Course Outline*

Physics 12, Mr. R. Johnson. Email:
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(Please feel free to email anytime)

In class learning will be supported with the use of Microsoft Teams. Students should check they have their notifications on and can receive messages via the Teams platform.

Curricular Competencies

- Questioning and Predicting
- Planning and Conducting
- Processing and Analyzing data and information
- Communicating
- Applying and Innovating
- Evaluating

Big Ideas

- **Measurement of motion** depends on 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.

Course Content (with chapter reference)

~~Ch 1 Introduction (1.6)~~

Ch 2 Kinematics in 1-D (as a review of Physics 11)

Ch 3 Kinematics in 2-D and Vectors (as a review of Physics 11)

Ch 4 Dynamics: Newton's Laws of Motion (equilibrium, review of Physics 11, and First Peoples knowledge and applications of forces in traditional technologies)

Ch 5 Circular Motion (5.1 to 5.4, 5.6-5.8)

Ch 6 Work and Energy (6.1-6.4 except elastic PE, 6.6-6.8, 6.10 as a review of Physics 11)

Ch 7 Linear Momentum (7.1-7.7)

Ch 9 Equilibrium and Torque (9.1-9.3)

Ch 16 Electrostatic Forces and Fields (16.1-16.9)

Ch 17 Electric Potential (17.1-17.5)

Ch 18 Electric Current (18.2-18.3, 18.5-18.6)

Ch 19 DC Circuits (19.1-19.3, 19.8 as a review of Physics 11)

Ch 20 Magnetism (20.1-20.5, 20.7)

Ch 21 Electromagnetic Induction (21.1-21.3, 21.6, motors and generators, 21.7)

Ch 26 Special Relativity

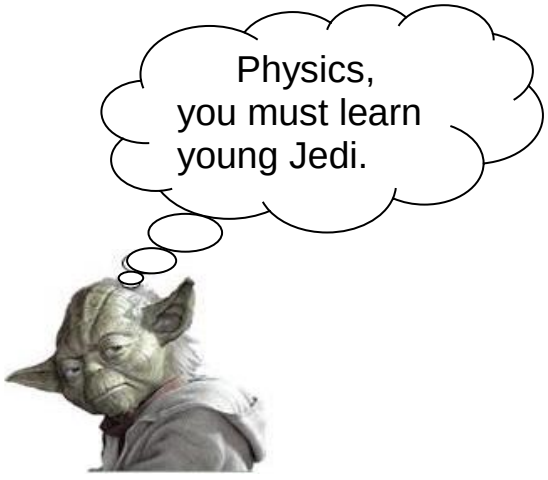
Text: Physics, by Giancoli

Assessment and Evaluation:

- Comprised of various summative and formative assessments.
- 80% tests, 20% homework/labs.
- A Physics 12 Final Exam worth 20% of the school mark may be given in June.
- You will be responsible to keep up with class work.
- There will be 25 questions to do (minimum) before every chapter test. Average students can expect an average test mark by doing 25 questions before every test.
- We will have approximately 10 chapter tests during the course.
- Unsuccessful students have been known to do their chapter questions only the night before the chapter tests. Successful students do chapter questions a little at a time as we work our way through the chapter.
- Very successful students do the same, but do more than the minimum 25.
- Along with the homework and tests, labs may be assigned, and quizzes given throughout the course.
- Any missed assessment due to an excused absence must be made up upon return to school. Please come in and speak with me or send an email. Bring a note from a parent or guardian.

Expectations:

1. Attend all classes on time with appropriate materials (textbook, calculator, paper, pen, pencil, eraser)
2. Keep an organized and complete notebook.
3. Review each day the work completed in class.
4. Complete all labs/assignments on time.
5. Attempt a minimum of 25 problems from each chapter and submit them prior to the chapter test. Problems can be from the textbook, the internet, or any source you find suitable. You must show the solutions to these problems (not just the answers).
6. Thoroughly prepare for tests.
7. Seek immediate help from the teacher upon the development of problems.
8. Help provide a cooperative and safe classroom climate.
9. Provide a note with the reason behind an absence, immediately upon returning back to school. Patterns of absences may result in a mark of zero on missed work.
10. Notify the teacher if an extended absence is anticipated.
11. Be responsible for finding out work missed and making it up after an excused absence.



*Subject to change