KS3 and DOUBLE Science Route (at KS4 Paper 1 is taught over Year 9 and Year 10; Paper 2 over Year 10 and Year 11):

	KS3 Part 1		KS3 Part 2	
Forces	1.1 Speed	1.2 Gravity	1.3 Contact forces	1.4 Pressure
Electro-magnets	2.1 Potential difference and resistance	2.2 Current	2.3 Magnetism	2.4 Electro-magnets
Energy	3.1 Energy costs	3.2 Energy transfer	3.3 Work	3.4 Heating and cooling
Waves	4.1 Sound	4.2 Light	4.3 Wave effects	4.4 Wave properties
Matter	5.1 Particle model	5.2 Separating mixtures	5.3 Elements	5.4 Periodic Table
Reactions	6.1 Acids and alkalis	6.2 Metals and non-metals	6.3 Types of reaction	6.4 Chemical energy
Earth	7.1 Earth Structure	7.2 Universe	7.3 Climate	7.4 Earth resources
Organisms	8.1 Movement	8.2 Cells	8.3 Breathing	8.4 Digestion
Ecosystem	9.1 Inter-dependence	9.2 Plant reproduction	9.3 Respiration	9.4 Photo-synthesis
Genes	10.1 Variation	10.2 Human reproduction	10.3 Evolution	10.4 Inheritance

Paper 1	
1 Cells and organisation	2 Disease and bioenergetics
B1 Cell structure and transport	B5 Communicable diseases
B2 Cell division	B6 Preventing and treating disease
B3 Organisation and the digestive system	B7 Non-communicable diseases
B4 Organising animals and plants	B8 Photosynthesis
	B9 Respiration

Paper 2		
3 Biological responses	4 Genetics and reproduction	B5 Ecology
B10 The human nervous system	B12 Reproduction	B15 Adaptations, interdependence, and competition
B11 Hormonal coordination	B13 Variation and evolution	B16 Organising and ecosystem
	B14 Genetics and evolution	B17 Biodiversity and ecosystems

Paper 1	
1 Atoms, bonding, and moles	2 Chemical reactions and energy changes
C1 Atomic structure	C5 Chemical changes
C2 The periodic table	C6 Electrolysis
C3 Structure and bonding	C7 Energy changes
C4 Chemical calculations	

Paper 2	
3 Rates, equilibrium and organic chemistry	4 Analysis and the Earth's resources
C8 Rates and equilibrium	C10 Chemical analysis
	C11 The Earth's atmosphere
C9 Crude oil and fuels	C12 The Earth's resources

Paper 1	
1 Energy and energy resources	2 Particles at work
P1 Conservation and dissipation of energy	P4 Electric circuits
	P5 Electricity in the home
P2 Energy transfer by heating	P6 Molecules and matter
P3 Energy resources	P7 Radioactivity

Paper 2	
3 Forces in action	4 Waves, electromagnetism, and space
P8 Forces in balance	P11 Wave properties
	P12 Electromagnetic waves
P9 Motion	
P10 Force and motion	P13 Electromagnetism

KS3 and TRIPLE Science Route (at KS4 Paper 1 is taught over Year 9 and Year 10; Paper 2 over Year 10 and Year 11):

	KS3 Part 1		KS3 Part 2	
Forces	1.1 Speed	1.2 Gravity	1.3 Contact forces	1.4 Pressure
Electro-magnets	2.1 Potential difference and resistance	2.2 Current	2.3 Magnetism	2.4 Electro-magnets
Energy	3.1 Energy costs	3.2 Energy transfer	3.3 Work	3.4 Heating and cooling
Waves	4.1 Sound	4.2 Light	4.3 Wave effects	4.4 Wave properties
Matter	5.1 Particle model	5.2 Separating mixtures	5.3 Elements	5.4 Periodic Table
Reactions	6.1 Acids and alkalis	6.2 Metals and non-metals	6.3 Types of reaction	6.4 Chemical energy
Earth	7.1 Earth Structure	7.2 Universe	7.3 Climate	7.4 Earth resources
Organisms	8.1 Movement	8.2 Cells	8.3 Breathing	8.4 Digestion
Ecosystem	9.1 Inter-dependence	9.2 Plant reproduction	9.3 Respiration	9.4 Photo-synthesis
Genes	10.1 Variation	10.2 Human reproduction	10.3 Evolution	10.4 Inheritance

Paper 1	
1 Cells and organisation	2 Disease and bioenergetics
B1 Cell structure and transport	B5 Communicable diseases
B2 Cell division	B6 Preventing and treating disease
B3 Organisation and the digestive system	B7 Non-communicable diseases
B4 Organising animals and plants	B8 Photosynthesis
	B9 Respiration

Paper 2		
3 Biological responses	4 Genetics and reproduction	B5 Ecology
B10 The human nervous system	B13 Reproduction	B16 Adaptations, interdependence, and competition
B11 Hormonal coordination	B14 Variation and evolution	B17 Organising and ecosystem
B12 Homeostasis in action	B15 Genetics and evolution	B18 Biodiversity and ecosystems

Paper 1	
1 Atoms, bonding, and moles	2 Chemical reactions and energy changes
C1 Atomic structure	C5 Chemical changes
C2 The periodic table	C6 Electrolysis
C3 Structure and bonding	C7 Energy changes
C4 Chemical calculations	

Paper 2	
3 Rates, equilibrium and organic chemistry	4 Analysis and the Earth's resources
C8 Rates and equilibrium	C12 Chemical analysis
C9 Crude oil and fuels	C13 The Earth's atmosphere
C10 Organic reaction	C14 The Earth's resources
C11 Polymers	C15 Using our resources

Paper 1	
1 Energy and energy resources	2 Particles at work
P1 Conservation and dissipation of energy	P4 Electric circuits
	P5 Electricity in the home
P2 Energy transfer by heating	P6 Molecules and matter
P3 Energy resources	P7 Radioactivity

Paper 2	
3 Forces in action	4 Waves, electromagnetism, and space
P8 Forces in balance	P12 Wave properties
P9 Motion	P13 Electromagnetic waves
P10 Force and motion	P14 Light
	P15 Electromagnetism
P11 Force and pressure	P16 Space

A Level Biology:

Year 12 (AS)	Year 13 (A2)
Biological Molecules	Response to Stimuli
Nucleic Acids	Nervous Coordination and Muscles
Cell Structure	Homeostasis
Transport Across Cell Membranes	Inherited Change
Cell Recognition and the Immune System	Populations and Evolution
Exchange	Populations in Ecosystems
DNA, Genes and Protein Synthesis	Gene expression
Genetic Diversity and Adaptation	Recombinant DNA Technology
	Photosynthesis
Biodiversity	Review, reflection, essay and examination preparation
Energy and Ecosystems	
Respiration	
Statistics	

A Level Chemistry:

A-Level Chemistry		
	Year 12	**Year 13**
Term 1	Atomic structure	Aldehydes and ketones
	Amount of substance	Carboxylic acids and derivatives
	Bonding	Aromatic chemistry
	Periodicity	Nuclear magnetic resonance spectroscopy
	Oxidation, reduction and redox reactions	Acids, bases and buffers
	Group 2, the Alkaline Earth metals	Equilibrium constant Kp for homogenous systems
	Group 7, the Halogens	Properties of Period 3 elements and their oxides
Term 2	Introduction to organic chemistry	Amines
	Alkanes	Polymers
		Amino acids, proteins and DNA
	Halogenoalkanes	Organic synthesis
		Chromatography
	Energetics	Transition elements
		Reactions of ions in aqueous solution
	Kinetics	Thermodynamics
		Electrode potentials and electrochemical cells
Term 3	Alkenes	**Review, reflection and examination preparation**
	Alcohols	
	Organic analysis	
	Optical isomerism	
	Chemical equilibria, Le Chatelier's principle and Kc	
	Rate equations	

A Level Physics:

Year 12 (AS)			Year 13 (A2)	
Section 1 – Particles and radiation	1. Matter and radiation 2. Quarks and leptons 3. Quantum phenomena		Section 6 – Further mechanics and thermal physics	17. Motion in a circle 18. Simple harmonic motion 19. Thermal Physics 20. Gases
Section 2 – Waves and optics	4. Waves 5. Optics		Section 7 – Fields	21. Gravitational fields 22. Electric fields 23. Capacitors 24. Magnetic fields 25. Electromagnetic induction
Section 3 – Mechanics and materials	6. Forces in equilibrium 7. On the move 8. Newton's laws of motion 9. Force and momentum 10. Work, energy and power 11. Materials		Section 8 – Nuclear physics	26. Radioactivity 27. Nuclear energy
Section 4 – Electricity	12. Electric current 13. DC Circuits		Section 9 – Option – please note not all options are offered every year.	One from: Astrophysics Medical physics Engineering Physics Turning points in physics Electronics
Section 5 – Skills in AS Physics	There are 6 required practicals associated with this part of the course.		Section 10 – Skills in A Level Physics	There are 6 further required practicals associated with this part of the course.