layer chromatography
- Restriction enzymes
- The Calvin cycle
- Limiting factors in respiration
- Gene therapy

Exchange Surfaces; Biodiversity

- The need for exchange surfaces
- Inhalation and exhalation
- Types of sampling
- Factors affecting biodiversity
- Gas exchange in fish
- Insect gas exchange
- Accurate dissection
- Importance of international cooperation for conservation

Transport in Animals and Plants; Classification

- Comparing single and double circulatory structures
- Heart structure
- water and transport in plants
- Types of conservation

Homeostasis Populations and sustainability

- Why homeostasis is required
- Cell signalling
- Negative feedback
- Interspecific and intraspecific competition

Neuronal Communication Respiration Cellular Control and Patterns of Inheritance

- neurone structure
- where the reactants of respiration are used
- where each stage of respiration occurs
- mutations

YEAR 13

End of year exam- full papers, breadth and depth (70 marks each)

Biological membranes; Communicable disease

- Physical defences against disease
- Roles of antibodies
- Physical defences against disease
- Roles of antibodies
- How the structure of membranes links to its functions
- Permeability of membranes
- Chemical defences

Nucleotides, Nucleic Acids; Enzymes, Cell Division

- DNA replication
- Transcription and translation
- How nucleic acids are formed
- Factors affecting enzyme activity

Cell Structure; Biological Molecules

- Functions of organelles
- Eukaryotic and prokaryotic cells
- Advantages of each microscopes
- Reactions of the biological molecule

YEAR 12

Assessment: Two 45 mark assessment, mixture of multiple short and long answer questions, synoptic element on cell structure, biological molecules, nucleotides, nucleic acids, enzymes and cell division

Transition assessment- short assessment covering GCSE content and knowledge from transition work (properties of water)

SCIENCE SKILL

Scientific knowledge and conceptual understanding

SCIENCE SKILL

The nature, processes and methods of science

SCIENCE SKILL

Analysis, evaluation and measurement

SCIENCE SKILL

Experimental skills and investigations