

## New Westminster Online Learning School

### Physics 12:

#### Course Description

Students considering taking this course should have, within the past 5 years, achieved at least a C+ in Physics 11 or an equivalent course or by our assessment.

This course builds on the concepts from Physics 11 in that the measurement of linear and circular motion depends on our frame of reference. Energy interactions and momentum 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:

- 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.

#### Specific Learning Outcomes

[https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/curriculum/science/en\\_science\\_12\\_physics\\_elab.pdf](https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/curriculum/science/en_science_12_physics_elab.pdf)

### Course Content

Unit 1	Physics Review
Unit 2	Equilibrium & Torque
Unit 3	Centripetal
Unit 4	Momentum
Unit 5	Electricity
Unit 6	Electromagnetism
Unit 7	Induction
Module 8	Modern Physics

### 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 the 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.