

## Combined Science

<b>Qualification</b>	GCSE (Edexcel)
<b>Course description</b>	<p>Students will be taught modules in Biology, Chemistry and Physics throughout Year 10 and Year 11.</p> <p>Biology content is divided into nine broad topics: overarching concepts in biology, cells and control, genetics, natural selection and genetic modification, ecosystems and material cycles, plant structures and their functions, animal coordination, control and homeostasis, exchange and transport in animals, and health, disease and the development of medicines.</p> <p>Chemistry content is divided into 16 broad topics: formulae, equations and hazards, overarching concepts in chemistry (atomic structure, the periodic table, ionic bonding, types of substance, calculations involving masses), states of matter, methods of separating and purifying substances, acids, obtaining and using metals, electrolytic processes, reversible reactions and equilibria, groups 1, 7 and 0, rates of reaction, fuels, heat energy changes in chemical reactions, and Earth and atmospheric science.</p> <p>Physics content is divided into 14 broad topics: overarching topics in physics (motion, forces and conservation of energy), waves, light and the electromagnetic spectrum, particle model - 1, radioactivity, astronomy, energy - forces doing work, forces and their effects, electricity and circuits, magnetism and the motor effect, particle model - 2, forces and matter</p>
<b>Method of Assessment</b>	<p>Six exams - two each for Biology, Chemistry and Physics, all sat in 2021. Each paper lasts 70 minutes and is marked out of 60. Content learning is assessed through a mixture of different question styles, including multiple-choice questions, short-answer questions, calculations and extended open-response questions. The grades will be from 1 to 9, with 9 being the top grade. The higher paper will cover grades 9-4 and the foundation paper will cover grades 5-1. Students will be entered at the tier which will better enable them to reach their potential.</p> <p>There is no controlled assessment in the new specification, although students will complete 16 core practicals throughout the course. 15% of marks in the exam papers will be for knowledge, understanding and application of practical skills. In addition, questions assessing students' use of mathematical skills will make up 15% of the assessments. There will also be some recall of equations required in physics.</p>
<b>Further Study after Year 11</b>	A Levels in Biology, Chemistry or Physics, as well as A Level Psychology or BTEC Level 3 Applied Science.
<b>Career Routes</b>	Scientists can work in sports science, computer science, forensics, medicine, environmental science, biotechnology, astrophysics, education or in industry. Many employers value the problem-solving skills that science develops and scientists are increasingly being employed in areas such as finance and marketing where these skills are also important.