



<b>Enseignement secondaire</b>		
<b>Classes internationales</b>		
	<b>Régime anglophone</b>	
<b>Biologie</b>		
<b>Programme</b>		
<b>3IEC</b>		
Leçons hebdomadaires: 2		
Langue véhiculaire: anglais		
Nombre minimal de devoirs par trimestre: 1		

## **I. Organisation and maintenance of organisms**

### **I.1 Organisms are made of cells**

- Review the following cell structures and their corresponding functions: nucleus, cell membrane, mitochondrion, ribosome. (simplified overview, max 4 lessons)
- Movement into and out of cells (diffusion, osmosis, active transport, phagocytosis)

### **I.2 Excretion and homeostasis**

- Homeostasis: maintaining a steady state
- The endocrine system
- Control of glucose levels and body temperature
- Excretion: removal of the waste products of metabolism
- Dialysis and the treatment of kidney failure

### **I.3 Perception and interpretation, flow of information**

- Coordination: the nervous system
- Neurons can work together in reflex arcs
- The brain is the processor for the central nervous system
- Integration by the central nervous system
- Receptors and senses: the eye as a sense organ
- comparison between the two communication systems: nervous system and endocrine system.



## **II. Development of organisms and the continuity of life** **– Genetics**

- Variation and inheritance
- Structure of DNA
- DNA replication
- Protein synthesis
- Cell division
- Patterns of inheritance (including inherited medical conditions and codominance)
- Sex is determined by X and Y chromosomes
- Genetic engineering: gene transfer in plants and animals

## **III. Ecology: organisms and their environment**

One day visit to cover the key aspects of ecology

- *Levels of organization in an ecosystem*
- *Types of nutrition and feeding relationships*
- *Flow of energy: food chains and food webs*
- *Factors affecting population size*
- *Pollution*