



A. Y. Jackson S. S.
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SPH4U0 PHYSICS

Grade 12, University – Advanced Placement

General Course Information

Prerequisite:	SPH3U1/SPH3U3
Department:	Science
Extra help:	By appointment with teacher
Textbook and Replacement Cost:	Fundamentals of Physics:, \$100
Materials Required:	3-Ring binder, Notebook
Course Fee:	None

Course Description

This course continues with the development students' understanding of the basic concepts of physics. Students will explore dynamics, with an emphasis on two-dimensional mechanics; momentum and energy; gravitational electrical and magnetic fields, wave theory (interference and diffraction); and modern physics. They will enhance their scientific investigation skills as they test laws of physics. In addition, they will analyse the interrelationships between physics and technology, and consider the impact of technological applications of physics on society and the environment.

The course is organized into six strands:

- Kinematics/Dynamics
- Momentum and Energy
- Fields
- Waves and Optics
- Matter-Energy Interface
- Thermodynamics/Fluid Mechanics

A detailed list of the course expectations can be found at <http://www.edu.gov.on.ca/eng/curriculum/secondary/science.html>

Assessment and Evaluation

To promote student success, ongoing assessment and feedback will be given regularly to (the) students. A variety of assessment and evaluation strategies will be used in this course, including labs, case studies, assignments, projects/presentations, tests and quizzes. Expectations will be evaluated based on the provincial curriculum expectations and the achievement levels outlined in the ministry document.

Expectations are organized into four categories of knowledge and skills. The categories and their corresponding weighting is as follows:

Tests (K/U, C, I, A)	35%
Labs (C/I)	15%
Project (C,I,A)	10%
Quizzes (K/U)	10%

Each student's final mark will be in the form of a percentage grade based on their achievement in the 4 categories on the achievement chart. The breakdown of the final mark is as follows:

Term Evaluation	70%
Final Evaluation	30%

The Final Evaluation will be completed during the final 6 weeks of the course and may include a variety of summative activities including an exam, a presentation, a seminar, or an essay or another writing assignment. In addition to each students performance in the achievement categories, students will also be assessed on their performance in the following learning skills:

- Responsibility
- Organization
- Independent Work
- Collaboration
- Initiative
- Self-Regulation

For specific policies on assessment and evaluation, and academic honesty, please refer to *School Procedures* in the student agenda.



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Department Policies

Late Assignments

Students must communicate with the teacher in advance if they anticipate that an assignment will be late. Different situations will require specific decisions based on professional judgment. Late assignments will not be accepted after the assignment has been taken up in class or the marked assignment has been returned.

Missed Evaluations

A student who misses an evaluation must submit upon return to class a parental/guardian note or a doctor's note detailing the reason for the absence. The student may have the opportunity to demonstrate their proficiency of the learning expectations at a later date, at the teacher's discretion. This may or may not be in the same format as the original evaluation. The teacher will determine the time and form in which the evaluation will take place.

Homework Assignments

The purpose of homework assignment is to reinforce and enhance the learning that has taken place in the classroom. It provides students with opportunities for personal growth in independence, self-discipline and resourcefulness.

There are at least four different kinds of homework:

Completion homework helps students keep up to date with the classroom program. **Preparatory** homework allows the student to prepare for future classes. This might include reading, collecting pictures, information or data to be discussed. **Practice** allows the student to practice and/or reinforce learning from a class lesson. **Extension** homework gives the student an opportunity to learn beyond what was introduced in class and challenges the student to use the ideas that have been learned in class to produce something requiring their imagination and resourcefulness.

In addition, students should attend to the following day-to-day homework.

Notes which are made for future reference and for the basis of study should be revised and rewritten daily.

Review has been proven by research to increase the ability to retain knowledge.

A student who reviews daily will be prepared for **Quizzes**, which are often spontaneous. **Tests** will be announced before they are given. Students who prepare for a test, other than the night before, will have opportunities to seek help if they encounter difficulties. **Examinations** will cover material that is presented over two to five months. The wise student will begin to prepare at least two weeks before the examination. Quizzes, tests and examinations require preparation time beyond the classroom. A student who has a job beyond the classroom must be sufficiently organized so that time is allotted to homework. If this is not possible, it is advisable to see a counsellor.

Remember, for every hour you spend in class, you need to spend the same amount of time outside the class for homework.

Your Notebook

In order to keep your work in order, the following is strongly suggested as a method of note keeping:

- All notes are secured in a three ringed binder.
- There is a separate section for each unit.
- Notes are complete.
- Notes are neatly written.
- Notes are written in pen.
- Notes are dated and kept in order.
- Major headings are used to organize notes.
- All notes, tests and assignments are included in the notebook.
- There is nothing unrelated to Physics in the notebook
- There is an outline for each day's work at the end of each day's work.