

COURSE DETAILS

Course Code: 0123
Course Name: Physics 40S
Credit Value: 1.0
Prerequisite: Physics 30S

Welcome to physics

CONTACT INFORMATION

Room 14 McCreary School
MS Teams: Physics 40
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School phone: 835-2083

COURSE TECHNOLOGY

Office 365
MS Teams: Physics 40

COURSE TEXTBOOK

Physics: Concepts and
Connections. Irwin Publishing
Ltd. 2002

Timeline	Unit & Topic
February	Mechanics
	Kinematics
	Vectors
	Dynamics
March	Projectile Motion
	Circular Motion
	Work and Energy
April	Momentum
	Fields
May	Exploration of Space ***
	Electric and Magnetic Fields
	Electricity
	Electric Circuits
June	Electromagnetic Induction ***
	Medical Physics
	Introduction to Medical Physics
	Exam Review
	Final Exam

SUPPLIES

- 2" – 3 ring binder
- Loose leaf
- Graph paper
- Scientific calculator
- Ruler
- Pens
- Pencils
- Erasers
- Highlighters

Kinetic energy = Δ Potential Energy
 $\frac{1}{2}mv_B^2 = mg(h_A - h_B)$
 $v_B^2 = 2g(h_A - h_B)$

To stay on the track at B, $\frac{v_B^2}{r} \geq g$
 So... $\frac{2g(h_A - h_B)}{r} \geq g \Rightarrow (h_A - h_B) \geq \frac{r}{2}$
 $\Rightarrow h_A \geq h_B + \frac{h_B}{4} \Rightarrow h_A \geq \frac{5}{4}h_B$

∴ The largest possible loop-the-loop will be $\frac{4}{5}$ the starting height.

I DON'T THINK THIS WILL WORK. YOUR CALCULATIONS ASSUME NO FRICTION.

PETER, PLEASE. WE'RE NOT STUPID.

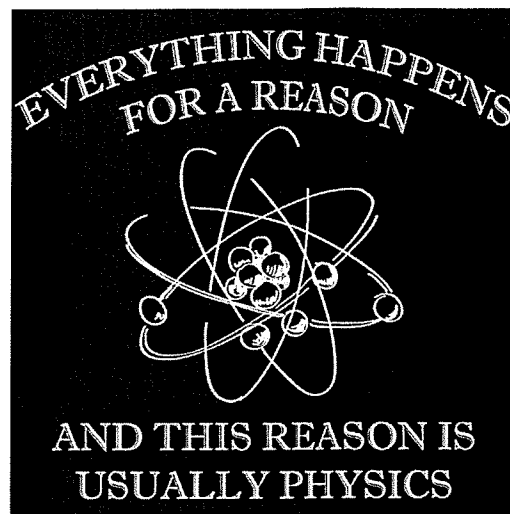
KIDS, WHY IS THERE A HOT WHEELS CAR SOAKING IN A BOWL OF OLIVE OIL?

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UNIFYING CONCEPTS & GENERAL OUTCOMES

As a result of their Senior Years science education, students will

- ✓ describe and appreciate the similarity and diversity of forms, functions, and patterns within the natural and constructed world
- ✓ describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems
- ✓ recognize that characteristics of materials and systems can remain constant or change over time, and describe the conditions and processes involved
- ✓ recognize that energy, whether transmitted or transformed, is the driving force of both movement and change, and is inherent within materials and in the interactions among them



RULES & EXPECTATIONS

➤ Daily Classroom Expectations

Show up to class on time, with all your supplies, and use class time effectively. Take responsibility for your learning by completing all assigned work and being proactive rather than reactive.

➤ Technology in the Classroom

Technology will be an integral part of the functionality of the classroom. Students will have access to the school laptops, but are also welcome to bring their own device. Improper use may result in a loss of certain privileges.

➤ Student Lates & Absences

Students who are late for class are asked to come in quietly without causing a disruption. Students who make a habit out of being late may not be allowed into the room if class has already begun.

If you are absent, YOU are responsible for finding out what you missed and making up all missed work. If you have an excused absence for the day of a test, please make arrangements to write it the day you return to school. If you skip a test or quiz you will receive a zero.

➤ Academic Dishonesty

Academic dishonesty including (but not limited to) inappropriate collaboration, cheating, or plagiarism is a severe offence and will be dealt with according to the policy outlined in the school handbook.

➤ Extra help

Arrangements can be made for in person extra help before or after school or during lunch hour. Students can also ask for clarification or feedback via email, MS Teams chat or discussion post, or schedule a Teams meeting.

ASSESSMENT

➤ Homework

This course has a lot of content. We will do our best to cover as much as we can in class, but you will inevitably end up with homework. You won't have homework *every* night, but when it is assigned it is expected to be completed on time. In order to get the greatest benefit from scheduled direct instruction, students need to be prepared, which means having assigned work completed.

➤ Assignments

A lot of the work students complete will not be graded, but that does not mean that it's not important. These practice opportunities are meant to help both the student and the teacher assess whether or not the student has developed an appropriate level of understanding prior to being given a summative assessment which will contribute to the final grade.

➤ Incomplete and Late Work

Work is to be completed on time and to the best of the student's ability. Late or missing assignments will be penalized as outlined in the school student handbook, "Upon teacher discretion a maximum of 5% may be deducted for every day the assignment is not turned in. If the assignment is not turned in after two weeks or at the start of a new unit, the assignment will receive a mark of zero."

➤ Quizzes

Quizzes will take place frequently to encourage students to stay up-to-date on course materials. Students will not be allowed a personalized study sheet for quizzes. If formulas are required for the quiz a standard formula sheet will be provided.

➤ Tests

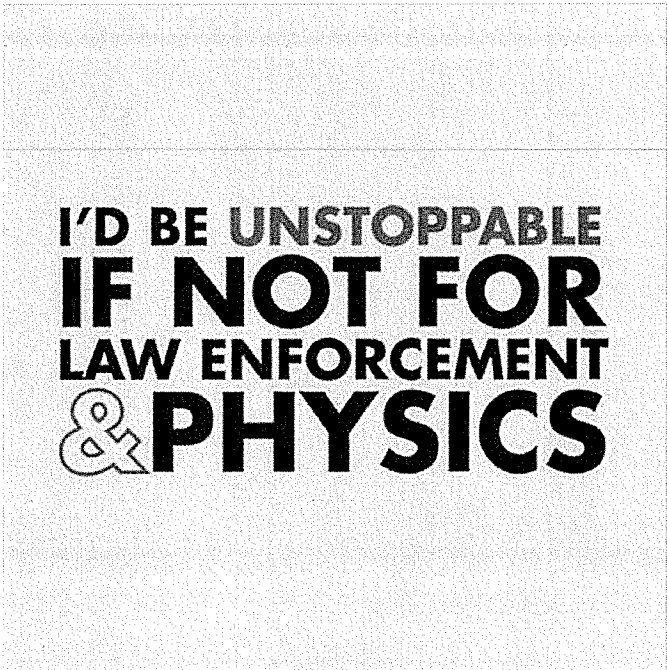
There will be several tests throughout the semester. Students are allowed a personalized study sheet for each test. The study sheet is to be a maximum of one side of a HALF of 8.5" x 11" paper. If a study sheet is allowed, a formula sheet will NOT be provided.

➤ Re-writes

Assignment and quiz re-writes are at the sole discretion of the teacher and will be reserved for special circumstances only. A student may request a re-test for ONE of the tests written throughout the semester. Re-writes will take place during the final week of class before the exam. If a re-write is done, the new mark replaces the old mark (for better or worse).

➤ Final Exam

All students will be required to write the final exam at the end of June. The final exam is worth 20% of the student's overall grade. *Students are allowed to create their own one-page, single-sided 8.5"x11" study sheet for the exam.*



**I'D BE UNSTOPPABLE
IF NOT FOR
LAW ENFORCEMENT
& PHYSICS**

Summative Assessment

Assessment Category	Assessment Item	Category Weight
Term Work	All work will be entered into one category called Term Work. Assignments and Projects will have a weight ranging from 5% to 10% depending on the size and complexity of the assessment. Quizzes will have a weight of 10%. Tests will have a weight of 20%.	80%
Final Exam	The final exam will take place in June. The details of the exam will be posted at a later date.	20%

*All assessment items are subject to revision based on our evolving circumstances.

Behaviour Assessment

- Personal Management Skills - The student self-monitors own behaviors and personal growth, organizes for learning, contributes positively to the learning process and takes responsibility for work completion.
- Active Participation in Learning - The student participates actively in learning, is curious, sets learning goals, self-assesses, provides feedback, and uses feedback for improvement.
- Social Responsibility - The student demonstrates citizenship and social skills that contribute to making the classroom, school, and larger community a positive, safe and caring environment.

Physics 40S - A Letter to Parents

We have had a great first semester in Physics 30 and I am excited to see your child continuing with us in Physics 40. Students have shown a lot of initiative and responsibility last semester in being organized and productive in their studies. I anticipate that this semester will be no different. However, should any issues or concerns arise students and parents are still encouraged to speak to me directly as soon as possible to address the issue. I will continue to use the contact information provided on the Physics 30 outline. If you would like to update your email or phone, please add it to the bottom of this page. I'm looking forward to a great year.

Mrs. Lockhart

Student _____ Parent _____ Date _____