

## **. Subject Plan of Physics (2019-20)**

### **1. Aims and objectives**

The general educational objectives of physics syllabus are in accordance with the objectives of the Curriculum and Assessment guide prepared by the Education Department Bureau.

Basically the aim of the Physics Curriculum is to provide physics-related learning experiences for students to develop scientific literacy, so that they can participate actively in our rapidly changing knowledge-based society, prepare for further studies or careers in fields related to physics, and become lifelong learners in science and technology.

#### Objectives

##### 1.1 Students should be able to

- 1.1.1 develop interest in the physical world and maintain a sense of wonder and curiosity about it;
- 1.1.2 construct and apply knowledge of physics, and appreciate the relationship between physical science and other disciplines;
- 1.1.3 appreciate and understand the nature of science in physics-related contexts;
- 1.1.4 develop skills for making scientific inquiries;
- 1.1.5 develop the ability to think scientifically, critically and creatively, and to solve problems individually or collaboratively in physics-related context;
- 1.1.6 understand the language of science and communicate ideas and views on physics-related issues;
- 1.1.7 make informed decisions and judgments on physics-related issues; and be aware of the social, ethical, economic, environmental and technological implications of physics, and develop an attitude of responsible citizenship.

##### 1.2 Teachers should

- 1.2.1 work collaboratively with each other and share their teaching experiences;
- 1.2.2 develop their professionalism through various training;
- 1.2.3 refine the 3-3-4 physics syllabus for effective teaching;

### **2. Situational Analysis**

#### 2.1 Strengths

- 2.1.1 Physics teachers are teaching collaboratively and they always share their teaching experience.
- 2.1.2 The laboratory technician is very familiar with the experiments to be performed by the students, so that they can help the teachers to manage the students during the experiments.
- 2.1.3 Students are obedient and they would follow the instructions of the teachers closely.
- 2.1.4 The school management team has great support to the teachers in developing different teaching strategies.
- 2.1.5 The school provides great autonomy for each panel members to develop.
- 2.1.6 The academic standard of the students is getting higher.
- 2.1.7 Teachers are willing work as required.

## 2.2 Weakness

- 2.2.1 Students are weak in understanding abstract concepts and they are lacking of initiative to work by themselves.
- 2.2.2 Students are weak in expressing their ideas in written English.
- 2.2.3 Science teachers are required to participate in various administrative work of the school thus the time left in preparing teaching tasks would be less.
- 2.2.4 Students are not keen on reading textbook and they are lazy in preparing their notes.
- 2.2.5 Students' interest in science subjects has declined gradually in the previous years.

## 2.3 Opportunities

- 2.3.1 The teachers are getting familiar and requirement of the new syllabus, and they can now refine syllabus for effective teaching in the forthcoming years..
- 2.3.2 EMI would be practiced in the whole school in the coming year this helps to arouse the English atmosphere of the school.

## 2.4 Threats

- 2.4.1 The DSE results of the students in this year is not as good as expected, this may lay down a heavy burden to the teachers.
- 2.4.2 The number of students in selecting physics is getting less and less.

## 3. Major concerns of the coming year

The major concerns of these three years are to response to the three major concerns of the school. In responding to these concerns, we would focus our work in the following areas.

- 3.1 To cultivate the self-learning ability of the students
- 3.2 To cultivate students' language proficiency and the abilities in searching for excellence in academic area, and to tackle the students' learning diversity problem.
- 3.3 To cultivate the professional development of the physics teachers and to strength the integrated ability of the teachers

#### 4. Strategies

Major Concern	Strategies / Tasks	Time Frame	Success Criteria	Method of Evaluation
3.1	<ol style="list-style-type: none"> <li>1. Questions are classified according to different levels of difficulties so that students with different abilities can do their exercise at their levels.</li> <li>2. Notes with simple exercises will be distributed to the students so they can study material before the lessons.</li> <li>3. Quizzes, tests and examinations are assigned to the students so that they serve the purpose of assessments of learning and for learning.</li> <li>4. Teachers should refine the previous SBA worksheets.</li> <li>5. More HKDSE content would be taught in F.3 physics lessons.</li> </ol>	<ol style="list-style-type: none"> <li>9/2019–7/2020</li> <li>9/2019–7/2020</li> <li>9/2019–7/2020</li> <li>9/2019–7/2020</li> <li>9/2019–7/2020</li> </ol>	<ol style="list-style-type: none"> <li>Students perform well at their levels.</li> <li>Students can prepare before the lessons.</li> <li>Teachers can make use of the results of the tests and examinations to refine their teaching pace and strategies</li> <li>A set of refined SBA worksheets should be prepared.</li> <li>The time taken to finish the F.4 syllabus should be less than before, i.e. more materials can be taught in F.4.</li> </ol>	<ol style="list-style-type: none"> <li>Outcomes from the exercises, test and examinations.</li> <li>Behaviour of the students in answering the questions during the lesson.</li> <li>Teachers' personal judgements.</li> <li>Students' behaviour in SBA and teachers' evaluation.</li> <li>The material to be examined in the final examination should be more than the previous year.</li> </ol>

Major Concern	Strategies / Tasks	Time Frame	Success Criteria	Method of Evaluation
3.2	1. Elite students are required to attend the competition organized by external agents	9/2019–7/2020	Students show great interest in attending this kind of competitions.	Large number of students is willing to attend the competitions.
	2. Students are required to answer lengthy questions which enable them to understand the questions written in English, and they have to use complete English sentences to answer the explanatory questions.	9/2019–7/2020	Great improvement in answering the explanatory questions in English.	Teachers understand what the students have written in the exercises and assessments which are assigned to them.
	3. Small group tutorial would carry out to cater for students with different abilities.	9/2019–7/2020	Many students should great improvements to different extent.	Students show great improvements in the assessments assigned to them.
	4. Questions with different levels would be assigned to the students. Elite students are required to finish the difficult questions, and the less able students would be asked to finish more simple questions.	9/2019–7/2020	Most of the students should be able to finish the assessments assigned to them	Satisfactory behaviour of the students in the assessments.
	5. English is the sole language medium in the class	9/2019–7/2020	Teachers use nearly 100 % of English as the medium of instruction in the class.	Teachers' evaluation

Major Concern	Strategies / Tasks	Time Frame	Success Criteria	Method of Evaluation
3.3	1. Class visits among the teachers would be carried regularly so the teachers can learn from their colleague	9/2019–7/2020	Teachers learn from each others and their teaching technique can be improved	Number of class visits carried out by the teachers, and the teachers' evaluation and students' response during the lessons.
	2. Physics teachers should attend all the seminars and workshops relating to the physics curriculum. Sharing of teaching experiences would be practiced during these meetings.	9/2019–7/2020	Teachers get familiar with the syllabus and they have confident to teach the students.	Teachers' evaluation
	3. The teachers should make use of the resources from the internet to help them to teach physics.	9/2019–7/2020	Teachers can get more resources from the internet and they can be used during the lesson.	Teachers' and students' feedback.
	4. Collaboration among the teachers should be carried out so that they can share their teaching experience and teaching methods.	9/2019–7/2020	The standard of teaching should be raised and the students should benefit from it.	Teachers' and students' evaluation.

## **5. Organization of the Physics Panel**

Overall coordinator : Kwong Chung Yuk

Form coordinators :F.3 : Tam Ka Wah

F.4 : Tam Ka Wah

F.5 : Kwong Chung Yuk

F.6 : Kwong Chung Yuk

## **6. Budget**