ST. FRANCIS METHODIST SCHOOL
Possibilities to Realities

Curriculum Description for Singapore-Cambridge GCE 'O' Level

SCIENCE (Pure) - PHYSICS (5052)

Introduction:
This syllabus is designed to place less emphasis on factual material and greater emphasis on the understanding and application of scientific concepts and principles.

Aims:

The aims are to:

1. provide, through well-designed studies of experimental and practical Physics, a worthwhile educational experience for all students, whether or not they go on to study science beyond this level and, in particular, to enable them to acquire sufficient understanding and knowledge to
   - 1.1 become confident citizens in a technological world, able to take or develop an informed interest in matters of scientific import;
   - 1.2 recognise the usefulness, and limitations, of scientific method and to appreciate its applicability in other disciplines and in everyday life;
   - 1.3 be suitably prepared and stimulated for studies beyond Ordinary Level in Physics, in applied sciences or in science-dependent vocational courses.
2. develop abilities and skills that are relevant to the study and practice of science; are useful in everyday life; encourage efficient and safe practice; encourage effective communication.
3. develop attitudes relevant to science such as concern for accuracy and precision; objectivity; integrity; enquiry; initiative; inventiveness.
4. stimulate interest in and care for the local and global environment.
5. promote an awareness that
   - 5.1 the study and practice of science are co-operative and cumulative activities, and are subject to social, economic, technological, ethical and cultural influences and limitations;
   - 5.2 the applications of science may be both beneficial and detrimental to the individual, the community and the environment;
   - 5.3 science transcends national boundaries and that the language of science, correctly and rigorously applied, is universal;
   - 5.4 the use of information technology (IT) is important for communications, as an aid to experiments and as a tool for the interpretation of experimental and theoretical results.

Scheme of Assessment:

Candidates are required to enter for Papers 1, 2 and 3.

Paper	Type of Paper	Duration	Marks	Weighting
1	**Multiple Choice**	1 h	40	26.7%
2	**Structured and Free Response**	1 h 45 min	80	53.3%
3	**Practical test**	1 h 30 min	30	20.0%

Subject Content (Topics):

1. Physical Quantities and Units
2. Kinematics
3. Dynamics
4. Mass, Weight and Density
5. Turning Effect of Forces
6. Pressure
7. Energy, Work and Power
8. Kinetic Model of Matter
9. Transfer of Thermal Energy
10. Temperature
11. Thermal Properties of Matter
12. General Wave Properties
13. Light
14. Electromagnetic Spectrum
15. Sound
16. Static Electricity
17. Current Electricity
18. D.C. Circuits
19. Practical Electricity
20. Magnetism
21. Electromagnetism
22. Electromagnetic Induction
23. Introductory Electronics
24. Nucleus
25. Radioactivity

Please refer to the SEAB website for more information regarding this course.
http://www.seab.gov.sg