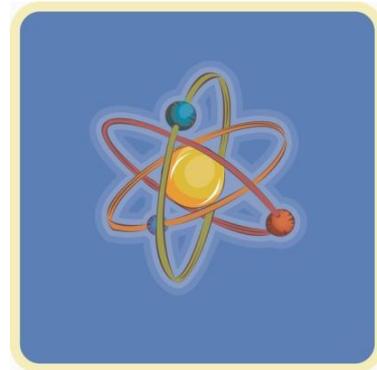


St. Rose of Lima's College
Science Department

New Senior Secondary Curriculum
Physics

1. Introduction

Physics is one of the most fundamental natural sciences. It involves the study of universal laws, and of the behaviours and relationships among a wide range of physical phenomena. Through the learning of physics, students will acquire conceptual and procedural knowledge relevant to their daily lives. In addition to the relevance and intrinsic beauty of physics, the study of physics will enable students to develop an understanding of its practical applications in a wide variety of fields. Study of the contributions, issues and problems related to innovations in physics will enable students to develop an integrative view of the relationships that hold between science, technology, society and the environment (STSE).



The Physics Curriculum serves as a continuation of the junior secondary Science (S1–3) Curriculum and builds on the strengths of the past Physics Curricula. This curriculum makes it possible for students to pursue a degree or sub-degree course in a specialised study or other discipline which treasures a good foundation of knowledge and skills in physics, and values and attitudes. The ability to apply physics knowledge and skills to daily life phenomena will enable students to study effectively in a variety of vocational training courses. Furthermore, the development of logical thinking and problem-solving skills among students will be valued in the workplace.

To cater for the diverse interests, abilities and needs of students, an elective part is included in the curriculum. The elective part aims to provide in-depth treatment of some of the compulsory topics, an extension of certain areas of study, or a synthesis of knowledge, understanding and skills in a particular context. Topics suggested in the elective part are: “Astronomy and Space Science”, “Atomic World”, “Energy and Use of Energy” and “Medical Physics”.

To facilitate the integration of knowledge and skills, students are required to conduct an investigative study relevant to the curriculum. A proportion of the lesson time will be allocated to this study.

2. Proposed Schedule of Topics

Year	Topics (C – Core, E – Elective)
Form 4 (SS4)	1. Heat and Gases (C) <ol style="list-style-type: none"> Temperature, heat and internal energy Transfer processes Change of state Gases
	2. Force and Motion I (C) <ol style="list-style-type: none"> Position and movement Force and motion Projectile motion
	3. Force and Motion II (C) <ol style="list-style-type: none"> Work, energy and power Momentum Uniform circular motion Gravitation
Form5 (SS5)	1. Wave motion (C) <ol style="list-style-type: none"> Nature and properties of waves Light Sound
	2. Electricity and magnetism (C) <ol style="list-style-type: none"> Electrostatics Circuits and domestic electricity Electromagnetism
Form 6 (SS6)	1. Radioactivity and nuclear energy (C) <ol style="list-style-type: none"> Radiation and radioactivity Atomic model Nuclear energy
	2. Atomic World (E) <ol style="list-style-type: none"> Rutherford's atomic model Photoelectric effect Bohr's atomic model of hydrogen Particles or waves Probing into nano scale
	3. Energy and use of energy (E) <ol style="list-style-type: none"> Electricity at home Energy efficiency in building and transportation Renewable and non-renewable energy sources

3. School-based assessment (SBA) schedule

The SBA of Physics comprises two components:

- (1) Assessment of practical related tasks which refer to students' practical work and investigative studies in physics, and
- (2) Assessment of non-practical related tasks.

Practical related tasks

In S5 and S6, candidates' performance in practical work and reporting of practical work will be assessed, carrying 20% of the subject mark. The task will involve:

- ◆ Organizing and performing practical work, including making use of suitable apparatus and equipment, and demonstrating the candidate has the appropriate manipulative skills for carrying out the work;
- ◆ Making accurate observations and measurements;
- ◆ Recording and presenting results in an appropriate form;
- ◆ Interpreting and discussing results, and drawing appropriate conclusions.

Non-practical related tasks

Non-practical related tasks refer to assignments that constitute part of the learning activities provided to candidates. Examples of such tasks include: information searching and report writing, site-visit reports, designing posters etc. Besides their understanding and application of knowledge and concepts of physics, candidates' generic skills will be assessed.

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 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	60%	2 hours 30 minutes
	Paper 2 Elective Part (a choice of 2 out of 4 elective topics)	20%	1 hour
School-based assessment	Practical related tasks and non-practical related tasks	20%	

5. Useful Links

- ◆ Senior Secondary Curriculum and Assessment Guides (Final version)
http://www.edb.gov.hk/FileManager/EN/Content_5999/phy_final_e.pdf
- ◆ Sample Papers for HKDSE Physics (Draft Version)
http://www.hkeaa.edu.hk/DocLibrary/HKDSE/Subject_Information/PhysicsSamplePaperDraft.pdf