# Sai Kung Sung Tsun Catholic School (Secondary Section)
## F.6 Chemistry TEACHING SYLLABUS

| Topic | Experiment/ Activity |
|---|---|
| 1. Rate of Reaction<br>1.1 The rate of a reaction<br>1.2 Methods for following the progress of a reaction<br>1.3 Factors affecting the rate of a reaction<br>1.4 Studying different factors affect the rate<br>1.5 Reaction rate and effective collisions<br>1.6 Applications of catalysts<br>1.7 Enzymes | 1. Investigating the effect of varying the concentration of vinegar solution on the rate of its reaction with baking soda.<br>2. Investigating the effect of varying the surface area of marble chips on the rate of their reaction with dilute hydrochloric acid<br>3. Investigating the effect of varying the temperature on the rate of acid hydrolysis of ethyl ethanoate. |
| 2. Gas volume calculations<br>2.1 The relationship between gas volume and moles<br>2.2 Molar volume of a gas<br>2.3 Calculations from chemical equations<br>2.4 Gas volume calculations from chemical equations | 1. Determining the molar volume of carbon dioxide |
| 3. Chemical Equilibrium<br>3.1 Irreversible and reversible reactions<br>3.2 The equilibrium constant<br>3.3 The equilibrium law<br>3.4 Equilibrium systems involving components in more than one state<br>3.5 Position of equilibrium<br>3.6 Effect of changing conditions on systems in equilibrium | 1. Investigating the effects of concentration changes on two chemical equilibrium systems<br>2. Determining the equilibrium constant for an esterification reaction<br>3. Investigating the equilibrium system of a reaction to study the shift of equilibrium positions upon temperature changes |
| 4. Patterns in the Chemical World<br>4.1 Periodic trends in elements and their compounds<br>4.2 The transition metals | 1. Illustrating the oxidation state of vanadium |
| 5. Industrial Chemistry<br>5.1 What is chemical industry<br>5.2 The effect of change in concentration on the rate of a reaction<br>5.3 Order of reaction<br>5.4Experimental determination of the rate equaiton | 1. Determining the rate equation for the reaction between acidified propanone solution and iodine by colorimetry<br>2. Determining the activation energy for a reaction |
| 6. Analytical Chemistry<br>6.1 Qualitative analysis<br>6.2 Tests for functional groups, separation and purification of compounds<br>6.3 Quantitative methods of analysis<br>6.4 Instrumental analytical methods<br>6.5 Contribution of analytical chemistry to our society | 1. Identifying four unlabeled white solid samples<br>2.Identifying the functional groups in two unknown compounds<br>3. Determining the calcium content in a sample solution |
| Revision | |
| Mock examination | |

F.6 CHEMISTRY ASSESSMENT SYSTEM：

Term Result (100%) = Mock exam (50%) + Course work(50%)
Course work (100%) = Term Tests/Quizzes(50%) + homework(40%) + learning attitude (10%)
Annual Result (100%) = Term Result (100%)