

# **Faculty of Science**

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| <b>COURSE TITLE</b>   | <b>National 3 Biology</b>   |
| <b>LEVEL</b>  | SCQF level 3 (18 SCQF credit points).   |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have achieved BGE Third Level Science.   |
| <b>COURSE DESCRIPTION</b>                                       | The National 3 Biology Course focuses on the areas of biodiversity, interdependence, body systems and cells and inheritance. It enables learners to recognise the impact that biology has on their lives, the lives of others and the environment. Learners develop scientific inquiry and investigative skills, scientific analytical thinking skills and the ability to use scientific literacy in a range of contexts. |
| <b>COURSE ASSESSMENT</b>  | The course is assessed internally by a question paper on each of the following units:<br><br><b>Cell Biology</b><br><b>Multicellular Organisms</b><br><b>Life on Earth.</b>   |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | The National 3 Biology Course encourages the 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.  |

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| <b>COURSE TITLE</b>   | <b>National 4 Biology</b>  |
| <b>LEVEL</b>  | SCQF level 4 (24 SCQF credit points).  |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br>National 3 Biology, National 3 Science or Level 3/4 Science Course.  |
| <b>COURSE DESCRIPTION</b>                                       | Through learning in biology, 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 biology are needed across all sectors of society.<br><br>The course consists of 3 Topics: <b>Cell Biology, Multicellular Organisms and Life on Earth.</b>   |
| <b>COURSE ASSESSMENT</b>  | The course is assessed internally by 3 question papers on the units listed below and an Added Value Unit.<br><b>Cell Biology</b><br><b>Multicellular Organisms</b><br><b>Life on Earth</b>   |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | This Course allows learners to understand and investigate the world in an engaging and enjoyable way. It develops learners' ability to think analytically, creatively and independently, and to make reasoned evaluations. The Course provides opportunities for learners to acquire and apply knowledge, to evaluate environmental and scientific issues, to consider risk, and to make informed decisions. This can lead to learners developing an informed and ethical view of topical issues. Learners will develop skills in communication, collaborative working and leadership, and apply critical thinking in new and unfamiliar contexts to solve problems. |

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| <b>COURSE TITLE</b>   | <b>National 5 Biology</b>   |
| <b>LEVEL</b>  | SCQF level 5 (24 SCQF credit points).   |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br>National 4 Biology Course or Level 3/4 Biology course.  |
| <b>COURSE DESCRIPTION</b>                                       | Through learning in biology, 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 biology are needed across all sectors of society. The course covers: <b>Cell Biology, Multicellular Organisms and Life on Earth</b>  |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and an assignment. The assignment contributes 20% of the overall marks available for the course assessment.  |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | The National 5 Biology course allows candidates to understand and investigate the living world in an engaging and enjoyable way. It develops candidates' abilities to think analytically, creatively and independently, and to make reasoned evaluations. The course provides opportunities for candidates to acquire and apply knowledge to evaluate biological issues, assess risk, make informed decisions and develop an ethical view of complex issues. Candidates are able to develop their communication, collaborative working and leadership skills, and are able to apply critical thinking in new and unfamiliar contexts to solve problems. |

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| <b>COURSE TITLE</b>   | <b>Advanced Higher Biology</b>  |
| <b>LEVEL</b>  | SCQF level 7 (32 SCQF credit points)  |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience: Higher Human Biology Course or Higher Biology Course.  |
| <b>COURSE DESCRIPTION</b>                                       | The Advanced Higher Biology Course is based on integrative ideas and unifying principles of modern biological science. It covers key aspects of life science at the molecular scale and extends to aspects of the biology of whole organisms that are among the major driving forces of evolution. In addition, the Advanced Higher Biology Course aims to develop a sound theoretical understanding and practical experience of experimental investigative work in biological science. The course covers: <b>Cells and Proteins, Organisms and Evolution, and Investigative Biology.</b>   |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and a project. The project contributes 25% of the overall marks available for the course assessment.   |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | Literacy is developed as reading and interpreting scientific literature is encouraged. Learners will be given opportunities to develop scientific ideas and opinions in a coherent logical manner. Numeracy will be developed and applied through analysing data in a range of formats including statistics. In addition, this Course encourages independent learning skills and allows learners to make connections between science and the world in which they live, learn and work. Learners will develop transferable skills and be better prepared for future study and/or employment. |

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| <b>COURSE TITLE</b>   | <b>Higher Human Biology</b>  |
| <b>LEVEL</b>  | SCQF level 6 (24 SCQF credit points).  |
| <b>ENTRY REQUIREMENTS</b>   | Learners would normally be expected to have attained a pass in the National 5 Biology Course.  |
| <b>COURSE DESCRIPTION</b>   | The Higher Human Biology course gives candidates the opportunity to understand and investigate the living world in an engaging and enjoyable way. It develops candidates' abilities to think analytically, creatively and independently, and to make reasoned evaluations. The course provides opportunities for candidates to acquire and apply knowledge to evaluate biological issues, assess risk, make informed decisions and develop an ethical view of complex issues. The course covers the following topics: <b>Human Cells, Physiology &amp; Health, Neurobiology &amp; Immunology.</b>  |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and an assignment. The assignment contributes 20% of the overall marks available for the course assessment.   |
| <b>SKILLS FOR LEARNING,<br/>SKILLS FOR LIFE and<br/>SKILLS FOR WORK</b> | The Higher Human Biology course gives candidates the opportunity to understand and investigate the living world in an engaging and enjoyable way. It develops candidates' abilities to think analytically, creatively and independently, and to make reasoned evaluations. The course provides opportunities for candidates to acquire and apply knowledge to evaluate biological issues, assess risk, make informed decisions and develop an ethical view of complex issues. Candidates are able to develop their communication, collaborative working and leadership skills, and are able to apply critical thinking in new and unfamiliar contexts to solve problems. |

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| <b>COURSE TITLE</b>   | <b>NPA Science &amp; Health</b>  |
| <b>LEVEL</b>  | SCQF level 4 (24 SCQF credit points).  |
| <b>ENTRY REQUIREMENTS</b>                                       | For the NPA in Science and Health at SCQF level 4 it would not be expected that learners would necessarily hold existing science qualifications or be experienced in science above early secondary education.  |
| <b>COURSE DESCRIPTION</b>                                       | <p>The specific aims of the group award are to:</p> <ul style="list-style-type: none"> <li>☑ Develop knowledge and understanding of health science, chemistry and physics.</li> <li>☑ Develop knowledge and understanding of science and its applications in relation to human health.</li> <li>☑ Prepare learners for progression to qualifications at SCQF level 5 in areas related to human health and science.</li> <li>☑ Develop skills in good laboratory practice.</li> <li>☑ Develop an understanding of science health and safety practices.</li> </ul>   |
| <b>COURSE ASSESSMENT</b>  | <p>The course is assessed internally on each of the following units:</p> <p><b>Physics: Waves &amp; Radiation</b></p> <p><b>Nature's Chemistry</b></p> <p><b>Human Health</b></p> <p><b>Practical Skills</b></p> <p><b>Life Sciences Industry</b></p>  |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | <p>The NPA in Science and Health at SCQF level 4 has been designed to provide a qualification which will equip you with a range of skills and knowledge in key areas of science. These skills will be beneficial for progression to further qualifications and would also be considered as transferable skills that will travel with you wherever your future lies. The NPA in Science and Health at SCQF level 4 will provide you with knowledge and understanding of health science and technology, aspects of chemistry and physics of particular relevance to health science as well as practical laboratory skills in each area. You will use a variety of scientific techniques incorporating a range of equipment which will aid and enhance your learning experience and development. In addition, you will develop effective preparation skills and an awareness of health and safety required to carry out safe scientific work.</p> |

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| <b>COURSE TITLE</b>   | <b>National 3 Chemistry</b>  |
| <b>LEVEL</b>  | SCQF level 3 (18 SCQF credit points).  |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have achieved BGE Third Level Science.  |
| <b>COURSE DESCRIPTION</b>                                       | The National 3 Chemistry Course focuses on rates of reaction, chemical structure, acids & bases, properties of materials, chemical analysis, areas of fuels, energy and everyday consumer products. It enables learners to recognise the impact that Chemistry has on their lives, the lives of others and the environment. Learners develop scientific inquiry and investigative skills, scientific analytical thinking skills and the ability to use scientific literacy in a range of contexts. |
| <b>COURSE ASSESSMENT</b>  | The course is assessed internally by a question paper on each of the following units:<br><br><b>Chemical Changes &amp; Structure</b><br><br><b>Nature's Chemistry</b><br><br><b>Chemistry in Society</b>   |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | The National 3 Chemistry Course encourages the development of skills and resourcefulness, which lead to becoming a confident individual. Successful learners will apply these skills when considering the applications of chemistry on our lives, as well as the implications on society/the environment. This can be done by using a variety of approaches, including investigation and problem solving.  |

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| <b>COURSE TITLE</b>   | <b>National 4 Chemistry</b>   |
| <b>LEVEL</b>  | SCQF level 4 (24 SCQF credit points).   |
| <b>ENTRY REQUIREMENTS</b>   | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br><br>National 3 Chemistry Course or Level 3/4 Science Course   |
| <b>COURSE DESCRIPTION</b>   | Through learning in chemistry, 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 chemistry are needed across all sectors of society. The course covers: <b>Chemical Changes &amp; Structure, Nature's Chemistry and Chemistry in Society.</b> |
| <b>COURSE ASSESSMENT</b>  | The course is assessed internally by 3 question papers on the units listed below and an Added Value Unit.<br><b>Chemical Changes &amp; Structure,</b><br><b>Nature's Chemistry,</b><br><b>Chemistry in Society.</b>   |
| <b>SKILLS FOR LEARNING,</b><br><b>SKILLS FOR LIFE and</b><br><b>SKILLS FOR WORK</b> | This Course should encourage resilience, which leads to becoming a confident individual. Successful learners in chemistry think creatively, analyse and solve problems. Chemistry can produce responsible citizens through studying the impact it makes on developing sustainability, and its effect on the environment, society, and the lives of themselves and others.   |

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| <b>COURSE TITLE</b>   | <b>National 5 Chemistry</b>   |
| <b>LEVEL</b>  | SCQF level 5 (24 SCQF credit points).   |
| <b>ENTRY REQUIREMENTS</b>   | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br><br>National 4 Chemistry Course or Level 3/4 Chemistry Course   |
| <b>COURSE DESCRIPTION</b>   | Through learning in chemistry, 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 chemistry are needed across all sectors of society. The course covers: <b>Chemical Changes &amp; Structure, Nature's Chemistry and Chemistry in Society.</b> |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and an assignment. The assignment contributes 20% of the overall marks available for the course assessment.  |
| <b>SKILLS FOR LEARNING,<br/>SKILLS FOR LIFE and<br/>SKILLS FOR WORK</b> | This course offers opportunities for candidates to develop the ability to think analytically and to make reasoned evaluations. It develops a broad, versatile and adaptable skill set which is valued in the workplace, forms the basis for progression to the study of chemistry at a higher level, and provides knowledge useful in the study of all of the sciences.   |

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| <b>COURSE TITLE</b>   | <b>Higher Chemistry</b>   |
| <b>LEVEL</b>  | SCQF level 6 (24 SCQF credit points).   |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br>National 5 Chemistry Course, or another N5 Science  |
| <b>COURSE DESCRIPTION</b>                                       | This course allows candidates to acquire a deeper understanding of the central concepts of chemistry. Chemists play a vital role in the production of everyday commodities. Chemistry research and development are essential for the introduction of new products. The study of chemistry is of benefit not only to those intending to pursue a career in science, but also to those intending to work in areas such as the food, health or manufacturing industries. The course covers: <b>Chemical Changes and Structure, Nature's Chemistry, and Chemistry in Society.</b>                             |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and an assignment. The assignment contributes 20% of the overall marks available for the course assessment.  |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | This course allows candidates to develop an appreciation of the impact of chemistry on their everyday lives by applying their knowledge and understanding of chemical concepts in practical situations. The course provides opportunities for candidates to think analytically, creatively and independently, and to make reasoned evaluations. Candidates develop a range of skills that are valued in the workplace, providing a secure foundation for the study of chemistry in further and higher education. The course also provides a knowledge base that is useful in the study of other sciences. |

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| <b>COURSE TITLE</b>   | <b>Advanced Higher Chemistry</b>  |
| <b>LEVEL</b>  | SCQF level 7 (32 SCQF credit points)  |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br>Higher Chemistry Course and<br>Higher Mathematics Course  |
| <b>COURSE DESCRIPTION</b>                                       | The Course serves to equip all learners with an understanding of the impact of chemistry on everyday life, and with the knowledge and skills to be able to reflect critically on scientific publications and media reports concerning chemistry. By using the broad skills base and knowledge and understanding of detailed chemistry key areas, learners will become scientifically literate citizens and be able to review the science-based claims they will meet and to communicate in an evidence-based manner. This also allows learners to make their own reasoned decisions on many issues within a modern society increasingly dependent on chemistry, science and technology. |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and a project. The project contributes 25% of the overall marks available for the course assessment.   |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | The course builds on the skills developed by candidates in the Higher Chemistry course and continues to develop their curiosity, interest and enthusiasm for chemistry in a range of contexts. Skills of scientific inquiry and investigation are developed throughout the course. The course offers opportunities for collaborative and independent learning set within familiar and unfamiliar contexts, and seeks to illustrate and emphasise situations where the principles of chemistry are used and applied in everyday life.  |

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| <b>COURSE TITLE</b>   | <b>National 3 Physics</b>   |
| <b>LEVEL</b>  | SCQF level 3 (18 SCQF credit points).   |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have achieved BGE Third Level Science.   |
| <b>COURSE DESCRIPTION</b>                                       | The National 3 Physics Course focuses on energy sources, electricity, energy transfer, wave properties, light, colour, optical instruments, electromagnetism, sound, forces & the solar system. It enables learners to 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. |
| <b>COURSE ASSESSMENT</b>  | The course is assessed internally by a question paper on each of the following units:<br><br><b>Electricity and Energy</b><br><br><b>Waves and Radiation</b><br><br><b>Dynamics and Space</b>   |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | The National 3 Physics Course encourages 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.   |

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| <b>COURSE TITLE</b>   | <b>National 4 Physics</b>   |
| <b>LEVEL</b>  | SCQF level 4 (24 SCQF credit points).   |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br><br>National 3 Science Course or Level 3/4 physics Course.  |
| <b>COURSE DESCRIPTION</b>                                       | 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. The course covers: <b>Waves &amp; Radiation, Dynamics &amp; Space, Electricity &amp; Energy.</b>                       |
| <b>COURSE ASSESSMENT</b>  | The course is assessed internally by 3 question papers on the units listed below and an Added Value Unit.<br><br><b>Waves &amp; Radiation, Dynamics &amp; Space, Electricity &amp; Energy.</b>  |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | The Course develops learners' ability to think analytically, creatively and independently, and to make reasoned evaluations. The Course provides opportunities for learners to acquire and apply knowledge, to evaluate environmental and scientific issues, to consider risk, and to make informed decisions. Learners will develop skills in communication, collaborative working and leadership, and apply critical thinking in new and unfamiliar contexts to solve problems. |

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| <b>COURSE TITLE</b>   | <b>National 5 Physics</b>  |
| <b>LEVEL</b>  | SCQF level 5 (24 SCQF credit points).  |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br>National 4 Physics Course or Level 3/4 physics Course  |
| <b>COURSE DESCRIPTION</b>                                       | 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. The course covers: <b>Waves, Radiation, Properties of Matter, Dynamics, Space and Energy.</b> |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and an assignment. The assignment contributes 20% of the overall marks available for the course assessment.   |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | This Course provides learners with opportunities to develop their interest and enthusiasm for physics in a range of contexts. The skills of scientific inquiry are developed, throughout the course, by investigating the applications of physics. This enables candidates to become scientifically literate citizens.   |

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| <b>COURSE TITLE</b>   | <b>Higher Physics</b>   |
| <b>LEVEL</b>  | SCQF level 6 (24 SCQF credit points).   |
| <b>ENTRY REQUIREMENTS</b>                                       | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br>National 5 Physics Course and<br>National 5 Mathematics Course.   |
| <b>COURSE DESCRIPTION</b>                                       | The Higher Physics Course allows learners to understand and investigate the world in an engaging and enjoyable way. It develops learners' ability to think analytically, creatively and independently, and to make reasoned evaluations. The Course provides opportunities for learners to acquire and apply knowledge, to evaluate environmental and scientific issues, to consider risk, and to make informed decisions. The course covers:<br><b>Our Dynamic Universe, Particles and Waves, and Electricity.</b> |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and an assignment. The assignment contributes 20% of the overall marks available for the course assessment.  |
| <b>SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK</b> | This course develops candidates' ability to think analytically, creatively and independently, and to make reasoned evaluations. The course provides opportunities for candidates to acquire and apply knowledge, to evaluate environmental and scientific issues, to consider risk, and to make informed decisions. Candidates develop skills in communication, collaborative working and leadership, and apply critical thinking in new and unfamiliar contexts to solve problems.                                 |

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| <b>COURSE TITLE</b>   | <b>Advanced Higher Physics</b>   |
| <b>LEVEL</b>  | SCQF level 7 (32 SCQF credit points)   |
| <b>ENTRY REQUIREMENTS</b>   | Learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualifications and/or experience:<br><br>Higher Physics Course and<br><br>Higher Mathematics Course.  |
| <b>COURSE DESCRIPTION</b>   | The Course offers opportunities for collaborative and independent learning set within familiar and unfamiliar contexts, and seeks to illustrate and emphasise situations where the principles of physics are used and applied, thus promoting the candidate's awareness that physics involves interaction between theory and practice. An opportunity for engaging in some independent research is provided. The course covers: <b>Rotational Motion and Astrophysics, Quanta and Waves, Electromagnetism and Units, prefixes and uncertainties.</b>                                       |
| <b>COURSE ASSESSMENT</b>  | The course is assessed by a question paper and a project. The project contributes 25% of the overall marks available for the course assessment.  |
| <b>SKILLS FOR LEARNING,<br/>SKILLS FOR LIFE and<br/>SKILLS FOR WORK</b> | Literacy is developed as reading and interpreting scientific literature is encouraged. Learners will be given opportunities to develop scientific ideas and opinions in a coherent logical manner. Numeracy will be developed and applied through analysing data in a range of formats including statistics. In addition, this Course encourages independent learning skills and allows learners to make connections between science and the world in which they live, learn and work. Learners will develop transferable skills and be better prepared for future study and/or employment |