BOARD OF EDUCATION BURNABY ONLINE SCHOOL DISTRICT 41

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Course: Physics 12
Teacher: Ms. Leila Dianati
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Phone: 604 760-1686

Course Length: 10 months (approx. 120 hours)

Course Curriculum

The curriculum for this course is organized around these Big Ideas:

Measurement of motion depends on our frame of reference.	Forces can cause **linear and circular motion**.	Forces and energy interactions occur within **fields**.	**Momentum** is conserved within a closed and isolated system.

Students are expected to know the following:

- frames of reference
- relative motion within a stationary reference frame
- postulates of special relativity
- **relativistic effects** within a moving reference frame
- **static equilibrium**
- **uniform circular motion:**
  - centripetal force and acceleration
  - **changes to apparent weight**
- **First Peoples knowledge and applications of forces in traditional technologies**
- **gravitational field** and Newton's law of universal gravitation
- gravitational potential energy
- **gravitational dynamics and energy relationships**
- **electric field** and Coulomb's law
- electric potential energy, electric potential, and electric potential difference
- **electrostatic dynamics and energy relationships**
- **magnetic field** and **magnetic force**
- **electromagnetic induction**
- **applications of electromagnetic induction**
- **impulse** and momentum
- conservation of momentum and energy in **collisions**
- **graphical methods** in physics

Mark Weighing

Category	Weighing
Learning Guide	20%
Review Quizzes	10%
Projects	20%
Unit Exams	50%

Resources

- Textbook not required.
- Scientific calculator required

Course Content

Completion of boldfaced underline items will activate a student for this course

Units	Formative Assessment	Cumulative assessment
1: Physics Review	**Quizzes** **1 Assignment** 1 Project	1 Unit Exam
2: Equilibrium and Torque	Quizzes 1 Assignment 1 Project	1 Unit Exam
3: Centripetal	Quizzes 1 Assignment 1 Project	1 Unit Exam
4: Momentum	Quizzes 1 Assignment 1 Project	1 Unit Exam
5: Electrostatics	Quizzes 1 Assignment 1 Project	1 Unit Exam
6: Electromagnetism	Quizzes 1 Assignment 1 Project	1 Unit Exam
7: Induction	Quizzes 1 Assignment 1 Project	1 Unit Exam
8: Modern Physics	Quizzes 1 Assignment 1 Project	1 Unit Exam

Students are expected to:

- contact the teacher by email or phone when help is needed, or questions arise
- be actively engaged and submitting work on a regular basis
- inform the teacher when they will be inactive for two or more weeks.
- be aware that if they are inactive in a course for four or more weeks they may be removed from that course
- check their email at least twice a week
- create and submit completed solutions for all activities in the unit/chapter before requesting a test.
- cite all sources properly
- answer in their own words
- check that their work and tests have been marked.
- make appointments to write tests at least 2 school days in advance.