Curriculum Map – Applied Science – Year 12

Immanuel College
Church of England Academy

	Term 1		Term 2		Term 3	
Key focus	Unit 1: Periodicity and properties of elements Unit 1: Structure and functions of cells and tissues	Unit 2: Aim A: Concentrate on keeping up your standards	Unit 2: Aim B: Keeping up the standards Unit 2: Aim C: Separate to identify	Unit 2: Aim D: How am I doing? Unit 1: Structure and functions of cells and tissues	Unit 1: Periodicity and properties of elements Unit 1: Waves in communication	Unit 10: Aim A: Biological Molecule and Biochemical Processes
Purpose of the scheme	A strong grasp of these concepts will enable you to use and apply this knowledge and understanding.	Undertake titration and colorimetry to determine the concentration of solutions.	Undertake calorimetry to study cooling curves. Undertake chromatographic techniques to identify components in mixtures	Review personal development of scientific skills for laboratory work.	A strong grasp of these concepts will enable you to use and apply this knowledge and understanding.	A strong grasp of these concepts will enable you to use and apply this knowledge and understanding.
Pre read (suggested)	The Periodic Table: A Field Guide to the Elements	Tristimulus wireless colorimeter and its medical applications: Colorimetry	Chromatography: Principles and Instrumentation (Chemical Analysis: A Series of Monographs on Analytical Chem)	Molecular and Cell Biology For Dummies, 2nd Edition	The History of Communication: From Smoke Signals to Smartphones	Biochemistry For Dummies
Key knowledge and skills	Structure and bonding in applications in science. Cell structure and function.	Undertake titration and colorimetry to determine the concentration of solutions.	Undertake calorimetry to study cooling curves. Undertake chromatographic techniques to identify components in mixtures	Analyse skills developed. Evaluate scientific skills developed for potential future progression. Cell specialisation, tissue structure and function.	Production and uses of substances in relation to properties. Working with waves. Waves in communication.	Understand the structure and function of biological molecules and their importance in maintaining biochemical processes.
Key words/ vocabulary	Electrons Bonding Ionic Covalent Cells Organelles Prokaryotic Eukaryotic	Concentration Standard solution Titration Titre Indicator Moles Colorimetry Evaluation	Cooling curves Energy Heat Calorimeter Chromatography Pigment Dissolving Retention factor	Skills Competencies Evaluate Improvements Specialisation Adaptation Tissue Function	Periodicity Properties Reactions Waves Longitudinal Transverse Electromagnetic Communications	Biological molecules Living organisms Structure Function Water Carbohydrates Proteins Lipids
Exam board	Pearson level 3 BTEC					
End point	Exam in half term 5	Assignment coursework	Assignment coursework	Assignment coursework Exam in half term 5	Exam in half term 5	Exam in half term 5
Assessment method	Initial assessment	Assignment coursework	Assignment coursework	PRPs	Exam	Assignment coursework

“Perseverance produces **character,** and character, **hope**” (Romans 5:4)

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Wider reading / links / research	P.E.R. – Ethics (Stem Cells) Maths – Standard form	Maths – significant figures, means, inequalities, rearranging equations	Maths – significant figures, means, inequalities, rearranging equations	P.E/BTEC Sport – Respiratory System/Exercise	Music – Longitudinal sound waves, frequency (pitch), modelling transverse waves using string, the link between frequency of vibrations and pitch.	P.E/BTEC Sport – Respiratory System/Exercise Food Technology – Nutrition
Careers links	Paramedic Nurse	Research chemist Chemical engineer	Biomedical Scientists Forensic Scientist	Physiotherapist Midwife	Telecommunications engineer	Dental Nurse Veterinary Nurse

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