

Year 12&13 Biology classes are taught by 2 Biology specialist teachers. Topics are divided to provide a logical order of delivery and to support each other. Core Practicals are delivered within the relevant topics to enhance knowledge, understanding and investigative skills and also provide evidence for the Practical Endorsement qualification. Mathematical skills are also developed within topics. Prior and future links to learning shown in red superscript. .

Year 12		Autumn		Spring		Summer	
		Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
	Knowledge	B¹1 Biological Molecules⁴ <ul style="list-style-type: none"> Chemistry for life Carbohydrates Lipids Proteins B¹2 Cells & Viruses⁶ <ul style="list-style-type: none"> Eukaryotic cells Prokaryotic cells 	B³1 Biological Molecules^{7,8} <ul style="list-style-type: none"> DNA structure Protein synthesis Mutation B²2 Cells & Viruses⁸ <ul style="list-style-type: none"> Mitosis 	B¹1 Biological Molecules <ul style="list-style-type: none"> Enzymes B³2 Cells & Viruses⁸ <ul style="list-style-type: none"> Meiosis Sexual reproduction 	B⁴3 Classification^{6,8} <ul style="list-style-type: none"> Classification Natural selection B⁸4 Exchange & Transport <ul style="list-style-type: none"> Circulation 	B⁹3 Classification <ul style="list-style-type: none"> Biodiversity B⁸4 Exchange & Transport <ul style="list-style-type: none"> Cell transport mechanisms Gas exchange 	B⁶4 Exchange & Transport <ul style="list-style-type: none"> Gas exchange Transport in plants TT ROLLOVER Ecology intro & Field Trip (includes statistical analysis)
	Skills	CP2: 1a, 2d, 4a	CP3: 2a, 3b, 4a	CP1: 2b, 2d, 4b CP4: 2d, 4b, 5b		CP6: 2a, 2c, 5a CP7: 1a, 3a, 4a	CP8: 2c, 2d, 5b CP15: 2b, 2d, 5a CP16: 2c, 3a, 5b
	Maths skills	Topic 1 Use of units in calculations. Use ratios. Topic 2 Calculations using standard form Use scales of measure Order of magnitude calculations Manipulate equations Calculate circumference, surface area and volumes.	Topic 1 Use of units in calculations. Use ratios. Topic 2 Calculations using standard form Use scales of measure Order of magnitude calculations Manipulate equations Calculate arithmetic mean.	Topic 1 Use percentages. Use appropriate number of significant figures. Find arithmetic means. Plot data on an appropriate graph. Solve algebraic equations Plot 2 variables Understand that $y=mx+c$ Calculate rate of change from a graph Draw and use a tangent Topic 2 As term 2	Topic 3 Use scales for measuring. Interpret data from a variety of tables & graphs. Topic 4 Units Means Interpret data from graphs Solve algebraic equations Ratios Area & volume	Topic 3 Understand the principles of sampling. Use an algebraic equation. Topic 4 Use appropriate units in calculations. Ratios Means, range, median, mode Estimate results Calculate surface area and volume	Topic 4 Use appropriate units in calculations Use expressions in standard & decimal form Use and solve algebraic equations. Means Represent data in tables Plotting experimental data Determine intercept & rate of change from a graph.
	Assessment	Topic tests	Topic tests	Topic tests	Topic tests	Topic tests Trial exams	Topic tests

Skills codes. 1a: Correctly follow instructions. 2a: Correctly uses equipment. 2b: Carries out techniques methodically. 2c: Plan to control significant variables. 2d: Plans the use of equipment and measurement strategies to ensure accurate data. 3a: Risk assess. 3b: Work safely. 4a: Makes accurate observations. 4b: Obtains quality data and records correctly. 5a: Use software & tools. 5b: Use research to plan and conclude and reference correctly.

Year 12&13 Biology classes are taught by 2 Biology specialist teachers. Topics are divided to provide a logical order of delivery and to support each other. Core Practicals are delivered within the relevant topics to enhance knowledge, understanding and investigative skills and also provide evidence for the Practical Endorsement qualification. Mathematical skills are also developed within topics. Prior and future links to learning shown in red superscript. .

Year 13		Autumn		Spring		Summer	
		Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
	Knowledge	^{B5} 6 Microbiology & Pathogens <ul style="list-style-type: none"> Bacteria & disease Non-bacterial pathogens Immune system ^{B2,7} 9 Control Systems <ul style="list-style-type: none"> Chemical control Nervous system 	^{B5} 6 Microbiology & Pathogens <ul style="list-style-type: none"> Immune system 7 Modern Genetics <ul style="list-style-type: none"> Using gene sequencing ^{B7} 9 Control Systems <ul style="list-style-type: none"> Homeostasis 	^{B4} 7 Modern Genetics <ul style="list-style-type: none"> Gene expression Gene technology ^{B6,8} 5 Energy for Bio Processes <ul style="list-style-type: none"> Respiration Photosynthesis 	^{B3} 8 Origins of variation <ul style="list-style-type: none"> Genetic info Gene pools ^{B9} 10 Ecosystems <ul style="list-style-type: none"> Efficiency of ecosystems Human effects on ecosystems 	Revision	
	Skills	CP12: 3a, 3b, 5a CP13: 1a, 3a, 3b, 5b	CP14: 2a, 4a, 4b	CP9: 2a, 3b, 5a CP10: 2b, 2c, 4a, 4b CP11: 1a, 2a, 4b			
	Maths skills	Topic 6 Estimate results Ratios, fractions & percentages Exponential & logarithmic functions Translate info between graphical, numerical and algebraic forms. Plot 2 variables Determine intercept, tangent and rate of change Topic 9 Construct and interpret a variety of graphs Translate info between graphical, numerical and algebraic forms.	Topic 7 Translate info between graphical, numerical and algebraic forms. Topic 9 Construct and interpret a variety of graphs Translate info between graphical, numerical and algebraic forms. Use decimal and standard form.	Topic 7 Translate info between graphical, numerical and algebraic forms. Topic 5 Appropriate units Fractions, ratios & percentages Estimating results Construct and interpret a variety of graphs Translate info between graphical, numerical and algebraic forms Significant figures Plot 2 variables Determine intercept, tangent and rate of change	Topic 8 Ratios, fractions & percentages Estimate results Probability Mean, median & mode. Statistical test Algebraic equations Topic 10 Construct and interpret a variety of graphs Translate info between graphical, numerical and algebraic forms. Determine the intercept of a graph Understand sampling Statistical tests Also same as topic 8 above		
	Assessment	Topic tests	Mock exams	Topic tests	Topic tests	Paper 3 ESQs	

Skills codes. 1a: Correctly follow instructions. 2a: Correctly uses equipment. 2b: Carries out techniques methodically. 2c: Plan to control significant variables. 2d: Plans the use of equipment and measurement strategies to ensure accurate data. 3a: Risk assess. 3b: Work safely. 4a: Makes accurate observations. 4b: Obtains quality data and records correctly. 5a: Use software & tools. 5b: Use research to plan and conclude and reference correctly.