Science – Course Outlines

Biology:

Biology affects everyone and aims to find solutions to many of the world's problems. Biology, the study of living organisms, plays a crucial role in our everyday existence, and is an increasingly important subject in the modern world. Advances in technologies have made this varied subject more exciting and relevant than ever. Biology Courses should encourage development of skills and resourcefulness, which lead to becoming a confident individual. Successful learners in biology think creatively, analyse and solve problems. Biology aims to produce responsible citizens, through studying of relevant areas of biology, such as health, environment and sustainability.

National 4/5 Units- Cells, Life on Earth, Multicellular Organisms.

Higher Units – DNA and the Genome, Metabolism and Survival, Sustainability and Interdependence.

Higher Human Units - Human cells, Physiology and Health, Neurobiology and Communication, Immunology and Public Health.

Advanced Higher units – Cells and Proteins, Organisms and Evolution, Investigative Biology.

Chemistry:

Chemistry, the study of matter and its interactions, contributes essential knowledge and understanding across all aspects of our lives. Chemistry explains the links between the particulate nature of matter and the macroscopic properties of the world. Chemistry research and development is essential for the introduction of new products. The chemical industry is a major contributor to the economy of the country.

National 4/5 Units – Chemical Changes and Structure, Natures Chemistry, Chemistry in Society.

Higher Units: Chemical Changes and Structure, Natures Chemistry, Chemistry in Society and Researching Chemistry.

Advanced Higher Units – Inorganic Chemistry, Physical Chemistry, Organic Chemistry and Instrumental Analysis, Researching Chemistry.

Physics:

Through learning in physics, learners develop their interest in and understanding of the world. They engage in a wide range of investigative tasks, which allows them to develop important skills to become creative, inventive and enterprising, in a world where the skills and knowledge developed by physics are needed across all sectors of society. Physics Courses should encourage resourcefulness, which leads to becoming a confident individual. Successful learners in physics think creatively, analyse and solve problems. Physics can produce responsible citizens, through studying the impact it makes on their lives, on the environment, and on society.

National 4/5 Units- Waves and Radiation, Dynamics and Space, Electricity and Energy.

Higher Units – Our Dynamic Universe, Electricity and particles and Waves.

Advanced Higher Units – Rotational Motion and Astrophysics, Quanta and waves, Electromagnetism,

Environmental Science:

Environmental Science encourages the development of skills and resourcefulness, which lead to becoming a confident individual. Successful learners in environmental science think creatively, analyse and solve problems. Environmental Science aims to produce responsible citizens, through studying relevant areas of environmental science such as the living environment, the earth's resources and sustainability. Environmental science is an inter-disciplinary subject, which draws from the sciences and social sciences. In this Course, a practical, experiential and investigative approach is used to develop knowledge and understanding of environmental science concepts and scientific awareness of environmental issues. Environmental scientists are involved in tackling issues such as global climate change, pollution, use of land and water resources and changes in wildlife habitats.

National 3/4 units – Living Environment, Earths' Resources, Sustainability.

National Progression Awards:

Health Sector - This course is designed as an introduction to the health sector. The emphasis of this Course is to prepare candidates for working in the health sector and develop employability skills valued by employers. Candidates will develop a range of knowledge and skills required in this vocational area. Candidates will investigate a range of job roles and career opportunities as well as participating in a job interview.

Candidates will also develop a wide range of skills, including research and self-evaluation skills. Emphasis throughout all Units is on the employability skills and attitudes which will help prepare candidates for the workplace.

Applied Sciences - This National Progression Award (NPA) provides an overview of the science, technology, engineering and mathematics (STEM) sector.

It develops knowledge and understanding of biology, chemistry and physics. It will also develop science practical skills.

The NPA provides bite-sized chunks of learning that are straightforward for centres to adopt and for learners to study.