



PATTISON HIGH SCHOOL

We don't teach a class, we teach individual students in a class

Physics 12

Winter Semester 2020 – Period 2

Room 119

Mr. Vandervelde

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The intent of Physics 12 is to build on and extend beyond the basic concepts of Physics 11. The course itself involves a deeper level of critical thinking and is more rigorous mathematically and conceptually. The course is based on four big ideas and will also include seven core competencies and six curricular competencies. Physics 12 is a course with both difficult calculations and abstract concepts that require the application of learned knowledge. Students are encouraged to evaluate and reflect on their own learning, evaluate other students' problem solving methods, and apply this knowledge to real-world applications. They will apply First Peoples perspectives and knowledge, other ways of knowing, and local knowledge as sources of information.

Big Ideas:

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

Course Units:

1. Kinematics and Dynamics
2. Momentum and Impulse
3. Torque
4. Circular Motion and Gravitation
5. Electrostatics
6. Magnetic Fields and Induction
7. Special Relativity

Mark Distribution:

Quizzes and In-Class Assignments: 20%

Unit Tests: 40%

Midterm: 20%

Final Exam: 20%

Course Materials Needed:

- All material will be provided as handouts
- Scientific calculator
- Binder and lined paper

Calculator:

A scientific calculator that can perform trigonometric functions is required for this course. A graphing calculator is not required, and cell phones are **not** allowed to be used as calculators. Calculators cannot be shared during tests.

Marking Philosophy:

It is required that you are organized – you must show the original formulae and each step in your calculations – for your homework but *more importantly for your tests*. If units of measurement are not included in your first step or in your final answer, it is incorrect and will not receive full marks. Significant digit will also be used throughout the course and improper significant digits will result in a loss of marks. Written explanations will be required for some questions – the entire course will not simply be calculative.

Homework:

There may be in-class assignments throughout the semester, which will be completed during class time and handed in at the end of the class. Everyday homework problems will be checked periodically for anecdotal purposes. It will not affect your overall grade.

Absences:

If you miss a class, it's your responsibility to ask for homework you may have missed, and it's up to you to hand in work that was due during your absence. If you do not remember to hand in assignments on the date of your return, then the assignments will be penalized for lateness.

Notify your teacher in advance if you know that you will be absent for a test. Missing tests because of an unexcused absence will result in a score of zero.

Extra Assistance:

Extra out of class assistance is available – I am in my room before class and after class, after school, and possibly during lunch. A specific time can also be arranged if necessary.

Code of Conduct:

Students are expected to adhere to the code of conduct at all times. This includes being on time for class, being in uniform and using English while in class. Cell phones are to be used only to listen to music – if technology becomes a distraction it may be confiscated, and the student may lose the right to use technology in class if it is a recurring issue.