

PHYSICS

Code SPH 4UI
 Teacher S. R. Jackson
 Text Physics: Concepts & Connections; Book 2
 Prerequisite SPH 3UI

kitchener-waterloo collegiate



KWC & VS

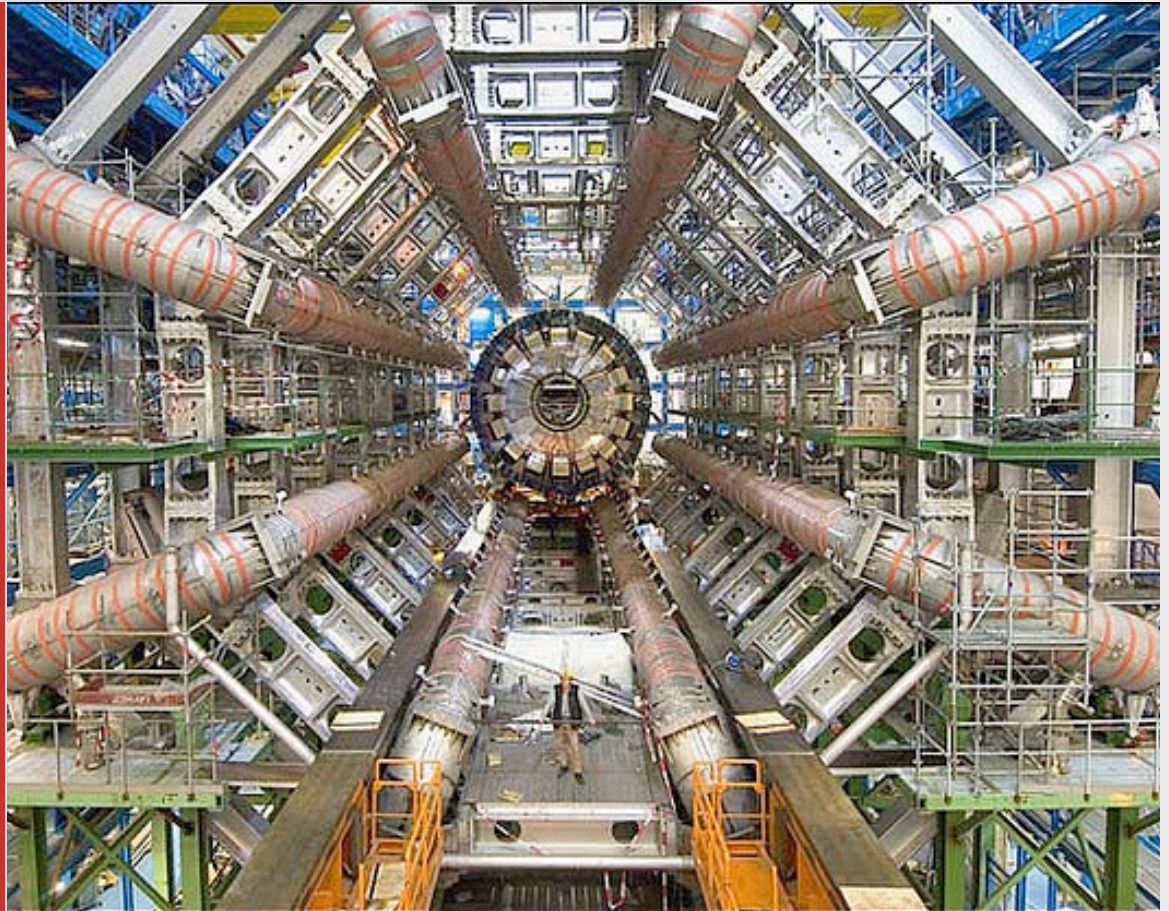
Department of Science

**787 King St. W.
 Kitchener, ON
 N2G 1E3**

519-745-6851

kci.wrdsb.ca

The Large Hadron Collider at CERN in Switzerland. One of the most exciting projects in modern physics.



Welcome to Grade 12 Physics!

This course enables students to deepen their understanding of physics concepts and theories. Students will continue their exploration of energy transformations and the forces that affect motion. They will investigate electrical, gravitational, and magnetic fields and electromagnetic radiation. Students will also explore the wave nature of light, quantum mechanics, and special relativity. They will further develop their scientific investigation skills, learning, for example, how to analyse, qualitatively and quantitatively, data relating to a variety of physics concepts and principles. Students will also consider the impact of technological applications of physics on society and the environment.

WHAT YOU WILL LEARN

TERM 1		TERM 2	
Einstein's Theory of Special Relativity - Part 1	Unit 1	Gravitational, Electric & Magnetic Fields	Unit 4
Mechanics	Unit 2	The Wave Nature of Light	Unit 5
Energy & Momentum	Unit 3	Special Relativity - Part 2 & Quantum and Particle Physics	Unit 6



$$H(t) |\psi(t)\rangle = i\hbar \frac{d}{dt} |\psi(t)\rangle$$

Assessment in SPH 4UI

knowledge & understanding, inquiry, application and communication

The evaluation of your progress will occur on a regular basis. Expect a major test/summative assignment at the end of each unit of study. Make sure you are ready at the end of each unit: **review your notes, complete practice problems** and **get help** with any work you don't understand.

It is important that you keep all of your tests, assignments, quizzes and projects and that you make corrections. These corrected materials will help you improve on your mistakes and will be useful when you study for your final exam.

ASSESSMENT TECHNIQUE	PURPOSE
Tests	Summative
Problem Sets	Summative
Labs	Formative/Summative
More Than Just Numbers	Formative/Summative
Quizzes	Formative
Assignments	Formative

These assessment techniques are used to measure your ability in the various areas of the achievement chart for science: Knowledge and Understanding, Inquiry, Application and Communication. Each technique measures your performance across the achievement chart in a different way.

FINAL GRADE	
Course Work	70%
Final Exam	30%

Participation Helps You Learn

You must do all work on a daily basis in order to be successful. Time spent completing homework will differ from student to student, but you must attempt all homework questions. **Check your final answers in the back of the textbook or the solution manual.**

If you have a question, please ask it! When your teacher asks you a question, please answer it! Do not be embarrassed if you are confused about a topic, if you are unsure, chances are someone else is too.

Regular attendance is essential to your success in physics. If you are absent for a test, lab or other assignment due to an illness or a school related activity, you are responsible to see your teacher upon returning to school and make arrangements to complete the missed work. Invalid or unsubstantiated absences are taken seriously and could result in a mark of **zero**. You may be asked to provide a doctor's note to validate an absence for any summative assessment.

“You cannot teach a man anything; you can only help him discover it in himself” Galileo Galilei

GOOD TO KNOW

Textbooks are the property of KCI and are on loan to students. You are responsible for maintaining the good condition of your textbook while it is in your possession. The replacement cost of a damaged textbook is \$130. **Students are responsible for the replacement cost of a lost or damaged textbook.**



For notes, lessons and announcements visit the course website:

www.mrjackson.ca