**BIOLOGY ADVANCED HIGHER**

The aims of the Course are:

* extending and applying knowledge of biology to new situations, interpreting and analysing information to solve more complex problems
* planning and designing biological experiments/investigations, using reference materials and including risk assessments, to test a hypothesis or to illustrate particular effects
* carrying out complex experiments in biology safely, recording systematic detailed observations and collecting data
* selecting and presenting detailed information appropriately, in a variety of forms
* processing and analysing biological information (using calculations, significant figures and units, where appropriate)
* making reasoned predictions and generalisations from a range of evidence/information
* drawing valid conclusions and giving explanations supported by evidence/justification
* critically evaluating experimental procedures by identifying sources of error, suggesting and implementing improvements
* drawing on knowledge and understanding of biology to make accurate statements, describe complex information, provide detailed explanations and integrate knowledge
* communicating biological findings/information fully and effectively
* analysing and evaluating scientific publications and media reports

**CONTENT**

**Cells and Proteins**

This Unit builds on the understanding of the genome from Higher Biology. Learners will develop knowledge and understanding of proteomics, protein structure, binding and conformational change; membrane proteins; detecting and amplifying a stimulus; communication within multicellular organism and protein control of cell division.

**Organisms and Evolution**

This Unit builds on understanding of selection in the context of evolution and immune response from Higher Biology. Learners will develop knowledge and understanding of evolution; variation and sexual reproduction; sex and behaviour and parasitism. This unit also covers suitable techniques for ecological field study.

**Investigative Biology**

This Unit builds on the understanding of the scientific method from Higher Biology. Learners will develop knowledge and understanding of the principles and practice of investigative biology and its communication. This Unit covers scientific principles and processes, experimentation and critical evaluation of biological research.

**INTERNAL ASSESSMENT**

To pass the Biology course, learners must pass all of the required Units. This includes a Unit Assessment (NAR), and a practical write up.

**EXTERNAL ASSESSMENT**

Learners must sit an external exam and complete a practical investigation. Both of these elements are externally marked.

**HOMEWORK**

About 2 hours per week to go over notes, answer questions and prepare for tests.

**ENTRY REQUIREMENTS**

Pupils should have a grade A-C pass at Higher level Biology, however, pupils with a C level pass may struggle with this course.