BIOLOGY PATHWAY

S3

National 4 Biology

100% coursework

COURSE OUTLINE

Life on Earth
Interdependency
Population growth
Adaptations
Learned behaviour

Cell Biology
Cell division
DNA, genes and chromosomes
Micro-organisms
Enzymes

Multicellular Organisms
Reproduction
Uses of plants
Growth
Homeostasis

S4

National 5 Biology

80% exam
20% class assignment

COURSE OUTLINE

Life on Earth
Ecosystems
Photosynthesis
Food production
Evolution

Cell Biology
Cell Structure
DNA and making proteins
Genetic engineering
Respiration

Multicellular Organisms
Making new cells
Communication
Reproduction
Genetics
Transport systems

S5/6

Higher Biology

80% exam
20% Class assignment

COURSE OUTLINE

DNA and the genome
DNA and its replication
Gene expression
Mutations
Evolution

Metabolism and Survival
Metabolic pathways
Respiration
Metabolic rate
Conformers and Regulators

Sustainability and Interdependence
Food supply
Breeding
Animal Welfare
Symbiosis
Behaviour

S6

Advanced Higher Biology

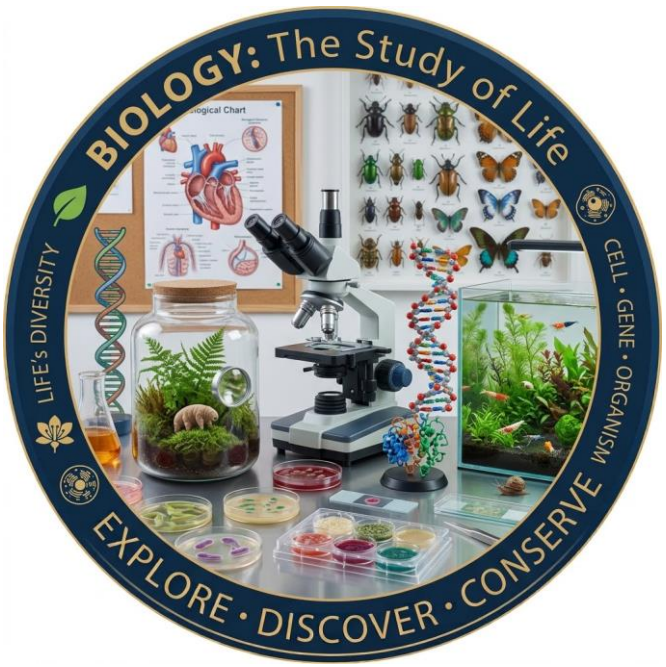
70% exam
30% Project

COURSE OUTLINE

Cells and Proteins
Lab techniques
Proteins
Communication
Cell Division

Organisms and
Evolution
Field techniques
Evolution
Variation
Sex and behaviour
Parasitism

Investigative Biology
Science principals
Experimentation
Reporting and evaluating



Career Opportunities

Pharmacist
Research Scientist
Science Writer
Biology Teacher
Doctor
Dental Nurse
Vet
Nurse
Genetic Counsellor

Please contact Mr John Stewart (PT Biology and Chemistry) for more information.

CHEMISTRY PATHWAY

S3

National 4 Chemistry

100% coursework

COURSE OUTLINE

Chemical changes and Structures
Rates of reaction
Energy changes
Acids and Bases
Atomic structure
bonding

Natures Chemistry
Fossil fuels
Plants as fuel, carbohydrates and consumer products

Chemistry in Society
Metals and Alloys
Chemical cells
Plastics
Fertilisers
Radiation

S4

National 5 Chemistry

80% exam
20% class assignment

COURSE OUTLINE

Chemical changes and Structures
Rates of reaction
Atomic structure
Bonding
Properties of materials
Formulae

Natures Chemistry
Homologous series
Consumer products
Energy from fuels

Chemistry in Society
Metals
Plastics
Fertilisers
Nuclear Chemistry
Acids and Bases

S5/6

Higher Chemistry

80% exam
20% class assignment

COURSE OUTLINE

Chemical changes and Structures
Periodicity
Structure and Bonding
Oxidising and Reducing agents

Natures Chemistry
Carbon Chemistry
Alcohols
Fats, oils, proteins
Proteins
Fragrance

Chemistry in Society
Reaction rates
Chemical energy
Equilibria

Researching Chemistry
Apparatus and experimental techniques

S6

Advanced Higher Chemistry

75% exam
25% Project

COURSE OUTLINE

Inorganic Chemistry
Electromagnetic radiation
Atomic Spectra
Periodic table
Transition metals

Physical Chemistry
Chemical equilibrium
Reaction feasibility
Kinetics

Organic Chemistry and Instrumental Analysis
Molecular Orbits
Synthesis
Pharmaceutical Chemistry

Researching Chemistry
Practical skills
Experimental work
Calculations



Career Opportunities

Environmental Chemist
Chemistry Teacher
Analytical Chemist
Crime Scene investigator
Colour Technologist
Toxicologist
Pharmacologist
Medicinal Chemist
Offshore Chemist

Please contact Mr John Stewart (PT Biology and Chemistry) for more information.

ENVIRONMENTAL SCIENCE PATHWAY

S3

National 4 Environmental Science

100% coursework

COURSE OUTLINE

Living Environment
Interdependence
Adaptation
Population growth
Natural hazards
The nitrogen cycle
Fertilisers

Earth's Resources
Non-renewable and renewable resources
Fossil fuels
crude oil
Energy sources
the carbon cycle

Sustainability
Natural resources
Humans and the environment
Agriculture
Sustainable energy

S4

National 5 Environmental Science

80% exam
20% class assignment

COURSE OUTLINE

Living Environment
Ecosystems and biodiversity
interdependence
human influences

Earth's Resources
Earth systems
Geosphere, hydrosphere, biosphere, atmosphere

Sustainability
Introduction to sustainability
Food
Water
Energy
Waste management

S5/S6

Higher Biology

80% exam
20% Class assignment

COURSE OUTLINE

DNA and the genome
DNA and its replication
Gene expression
Mutations
Evolution

Metabolism and Survival
Metabolic pathways
Respiration
Metabolic rate
Conformers and Regulators

Sustainability and Interdependence
Food supply
Breeding
Animal Welfare
Symbiosis
Behaviour

S5/S6

Higher Geography

73% exam
27% class assignment

COURSE OUTLINE

Physical Environments
Atmosphere
Hydrosphere
Lithosphere
Biosphere

Human Environments
Population
Rural
Urban

Global Issues
Development and health
Global climate change
Geographical skills



Career Opportunities

Ecologist
Hydrologist
Water Quality Scientist
Environmental Scientist
Conservation Officer
Wildlife Biologist
Environmental Planner
Sustainability Coordinator
Environmental Consultant

Please contact Mrs Alex Godsman (Geography) or Mr John Stewart (Biology) for more information.