CHEMISTRY – ADVANCED HIGHER

What are the aims of this course

The purpose of the course is to develop learners' knowledge and understanding of the physical and natural environments beyond Higher level. The Course continues to develop the underlying theories of chemistry and the practical skills used in the chemistry laboratory. The Course also develops the skills of independent study and thought that are essential in a wide range of occupations.

What are the recommended entry levels for this course?

The Course is suitable for learners who are secure in their learning of Higher Chemistry. The Course emphasises practical and experiential learning opportunities, with a strong skills-based approach to learning. It is designed for all learners who can respond to a level of challenge, especially those considering further study or a career in chemistry and related disciplines. It is expected leaners will have a pass (grade A-C) in Higher Chemistry.

What content is included in this course?

The course consists of three units: **Inorganic and Physical Chemistry; Organic Chemistry and Instrumental Analysis and Researching Chemistry.** The Course will develop a critical understanding of the role of chemistry in scientific issues and relevant applications, including the impact these could make on the environment/society. It aims to further develop an understanding of scientific literacy, using a wide range of resources, in order to communicate complex ideas and issues and to make scientifically informed choices.

What skills will I develop?

The Course aims to enable learners to:

- extend and apply knowledge, understanding and skills of chemistry
- develop and apply the skills to carry out complex practical scientific activities, including the use of risk assessments, technology, equipment and materials
- develop and apply scientific inquiry and investigative skills, including planning and experimental design
- develop and apply analytical thinking skills, including critical evaluation of experimental procedures in a chemistry context
- extend and apply problem solving skills in a chemistry context
- extend and apply skills of independent/autonomous working in chemistry

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:

- HND/degree programmes in a chemistry-based course or a related area, such as medicine, law, dentistry, veterinary medicine, engineering, environmental and health sciences
- careers in a chemistry-based discipline or related area, or in a wide range of other areas, such as oil and gas exploration, renewable energy development, engineering, technology, pharmaceuticals, environmental monitoring, forensics, research and development, management, civil service and education

Certification:

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