



École Windsor Secondary

North Vancouver School District

PHYSICS 12: COURSE OUTLINE

Teacher: Ms. Eموke Madar

Contact information: emadar@sd44.ca

Course description:

Physics 12 is an algebra-based course geared towards students interested in the fundamental understanding of physical phenomena. The subjects covered in Physics 12 are Newtonian mechanics, electromagnetism, and relativity. In Newtonian mechanics, students explore static equilibrium, circular motion and gravitation, and momentum. In electromagnetism, students study electrostatics, electricity, and magnetism. In relativity, students learn about Einstein's theory of special relativity. Throughout the course, students develop critical thinking skills through solving problems in familiar and unfamiliar situations. Students also build skills in observation, measurement and analysis through hands-on laboratory experiments. Students are expected to be competent in every concept of the Physics 11 course in order to succeed in Physics 12.

Course syllabus:

Curricular Competencies	<i>What the students will do:</i> <ul style="list-style-type: none">• Questioning and predicting• Planning and conducting• Processing and analyzing data and information• Evaluating• Applying and innovating• Communicating
Content	<i>What the students will know:</i> <ul style="list-style-type: none">• Unit 1: Static equilibrium• Unit 2: Circular motion and gravitation• Unit 3: Momentum• Unit 4: Electrostatics• Unit 5: Electromagnetism• Unit 6: Special relativity

<p>BIG IDEAS</p>	<p><i>What the students will understand:</i></p> <ul style="list-style-type: none"> • Forces can cause linear and circular motion. • Momentum and energy are conserved within a closed and isolated system. • Forces and energy interactions occur within fields.
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Resources:

- Notes packages (provided in class)
- Scientific calculator (graphic calculators will not be allowed during assessments)

Assessment:

Terms Mark

- Quizzes and unit tests
- Laboratory reports

Final Mark

- Based on cumulative term marks
- Based on final exam

Grade Boundaries:

An “A” student will/can...

- Demonstrate and apply the curricular competencies
- Analyze the information and synthesize the correct solution
- Apply the concepts and extrapolate onto contextualized situations
- Demonstrate superb command of numeracy (no computational error)
- Solve challenging problems in familiar and unfamiliar situations

A “B” student will/can...

- Sometimes demonstrate and apply the curricular competencies
- Analyze the information and synthesize a solution
- Apply the concepts and understand some details in contextualized situations
- Demonstrate good command of numeracy
- Solve challenging problems in familiar and work towards unfamiliar situations

A “C” student will/can...

- Sometimes demonstrate and apply the curricular competencies
- Organize the information and attempt to interpret the solution
- Build on learned concepts but still work on finding details in contextualized situations
- Begin to solve problems in familiar situations

Policies and Procedures

Teacher goals:

- Create a positive learning environment
- Encourage the development of strong work habits
- Maintain high standards and expectations
- Maintain open lines of communication with students and parents/guardians
- Support students in their learning
- Provide clarifications if doubts/questions arise

Student expectations:

- Respect the School Policies and Procedures
- Arrive punctually, prepared with all the required materials, and be ready to work in every class
- Maintain a positive and respectful attitude and engage in learning
- Have consistent attendance (any absence should be excused and communicated in advance)
- Not use cell phones, smart watches, nor headphones at any time in class
- Complete homework on time
- Ask for help (in class or during tutorial) or for a challenge
- Write tests on the days they are assigned
- Check the MS TEAMS page for support material, notes and additional information