KS5 Long Term Curriculum Plan: AAQ BTEC National in Applied Science Year 12

Curriculum Aim: In Applied Science we extend on the knowledge of GCSE and aim to prepare, inspire and nurture a passion for Science, whilst laying the groundwork for further study in courses such as forensic science, nursing and physiotherapy. We do this by covering a wide range of scientific knowledge and essential practical skills. This includes preparing students to be independent analytic thinkers and scientific investigators.
Link to prior learning: The subject builds on key knowledge and skills from GCSE Sciences, whilst diving deeper into key topics such as chromatography, internal energy of particles, cell theory, waves and the electronic structure of atoms.

	Focus / Topic	Knowledge & Skills (from NC/Programmes of Study)	Assessment
Autumn 1 Autumn 2	**Unit 1** **Principles and applications of biology**	Structure and function of cells and tissues ● Structure and function of cells and tissues ● Structure and function of specialised cells in multicellular organisms ● Structure and function of biological tissues Structure and function of biological molecules ● BStructure and function of water ● Structure and function of carbohydrates ● Structure and function of proteins ● Structure and function of nucleic acids ● Structure and function of lipids Cellular transport and enzyme activity ● Cell transport mechanisms ● Enzymes as biological catalysts ● Homeostasis	Preparation for externally assessed mandatory unit. Regular assessments after units. Extended writing.
Spring 1 Spring 2	**Unit 2** **Principles and applications of chemistry**	● Atomic and electronic structure ● Bonding and structure ● Periodicity ● Physical chemistry ● Organic chemistry	Preparation for externally assessed mandatory unit. Regular assessments after units. Extended writing.
Summer 1	**Unit3** **Principles and applications of physics**	Understanding waves and optical fibres ● Working with waves ● Principles of optical fibres	Preparation for externally assessed mandatory unit.

Summer 2		● Uses of electromagnetic waves in communication <u>Forces in transportation and Newtons Laws of Motion</u> ● Measurement and representation of motion ● Laws of motion <u>Electrical circuits and the transfer of energy</u> ● Use of electrical components ● Equations ● Electrical energy usage ● Energy transfer ● Change of state	Regular assessments after units. Extended writing.

<u>Further Information:</u>
AAQ BTEC specification: https://qualifications.pearson.com/content/dam/pdf/btec-aaqs/applied-science/2025/specification-and-sample-assessments/btec-national-in-applied-science-specification.pdf