ADVANCED HIGHER BIOLOGY

The aims of the course are to:

- develop a critical understanding of the role of Biology in scientific issues and relevant applications, including the impact these could make on the environment/society.
- extend and apply knowledge, understanding and skills of biology.
- develop and apply scientific inquiry and investigative skills, including planning and experimental design.
- extend and apply problem solving skills in a biology context.
- extend and apply skills of independent/ autonomous working in biology

What are the recommended entry levels for this course?

For entry to this course pupils would normally be expected to have attained the skills, knowledge and understanding required by achieving a Higher Biology(grade A – C).

What content is included in this course?

The course consists of three units: **Investigative Biology, Cells and Proteins and Organisms and Evolution.**

The course provides pupils with the opportunity to develop a deeper understanding of the cell by studying key roles of proteins within the cell. This understanding of cellular processes is then related to physiological function. At the whole organism scale the course explores how sexual reproduction and parasitism are main drivers of evolution. This allows pupils to develop a deeper understanding of the mechanism of evolution, the biological consequences of sexual reproduction and the biological inter-relationships involved in parasitism. The course provides a deeper understanding of laboratory and fieldwork techniques, and in carrying out a biological investigation the pupil has the opportunity to produce an extended piece of scientific work.

What skills will I develop?

Through the course pupils will develop important skills, attitudes and attributes related to biology, including: developing scientific and analytical thinking skills in a biological context; developing understanding of biological issues; and acquiring and applying knowledge and understanding of biology. These skills will enable learners to develop an informed and ethical view of complex issues.

Pupils will be able to develop their communication and collaborative working skills and be able to apply critical thinking in new and unfamiliar contexts to solve problems. This will enable learners to become scientifically literate citizens, who are able to make rational decisions that are based on evidence and interpretation of scientific information.

The further development of scientific skills and experience acquired in previous learning will extend the pupils capability to embark on independent investigative work, and by designing and carrying out their own investigation candidates will increase their scientific literacy and develop skills for learning, life and work

What learning and teaching approaches will I experience?

A range of learning and teaching approaches are used including individual work, group work and cooperative activities. There is an emphasis on practical work, experimental design and data analysis.

How will I be assessed?

The Course will be externally assessed within a **question paper and a project**, requiring demonstration of knowledge, skills and understanding acquired from across the Units and how they can be applied in unfamiliar contexts. **The grade achieved is based on the final examination and the project.** All Units are internally assessed on a pass/fail basis. No overall award will be given until all internal assessments have been passed.

What are the homework requirements?

Pupils are set a minimum of **one homework per week.** This could include written tasks, learning or consolidation of knowledge and understanding. There is a much greater emphasis on independent learning and pupils are expected to complete background research and reading.

What are the possible progression routes?

This Course or its Units may provide progression to:

- Further/higher education such as doing HNCs, HNDs or degree programmes. Examples of further and higher education programmes that learners doing the course might progress into include medicine, dentistry, veterinary medicine, professions allied to medicine, horticulture, pharmacology, environmental science and health.
- Advanced Higher Biology provides good preparation for learners progressing to further and higher education as candidates must be able to work with more independence and less supervision.
- For many candidates the progression will be directly to employment or work based training programmes. Examples of employment opportunities and training programmes are careers in the health sector, agricultural science, education, environmental science.

Certification:

Advanced Higher Biology is allocated 32 SCQF credit points at SCQF Level 7.