



Year 12 BTEC Science

Subject and Year Group	Autumn 1 Year 12	Autumn 2 Year 12	Spring 1 Year 12	Spring 2 Year 12	Summer 1 Year 12	Summer 2 Year 12
Topic/Unit to be studied	Unit 2: Practical Scientific Procedures and Techniques Learning Aim A: Titrations & Colorimetry Learning Aim B: Colorimetry Learning Aim C: Chromatographic Techniques Learning Aim D: Reflection on Development of Personal Skills		Unit 1: Principles and Applications of Science Biology Chemistry Physics		Unit 3: Science Investigation Skills Parts A – C: Planning, Performing & Analysing	
Core Knowledge and skills	Laboratory Equipment & Calibration Preparing a Standard Solution Titrations Colorimetry Checking Thermometer Calibration Constructing and Interpreting Cooling Curves Chromatographic Techniques Application of Chromatography Interpretation of a Chromatogram Personal Responsibility Interpersonal Skills Professional Practice		Microscopy & Magnification Cell Ultrastructure Prokaryotes & Gram Staining Specialised Cells Epithelial & Endothelial Tissue Blood Vessels Muscle Tissue Nervous Tissue Impulse Conduction Synapse & Drugs EEG and ECG The Periodic Table Electronic Structure Forming Ions & Ionic Bonding Covalent Bonding Electronegativity Metallic Bonding Intermolecular Forces Mass, Mr and Moles Reacting Masses and Percentage Yields Calculating Concentration		Key Terminology Planning a Scientific Investigation Performing a Scientific Investigation Processing Data Drawing Conclusions Evaluation	

Resilience

Responsibility

Reflectiveness



		<p>Empirical Formula Periodicity & trends in the periodic table</p> <p>Properties of Waves Wave Calculations Phase Difference Diffraction & Superposition Emission Spectra Stationary Waves and Harmonics Musical Instruments Refraction and TIR Fibre Optics Digital vs Analogue EM Waves</p>	
Assessment	<p>Unit 2 Coursework (25%) Written report to explore quantitative laboratory techniques, calibration, chromatography, calorimetry and laboratory safety. Internally Assessed Externally Moderated</p>	<p>Regular low stakes testing Past Paper practice Mid and End of Topic Assessment (MCQ/short answer/long answer)</p> <p>Unit 1 External Assessment (25%) Written exam Externally Set and Assessed</p>	<p>Unit 3 Exam (33%) Practical assessment externally set at the end of year 13. Marked to assess a learners' ability to plan, record, process, analyse and evaluate scientific findings using primary and secondary information / data.</p> <p>Regular low stakes testing Part A-C End of Topic Assessment (MCQ/short answer/long answer) Past Paper practice</p>