

Wah Yan College Kowloon
S6 Biology Scheme of Work (2017-2018)

Textbook	1. New Senior Secondary - Mastering Biology Book 3 (Second Edition) 2. New Senior Secondary - Mastering Biology Book 4 (Second Edition)
Other Resources	HKCEE, HKALE, HKDSE Past Papers

SL: Scheduled number of lessons

AL: Actual number of lessons

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/ AL	Teaching and Learning Activities	Consolidation and Assessment	Values [#]
Chapter 26 Basic genetics							
	1	DNA carrier of genetic information	To compare the composition of DNA and that of RNA To describe the Watson-Crick model of DNA To know the structural relationship between a chromosome, DNA and a gene To know how genes determine an organism's body characteristics To know why DNA is suited to its function as a genetic material	2/2			20
	1	Mendel's Laws of inheritance	To know what monohybrid inheritance is To be able to state the Law of Segregation To know the ways to determine the genotype of an organism with a dominant character To know what dihybrid inheritance is To be able to state the Law of Independent Assortment	2/2			9 11
	2	Inheritance in humans	To know how blood groups and sex are	1/1			10

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			determined in humans To know what sex-linked genes are				
	2	Variations in organisms	To contrast continuous and discontinuous variations To know why variations occur To know how genetic variations are brought about	1/1			20
Chapter 27 Molecular genetics							
	3	From DNA to proteins	To be able to state the features of the genetic code To identify the two main stages of protein synthesis To identify the characteristics of transcription and translation	2/2			11
	3	Mutations	To distinguish between gene mutations and chromosome mutations	2/2			12
Chapter 28 Biotechnology							
	4	Recombinant DNA technology	To know the major steps and applications of recombinant DNA technology	2/2			11
	4	DNA fingerprinting	To know the major steps, basic principle and applications of DNA fingerprinting	2/2			13
	5	Human Genome Project	To know the goals, benefits and limitations of the Human Genome Project To appreciate the joint efforts of scientists in	2/2			20

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			international genomics projects				
Chapter 29 Evolution I							
	6	The origin of life	To know how life originated	1/1			20
	6	Evolution	To know how the diversified life forms on earth today were formed To understand how fossils provide evidence for evolution To know the limitations of using fossil records as evidence for evolution To know other evidence that supports the theory of evolution	3/3			21
Chapter 30 Evolution II							
	7	Mechanism of evolution	To know how evolution takes place To state the differences between Lamarck's theory and Darwin's theory To know some examples of natural selection in action To understand how insecticide-resistant insect pests and antibiotic-resistant bacteria develop	3/3			11
	7	Speciation	To know what speciation is To know how speciation occurs	1/1			10
	8	School based assessment(s) Lab 03					
	9	First Term Assessment					
Chapter 23 Infectious Diseases							

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	10	The meaning of health	To recognize the meaning of health	1/1	Video, PowerPoint; Animations; Mind map & flow-chart; STSE readings; Expertise group	Classwork; Quiz; Test; Past paper practice	21		
	10	Types of diseases	To recognize the meaning of a disease To identify the major difference between infectious and non-infectious diseases	1/1			5		
	10	Causes of infectious diseases	To know what pathogens are and how they cause diseases	2/2			10		
	11	Transmission of infectious diseases and preventive measures	To know how infectious diseases are transmitted and the preventive measures to reduce the spread of these diseases	2/2			13		
	11	Treatment of infectious diseases	To know how antibiotics kill or inhibit bacterial growth To know the consequences of indiscriminate use of antibiotics To know how to slow down the development of antibiotic resistance in bacteria To know what sulpha drugs are and their functions	2/2			18		
Chapter 24 Non-infectious diseases and disease prevention									
	12	Non-specific defence mechanisms	To know some examples of non-infectious diseases, their treatment, risk factors and ways of prevention	2/2					10
	12	Prevention of	To know what immunization is	2/2			13		

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		diseases	To know how immunization programmes contribute to disease prevention To know how healthy lifestyles contribute to disease prevention To know how to promote community health		Expertise group		
	13	School based assessment(s) Lab 04					
		Chapter 25 Body defence mechanisms					
	13	Non-specific defence mechanisms	To know the characteristics of non-specific defence mechanisms To know the first line of defence and be able to give examples of physical and chemical barriers To know how blood clotting provides body defence To know how phagocytosis provides body defence To know what happens in an inflammatory response	2/2			
	14	Specific defence mechanisms	To recognize the actions of B cells and T cells in immune response To know how antibodies act against pathogens or their toxins To be able to distinguish between primary and secondary responses	4/4			

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			To understand the principle of vaccination To distinguish between active and passive immunity				
	14	Revision & Drilling of Examination Skills			Past paper discussion		7, 8
	15	Revision & Drilling of Examination Skills			Past paper discussion		7, 8
	16	Revision & Drilling of Examination Skills			Past paper discussion		7, 8
Mid-year Examination							
	18	Mock Exam					7, 8, 9
	19	Mock Exam					7, 8, 9
	20	Mock Exam					7, 8, 9
	21	Mock Exam					7, 8, 9
	22	Mock Exam Discussion		4/4			7, 8
	23	Revision & Drilling of Examination Skills		4/4	Past paper discussion		7, 8
	24	Revision & Drilling of Examination Skills		2/2	Past paper discussion		7, 8
	26	Revision & Drilling of Examination Skills		2/2	Past paper discussion		7, 8

* The extended parts should be marked with asterisks. These parts should be more challenging and can be covered when the students can master the knowledge and skills covered in the conventional topics.

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Core Values of Wah Yan College, Kowloon

I. Love and care	1. Accept & feel positive about himself 2. Appreciation & Gratitude 3. Empathy & Compassion	4. Forgiveness & Reconciliation 5. Service 6. Family as a basic unit of society; marriage is the foundation of a family
II. Strive for excellence	7. Reflective 8. Commitment 9. Perseverance	10. Curiosity & willingness to learn 11. Value imagination and creativity
III. Respect and Justice	12. Life is valuable and respectable 13. Openness to good in all things 14. Respect for himself & others	15. Integrity 16. Faithfulness
IV. Responsibility	17. Freedom & Self-discipline 18. Care for the environment	19. Social Identities: citizen identity, national identity and global citizen identity
V. Faith	20. Experience of God 21. Explore & practise one's faith	22. Appreciate religious liturgies