Enseignement secondaire		
Classes internationales		
	Régime anglophone	
Biologie HL		
Programme		
2IB et 1IB		

Leçons hebdomadaires : 5
Langue véhiculaire : anglais
Nombre minimal de devoirs par semestre : 3

Course contents :

	Topic	Number of lessons
1	**Cell biology**	**15**
	1.1 Introduction to cells 1.2 Ultrastructure of cells 1.3 Membrane structure 1.4 Membrane transport 1.5 The origin of cells 1.6 Cell division	
2	**Molecular biology**	**21**
	2.1 Molecules to metabolism 2.2 Water 2.3 Carbohydrates and lipids 2.4 Proteins 2.5 Enzymes 2.6 Structure of DNA and RNA 2.7 DNA replication, transcription and translation 2.8 Cell respiration 2.9 Photosynthesis	
3	**Genetics**	**15**
	3.1 Genes 3.2 Chromosomes 3.3 Meiosis 3.4 Inheritance 3.5 Genetic modification and biotechnology	

4	**Ecology**	**12**
	4.1 Species, communities and ecosystems 4.2 Energy flow 4.3 Carbon recycling 4.4 Climate change	
5	**Evolution and biodiversity**	**12**
	5.1 Evidence for evolution 5.2 Natural selection 5.3 Classification of biodiversity 5.4 Cladistics	
6	**Human physiology**	**20**
	6.1 Digestion and absorption 6.2 The blood system 6.3 Defence against infectious disease 6.4 Gas exchange 6.5 Neurons and systems 6.6 Hormones, homeostasis and reproduction	
7	**Nucleic acids**	**9**
	7.1 DNA structure and replication 7.2 Transcription and gene expression 7.3 Translation	
8	**Metabolism, cell respiration and photosynthesis**	**14**
	8.1 Metabolism 8.2 Cell respiration 8.3 Photosynthesis	
9	**Plant biology**	**13**
	9.1 Transport in the xylem of plants 9.2 Transport in the phloem of plants 9.3 Growth in plants 9.4 Reproduction in plants	
10	**Genetics and evolution**	**8**
	10.1 Meiosis 10.2 Inheritance 10.3 Gene pools and speciation	
11	**Animal physiology**	**16**
	11.1 Antibody production and vaccination 11.2 Movement 11.3 The kidney and osmoregulation 11.4 Sexual reproduction	
	OPTION – ONE out of the following	**25**
A	***Neurobiology and behaviour***	
	A.1 Neural development A.2 The human brain A.3 Perception of stimuli A.4 Innate and learned behaviour (HL) A.5 Neuropharmacology (HL) A.6 Ethology (HL)	

B	***Biotechnology and bioinformatics***	
	B.1 Microbiology; organisms in industry B.2 Biotechnology in agriculture B.3 Environmental protection B.4 Medicine (HL) B.5 Bioinformatics (HL)	
C	***Ecology and conservation***	
	C.1 Species and Communities C.2 Communities and ecosystems C.3 Impacts of humans on ecosystems C.4 Conservation of biodiversity C.5 Population ecology (HL) C.6 Nitrogen and phosphorus cycles (HL)	
D	***Human physiology***	
	D.1 Human nutrition D.2 Digestion D.3 Functions of the liver D.4 The heart D.5 Hormones and metabolism (HL) D.6 Transport of respiratory gases (HL)	

Practical scheme of work :

Activity	hours
Practical activities	**40**
Individual investigation (internal assessment)	**10**
Group 4 project	**10**

Total recommended teaching hours : 240 hours