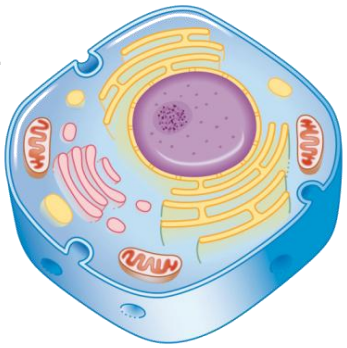
St. Rose of Lima's College
Science Department

New Senior Secondary Curriculum
Biology

1. Introduction



The Biology Curriculum serves as a continuation of the Science (S1 – 3) Curriculum. With careful consideration of students' prior knowledge and everyday experiences, it is designed to cover major aspects of biology, and to highlight relevance of biology to social, technological and environmental issues.

The curriculum consists of compulsory and elective parts. The compulsory part covers a range of content that enables students to develop understanding of fundamental biological principles and concepts, and the scientific process skills. There are four topics in the compulsory part – *Cells and Molecules of Life, Genetics and Evolution, Organisms and Environment,* and *Health and Diseases*.

The elective part is designed to cater for the diverse interests, abilities and needs of students. It aims to provide an in-depth treatment of some of the topics in the compulsory part, and application of essential knowledge and concepts, or an extension of certain areas of study. The topics selected in the elective part are *Human Physiology: Regulation and Control,* and *Applied Ecology*.

2. Proposed Schedule of Topics

Year	Topics
Form 4 (SS4)	• Studying Biology • Molecules of life • Cellular organization • Movement of substances across membranes • Cell cycle and cell division • Metabolism and enzymes • Photosynthesis • Respiration • Essential life processes in plants • Nutrition in humans • Gas exchange in humans • Transport of substances in humans

Form5 (SS5)	• Reproduction • Growth and development • Stimuli, receptors and responses • Coordination in humans • Movement in humans • Homeostasis • Ecosystems
	Elective – Human Physiology – Regulation and control • Regulation of water content • Regulation of body temperature • Regulation of gas content in blood • Hormonal control of reproductive cycle
Form 6 (SS6)	• Basic Genetics • Molecular genetics • Biodiversity • Evolution • Personal health and diseases • Body defence mechanisms
	Elective – Applied ecology • Human population growth and use of resources • Effects of urbanization and industrialization • Conservation
	Revision

3. School-based assessment (SBA) schedule

The SBA of Biology comprises two components:

(1) Assessment of practical related tasks with refer to students' laboratory work and field work, and
(2) Assessment of non-practical related tasks.

Practical related tasks

Students are required to perform a stipulated number of pieces of practical work/investigation. The practical/investigations should be integrated closely with the curriculum content and form a part of the normal learning and teaching process. Types of practical work that can be included in the SBA: investigative practical work, microscopic examination, dissection of animal / animal organ, ecology fieldwork, and biological drawing. In investigative work, students are required to: design and perform investigations; present interpret and discuss their findings; and draw appropriate conclusions. They are expected to make use of their knowledge and understanding of biology in performing these tasks, through which their practical, process and generic skills will be developed and assessed.

Non-practical related tasks

The inclusion of non-practical related tasks is to broaden the scope of assessment in the SBA and enhance the integration of the curriculum, teaching and assessment. Examples of such tasks include: write a report in connection with the understanding of the nature of science, design a pamphlet advising on ways in which people can reduce the chance of developing cancer, and write a report on a visit to an ecological study.

The implementation schedule for SBA is as follow:

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 over 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		60%	2 hours 30 minutes
	1A	Multiple-choice questions		
	1B	Structured questions and essay		
	Paper 2 Elective Part Structured questions		20%	1 hour 30 minutes
School-based assessment	Practical related tasks and non-practical related tasks*		20%	

* Assessment of non-practical related tasks is application to 2014 examination and thereafter.

5. Useful Links

- Curriculum and assessment guide
  http://www.edb.gov.hk/FileManager/EN/Content_5999/bio_final_e_070328.pdf
- Assessment framework
  http://www.hkeaa.edu.hk/DocLibrary/HKDSE/Subject_Information/bio_a_e.pdf