

St. Rose of Lima's College
Science Department

New Senior Secondary Curriculum
Chemistry

1. Introduction

The Chemistry Curriculum is one of the constituents of the senior secondary curriculum. It is developed upon the knowledge, skills, values and attitudes and learning experiences acquired by students in the Science Curriculum (S1-3). With this connection, this new curriculum



continues to provide chemistry-related learning experiences for students to develop scientific literacy in order to actively participate in the fast changing knowledge-based society, prepare for further studies or careers and become lifelong learners in science and technology.

The curriculum consists of compulsory and elective parts. The compulsory part covers a range of content that enables students to develop an understanding of fundamental chemistry principles and concepts, and scientific process skills. Topics such as “atomic structure”, “bonding, structures and properties”, “metals and non-metals”, “periodicity”, “mole and stoichiometry”, “acids, bases”, “electrochemistry”, “chemistry of carbon compounds”, “chemical energetics”, “chemical kinetics” and “chemical equilibrium” are included.

The elective part aims to provide an in-depth treatment of some of the compulsory topics, or an extension of certain areas of study. The elective part consists of three topics. The topics selected in this part are “Industrial Chemistry” and “Analytical Chemistry”.

2. Proposed Schedule of Topics

Year	Topics
Form 4 (SS4)	<u>First Term:</u> Section I: Planet earth (Ch 1 – 4) Section II: Microscopic world I (Ch 5 – 9) Section III: Metals (Ch 10 – 13)
	<u>Second Term:</u> Section IV: Acids and bases (Ch14 – 19) Section VII: Redox reaction, chemical cells and electrolysis (Ch 29 – 34)
Form5 (SS5)	<u>First Term:</u> Section V: Fossil fuels and carbon compounds (Ch 20 – 24) Section VI: Microscopic world II (Ch 25 – 28) Section VIII: Chemical reactions and energy (Ch35 – 37)
	<u>Second Term:</u> Section XI: Chemistry of carbon compound (Ch 44 – 48) Section IX: Rate of reaction (Ch38 – 40) Section X: Chemical equilibrium (Ch 41 – 43) Section XII: Patterns in the chemical world (Ch 49 – 51)
Form 6 (SS6)	<i>Elective:</i> Section XIII: Industrial chemistry (Ch 52 – 57) Section XV: Analytical chemistry (Ch 63 – 67)

5. School-based assessment (SBA) schedule

In the context of public assessment, SBA refers to assessments administered in schools. The SBA of Chemistry comprises two components: assessment of (1) practical related tasks which refer to students' laboratory work and Investigative Study in Chemistry, and (2) non-practical related tasks.

(1) Practical related tasks

Students are required to perform a stipulated number of pieces of practical work, which may include designing experiments, and reporting and interpreting the results. The work should be integrated closely with the curriculum content and form a part of the normal learning and teaching process. Students are also required to design and conduct a group-based experimental investigative study with a view to solving an authentic problem. They are expected to mark use of their knowledge and understanding of Chemistry in performing such investigative studies. Through these tasks, generic skills, practical skills, laboratory safety assessment skills, process skills and reporting skills will be developed and assessed.

(2) Non-practical related tasks

The inclusion of non-practical related tasks is to broaden the scope of assessment in SBA and to enhance the integration of the curriculum, teaching and assessment. The tasks adopted should cover one or more of the curriculum content areas and one or more of the generic skills such as creativity, critical thinking skills, communication skills and problem-solving skills. Examples of such tasks include: critical reading, analysis and reporting on the contribution of chemistry to the understanding of the material world; writing a report after a visit to an industrial plant; designing poster on green chemistry and developing a multimedia artifact to illustrate the synthesis of polymers.

Year of examination	Implementation of SBA
2012 and 2013	Schools are required to submit SBA marks for the practical related component only. The mark of this component will contribute to 20% of the final subject mark. Moreover, in order to further alleviate the workload, marks of “Investigative Study” are NOT required in this stage.
2014 and thereafter	Schools have to submit SBA marks for BOTH the practical (including “Investigative Study”) and non-practical related components. The marks of both components will contribute 20% of the final subject mark.

4. Public Assessment

Component		Weighting	Duration
Public examination	Paper 1 Compulsory Part		2 hours 30 minutes
	1A	Multiple-choice questions	
	1B	Structured questions and essay	
	Paper 2 Elective Part Structured questions		1 hour 30 minutes
School-based assessment	Practical related tasks and non-practical related tasks		20%

5. Useful Links

- ◆ Curriculum and assessment guide
http://www.edb.gov.hk/FileManager/EN/Content_5999/chem_final_e.pdf
- ◆ Assessment framework
http://www.hkeaa.edu.hk/DocLibrary/HKDSE/Subject_Information/chem_a_e.pdf