



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

## **Aims :**

- To lay the foundation for sciences studies
- To develop scientific interests and curiosity
- To prepare chemistry teaching for the IB diploma
- To prepare students in developing the usefulness of chemical ideas for their future development
- To develop some difficulties to consider for solving environmental problems

## **Skills and objectives**

- To develop the ability of observation
- To promote precise formulation
- To develop manual skills in experimentation



## Syllabus for the chemistry course

### 1. The mole concept

- Introduction of the mole
- Relations between quantity(mole), mass, particles, gases and concentration
- Calculations involving equations and the mole

### 2. Redox reactions

- Different type of redox reactions
- Definition of oxidation, reduction, oxidising and reducing agent
- Electron transfer in oxidoreduction reactions -The oxidation state

### 3. Acids and Bases

- Acids and alkalis
- Reactions of acids and bases -pH-scale
- Titrations of acids/bases

### 4. Introduction to organic chemistry

- History of organic chemistry
- Alkanes, alkenes and alcohols
- Fermentation to produce alcohol
- Introduction to other useful organic substances (polymers, carboxylic acids, esters, amino acids...)

### 5. Rates of reactions

- Definition
- Influence of concentration, temperature and catalysts

### 6. Energy change during chemical reactions

- Introduction to exothermic and endothermic reactions
- Energy in fuels

The students should get used to do practical work and do written reports on computer. About 1/4 of the time is used for practical work. The practical work includes experiments as titrations, introduction of the use of informatical data, precipitation reactions, use of indicators, mole concept.