**COURSE: Physics Grade 11 – SPH3U**

**TEACHER:** Mr. Warner

**CREDIT VALUE:** 1.0

**PREREQUISITE:** Grade 10 Academic Science

**TEXTBOOK:** Nelson Physics 11

**MINISTRY DOCUMENT:** The Ontario Curriculum, Grades 11 and 12; Science, 2008 Revised.

**COURSE DESCRIPTION**

This course develops students’ understanding of the basic concepts of physics. Students will explore kinematics, with an emphasis on linear motion; different kinds of forces; energy transformations; the properties of mechanical waves and sound; and electricity and magnetism. They will enhance their scientific investigation skills as they test laws of physics. In addition, they will analyZe the interrelationships between physics and technology, and consider the impact of technological applications of physics on society

and the environment.

**OVERALL EXPECTATIONS**

*The Ontario Curriculum Grades 11 and 12 Science* identifies overall expectations, which describe in general terms the knowledge and skills that students are expected to demonstrate by the end of this course. This course is broken down into six different units

Unit A: Scientific Investigation Skills and Career Exploration

Unit B: Kinematics

Unit C: Forces

Unit D: Energy and Society

Unit E: Waves and Sound

Unit F: Electricity and Magnetism

For the above units, it is expected that students will:

**Unit A: Scientific Investigation Skills and Career Exploration**

* demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analysing and interpreting, and communicating);
* identify and describe a variety of careers related to the fields of science under study, and identify scientists, including Canadians, who have made contributions to those fields.

**Unit B: Kinematics**

* Motion involves a change in the position of an object over time.
* Motion can be described using mathematical relationships.
* Many technologies that apply concepts related to kinematics have societal and environmental implications.

**Unit C: Forces**

* Forces can change the motion of an object.
* Applications of Newton’s laws of motion have led to technological developments that

affect society and the environment.

**Unit D: Energy and Society**

* Energy can be transformed from one type to another.
* Energy transformation systems often involve thermal energy losses and are never100% efficient.
* Although technological applications that involve energy transformations can affect society and the environment in positive ways, they can also have negative effects, and therefore must be used responsibly.

**Unit E: Waves and Sound**

* Mechanical waves have specific characteristics and predictable properties.
* Sound is a mechanical wave.
* Mechanical waves can affect structures, society, and the environment in positive and negative ways.

**Unit F: Electricity and Magnetism**

* Relationships between electricity and magnetism are predictable.
* Electricity and magnetism have many technological applications.
* Technological applications that involve electromagnetism and energy transformations can affect society and the environment in positive and negative ways.

**EVALUATION OF STUDENT ACHIEVEMENT**

Each student will be given a variety of opportunities to demonstrate the extent to which she / he have met the expectations of this course. Her / his final grade will be a percentage that represents the student’s overall achievement of curriculum expectations based on her / his most consistent level of achievement.

**70% Summative Assessments throughout the semester based on all four categories of the Achievement Chart**

**30% Final Culminating Assessment(s) including exam\***

*\*Each student must complete all final assessments in order to be eligible to receive the credit. The final culminating assessments will include a culminating performance task (10%) and their final exam(30%).*

Please note that any outstanding assignments / tests **MUST be submitted prior to the completion of each unit,** otherwise a mark of zero may be given.

One of the goals of any course is the development of the learning skills and work habits you will need to succeed in the workforce and in life. Your learning skills and work habits **(*Responsibility*, *Organization*, *Independent Work*, *Collaboration*, *Initiative, and Self-Regulation*)** will be assessed throughout the semester and will be recorded (separately from your grade) on your report card as follows:

***E – Excellent G – Good S – Satisfactory N – Needs Improvement***

The development of these skills is essential as they are critical for success in the later grades, post secondary education and / or the workplace. To that end, the students will be shown various strategies and provided encouragement throughout the semester to aid in their skill development.

**POLICIES AND EXPECTATIONS FOR THE STUDENT**

General Expectations for this Course

* **Be wrong – often!** Taking risks when problem solving is critical for success.
* **Be on time** and fully prepared for each class.
* **Participate actively** in class by asking questions and sharing your ideas and knowledge.
* **Demonstrate respect, responsibility, and a positive attitude** at all times – to your peers, your teacher, and yourself. Remember where you are and what you are trying to achieve. Appropriate language, clothing, and participation are expected each day of the semester.
* Maintain a **quiet, productive learning environment** by focusing on tasks, staying seated, and raising your hand to speak. Interrupting the thinking and work of others is not acceptable.
* **Be proactive** - YOU are responsible for your achievement in this class. Completing all course work is essential for success. Take advantage of the extra help offered at lunch and let me know as soon as concerns arise - solutions can always be found together!
* **No use of cellular phones / electronics / texting in class**. Students are asked to leave their electronics in their locker. If they bring their electronics to class, they are expected to put them in the designated box at the front of the class. Failure to follow these procedures may result in a detention.

**Course Materials and Resources**

REQUIRED TEXTS Nelson Physics 11

REQUIRED MATERIALS 3-ring binder with dividers

pencils and eraser(s)

blue or black pen

highlighter

scientific calculator (using iPods as calculators is NOT permitted.)

agenda or equivalent for tracking homework, assignments, tests, etc.

ENTHUSIASM!! ☺

**Notebooks**

A separate 3-ring binder with three dividers is recommended for this course. To help you remain organized, it is suggested that the content of your binder be organized as follows:

* course outline sheets
* class notes/work and homework organized by date (Divider 1)
* all quizzes, tests, and other assessments *with corrections* (Divider 2)
* study notes and miscellaneous (Divider 3)

**Quizzes, Tests / Assignments, and Lab Activities**

You will be given reasonable notice for all summative assessments (marks count). Formative assessments (marks do not count) may be given at any time to assess your progress during a particular unit of study. All assignments must be completed neatly and accurately for the assigned due date**.** Be sure to demonstrate clear, precise communication skills as well as your depth of understanding of concepts in all work.

A **parent signature** will be required for all summative work (and, at times, for formative work as well).

***Lab Exercises and Activities***

Formal laboratory reports and short laboratory activities will be assigned throughout the course. You are expected to complete the reports neatly, accurately and promptly. These assignments provide you with a unique opportunity to demonstrate your communication and creative skills as well as the depth of your understanding of concepts.

**Homework**

All work is to be completed in pencil on clean lined paper or graph paper as required. Homework must be completed by the next class day (*including checking answers*). All incorrect solutions should be corrected. Come to class ready to ask questions - it is your responsibility to seek assistance when you have encountered difficulty with assigned work. Asking questions is part of learning! There will be homework on a regular basis in this course.

***Please note****: Homework will be checked regularly for the 1st month or so, then it will be* ***the student’s responsibility to stay caught up.*** *This is meant to help prepare them for the post-secondary path they are on.*

***A Note About Extra Help***

There are many opportunities for you to receive extra assistance. I will be available at lunch hour regularly during the week. **It is very important that you seek assistance with difficulties as soon as they arise**. Asking questions is part of learning anything!

***Attendance***

The attendance philosophy of St. Thomas Aquinas Catholic High School reflects our belief that your daily participation in the classroom learning experience is an integral part of the learning process. Prompt, regular attendance with all required materials and completed work on hand is a requirement for this course. If you are absent, it is your responsibility, on your own time, to update your notes, prepare for tests, etc

It is up to you to see the teacher and make arrangements for any **missed tests or in-class assignments.** You should be prepared to write any missed test or in-class assignment on the day you return to school, during your lunch time.

***Cheating and Plagiarism***

Cheating includes things like copying homework, projects, looking at someone else’s test, using cheat notes and opening texts during tests. Work will be checked for plagiarism. Use references for paraphrased work. Refer to your agenda for the consequences.

**My contact info:**

Cory Warner

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**Dear SPH3U Parent/Guardian**

I am very pleased to be your child's physic’s teacher this semester. If at any time you have questions about the course or your child's progress, **please do not hesitate to contact me.** I check my email daily and therefore that may be the easiest method of contacting me, however you may also phone me if you wish.If I am unavailable when you call, leave a message and I will contact you as soon as possible. It is important to deal with questions and concerns immediately so that solutions can be found together.

I will be using a combination of Microsoft Teams and OneNote for our class, which are part of the Office 365 platform that all students have access to. The following will be posted on-line for all units: completed class notes, homework, learning goals, videos, unit review and any other pertinent assignment handouts. Please encourage your daughter / son to access this resource as soon as possible to ensure that any login and access issues are corrected early in the semester.

My goal for your daughter / son this year is success. I evaluate success not only in terms of grades, but also in the development of the "mathematical confidence" needed to succeed in mathematics and our fast changing world.

Students will be evaluated in four areas that include:

Knowledge / Understanding: Usually students find these questions easiest as they test their basic knowledge on a subject

Communication: As a physics teacher I also take responsibility for the literacy skills our students, and communication is a big part of this. These questions provide an opportunity for the students to clearly communicate their understanding of concepts using words, diagrams etc. Proper layout and use of symbols is an important part of communication and will be marked on every assessment.

Application: These questions will test the students on how they apply their knowledge in real life situations.

Thinking / Inquiry: These questions link together various ideas from the unit, or other units. These are traditionally the more difficult questions.

All four types of questions will be used regularly to check the student’s progress.

Some other things you can do to help your daughter / son to succeed in mathematics:

* Schedule a regular “homework time” and provide them with a quiet area to work that is free of distractions such as Snapchat, Instagram, Tik Tok, and X-Box.
* Ensure that your daughter / son are **verifying their solutions** against those in the back of the textbook. I will be reiterating to the students that doing homework, and not verifying correctness, is counterproductive and not good use of their time.
* Ask how her / his quizzes, skills homework and formal projects or assignments are going.
* Offer to work on a problem together, or work with them to review concepts and calculations.
* Encourage them to communicate their findings and understanding clearly and concisely (mathematical form)

**Please provide the information requested below, sign, and return this form to confirm that you have received and read this letter and to also confirm the following:**

* **I have read the course outline and understand the curriculum, procedural, and evaluation expectations of this course.**
* **I am aware of the Microsoft Teams / OneNote site for this class and that I should set up notifications for new postings to the site.**

**Please provide an email address that you check regularly.** My main method of communication regarding your daughter / son will be done via email.

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent / Guardian Contact Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent / Guardian Email address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Home Phone / Work Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Additional comments:

Is there anything special I might need to know?

Sincerely,

Cory Warner

Phone: 613-445-0810

Email: cory.warner@cdsbeo.on.ca