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Course: Physics 11
Teacher: Mr. Francis Tsen
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Course Length: 10 months
 (approx 120 hours)

Course Curriculum

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

An object's motion can be predicted, analyzed, and described.	Forces influence the motion of an object.	Energy is found in different forms, is conserved, and has the ability to do work.	Mechanical waves transfer energy but not matter.
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Students are expected to know the following:

- **vector and scalar quantities**
- horizontal **uniform and accelerated motion**
- **projectile motion**
- **contact forces** and the factors that affect magnitude and direction
- mass, force of gravity, and apparent weight
- **Newton's laws of motion** and free-body diagrams
- balanced and unbalanced **forces in systems**
- conservation of energy; principle of work and energy
- **power and efficiency**
- **simple machines** and mechanical advantage
- applications of simple machines by First Peoples
- **electric circuits (DC), Ohm's law, and Kirchhoff's laws**
- **thermal equilibrium** and specific heat capacity
- generation and **propagation of waves**
- **properties and behaviours** of waves
- **characteristics** of sound
- resonance and **frequency** of sound
- **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 items in boldface and underlined will activate a student in this course.

Units	Formative Assessment	Cumulative assessment
<u>1: Math Tools</u>	<u>Quizzes</u> <u>1 Assignments</u> <u>1 Project</u>	1 Unit Exam
2: Motion	Quizzes 1 Assignment 1 Project	1 Unit Exam
3: Projectiles	Quizzes 1 Assignment 1 Project	1 Unit Exam
4: Forces	Quizzes 1 Assignment 1 Project	1 Unit Exam
5: 2D Forces	Quizzes 1 Assignment 1 Project	1 Unit Exam
6: Energy	Quizzes 1 Assignment 1 Project	1 Unit Exam
7: Electricity	Quizzes 1 Assignment 1 Project	1 Unit Exam
8: Waves	Quizzes 1 Assignment 1 Project	1 Unit Exam

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Students are expected to:

- contact the teacher by instant messaging, 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 time available to come in to Burnaby Online to write tests.
- make appointments to write tests at least 2 school days in advance.