

## New Westminster Online Learning School

### Physics 11:

#### Course Description

Students considering taking this course should have, within the past 5 years, achieved at least a B in Foundations of Mathematics and Pre-Calculus 10 or an equivalent course.

In this online course, we learn how forces acting on an object affect its movement and energy level. Wave motion, including sound waves, and electric circuits are also explored.

#### Course Expectation

Students are expected to complete their online course within a 4–5-month period of time. If additional time is needed, contact your course instructor.

#### Enduring Understanding/Big Ideas

Students will focus on:

- 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.

#### Specific Learning Outcomes

[https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/curriculum/science/en\\_science\\_1\\_1\\_physics\\_elab.pdf](https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/curriculum/science/en_science_1_1_physics_elab.pdf)

#### Course Content

Module 1	Math Tools
Module 2	Motion
Module 3	Projectiles
Module 4	Forces
Module 5	2D Forces
Module 6	Energy
Module 7	Electricity
Module 8	Waves

**Student Learning Activities and Strategies**

The online lessons use a combination of text, short videos, interactives, simulations, and animations to help students understand the concepts.

The Learning Guide booklet, provided at the start of each unit, is aligned with the lessons, and forms the notes and practice questions needed for that unit.

**Assessment**

Each unit has a Learning Guide, two quizzes and a test, which can all be completed from home. The Learning Guides and quizzes provide a way to check understanding and to get feedback and help from their teacher.

Students are also required to write two exams, a mid-term and final, at a supervised location. Students who live outside New Westminster, can arrange to have these invigilated at their school or at an educational institution where they live.

**Evaluation**

The final mark is determined by the progress made in understanding key concepts and skills, as demonstrated primarily on unit tests and the two exams.

**Resources**

All materials are available online.