Physics

3655S (fall semester)

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Course Description:
This course provides a fundamental knowledge of the workings of the physical world. In particular, topics of motion (linear, projectile, and circular) and force will be examined during the fall semester. Topics of momentum, energy, simple harmonic motion, and waves (sound and light) will be examined during the spring semester. Electricity, magnetism, and modern physics topics will be discussed throughout the year.

This is a student-centered course in which lab groups perform investigations that involve the gathering, analyzing, and presenting of data. These experiences are the foundation for the conceptual model that is developed in each unit.

The course is conducted in a manner similar to a professional scientific community in which peer collaboration, group presentation and discussion of experimental results and their significance are regularly utilized. All Physics students are required to participate in and attend Irondale's Physics Fair. This is an evening event at Irondale that is usually the Tuesday before spring break. Please contact a Physics teacher with any questions regarding the Physics Fair or to confirm specific dates for the Physics Fair.

Learner Outcomes for fall semester:
Through the course of the semester, students will be creating the following models of physics:

- Physics Fair!
- Impulse & Momentum
- Energy
- Waves
    - Oscillating Particle (Simple Harmonic Motion, SHM)
    - Mechanical Waves
    - Longitudinal Waves / Sound
    - EM Waves / Light

More detailed learning targets and outcomes can be found on the course web page.

Physics Fair 2019 will be the evening of:

Tuesday, March 12

SAVE THE DATE *NOW*!

ALL physics students will be here that night. More info online.

Required Materials:
You will need:

- a durable folder
- Calculator (with sin, cos, tan)
- Notebook/Paper

Unnecessary Materials:

The following do not belong in the classroom:

- Food
- Coats/Hats
- Cell Phones
- Headphones

Classroom Policies:

In this class, we will be **Responsible**, **Respectful**, and **Ready to Learn**. You should expect to be challenged. Your success in this course will depend upon your level of involvement. In order to learn, you must commit to actively engage yourself in the learning process. You will be surprised by how much you learn from, and with, each other.

Our class involves active student-creation of physics models. It is critical that students are participating in our process of developing these models in a timely manner. Thus - **do your assignments on time!** There will be a penalty for late work.

Physics is very much a "learn it here" kind of class. The more you are gone, the harder it will be to learn the material. If you are absent, it is your responsibility to determine what you missed. Follow this order: (1) ask a classmate, (2) ask another classmate, (3) ask our class calendar (online), (4) ask me. You are responsible for everything missed.

Come prepared everyday with your materials and there will be no reason to go to your locker. Use the restroom before class and you should not have to go during class. Bring a water bottle with you and you will not need the fountain.

Emergencies occur but are the exception, not the norm.

Attendance:
Excused and unapproved absences will not arbitrarily result in reduction in grades, but failure to complete work will usually affect grades. Students and/or parent or guardian are responsible for requesting make-up work for each day's absence. Students will be allowed two school days make-up time for each day of excused absence, with the exception of long-term assignments of 10 or more school days. Long-term assignments will be due the day the student returns to school. These times may be extended at the discretion of the teacher. Students will be allowed one day to make up work in the case of unapproved absences. Teachers are responsible for providing assignments after student or parent/guardian request.

Tardies:
Students will be assigned to after school detention (ASAP) or lunch detention based on unexcused absences and after reaching the following benchmarks for tardies *to one class*:

- 3 tardies: teacher contacts student's parent or guardian
- 5 tardies: student assigned to two days of lunch detention
- 10 tardies: student assigned to one week of lunch detention; letter sent home
- 20 tardies: dean will meet with student and family

Academic Honesty:
Mounds View School Board Policy EG-3109 Student Rights and Responsibilities:

Academic honesty is required to ensure an accurate measurement of a student's academic knowledge. The Mounds View School Board expects that students will achieve success with integrity. Academic dishonesty impairs a true showing of academic achievement. Substantiated reports of academic dishonesty will result in appropriate consequences as defined in accompanying regulations and in student handbooks. Examples of academic dishonesty include, but are not limited to: theft and use of tests; use of crib sheets or other cheating devices on an exam; plagiarism or representation of a substantial piece of work as one's own without proper attribution. This policy applies to all manner, including the most current technological advances, systems, or equipment, that may be utilized for the purposes of academic dishonesty.

Academic dishonesty will be considered a behavioral infraction. The following guidelines will be utilized when a violation of academic honesty occurs:

- Consequences will be commensurate with the severity of the incident
- Consequences cannot prevent growth and development or an accurate measurement of student achievement
- Measures will be sought to determine why the academic dishonesty occurred
- Students will be required to provide a written explanation of behavior
- Students in violation of this policy will not escape the performance indicator; student knowledge will still be measured within an agreed timeframe set by teacher, dean, and student
- Additional consequences may include:
    - Re-examination of content; repeat of project, paper, or activity
    - Possible reduced score/grade not to prevent achieving a level of proficiency
    - Other measures identified in Mounds View School Board Policy EG-3109: Student Rights and Responsibilities
    - Multiple offenses may result in loss of credit, to be determined by building principal

(Irondale Student Handbook 8).

Grading Scale:

- In this course, we use equal interval grading to assess student progress.
- The purpose of the equal interval scale is to encourage proficiency rather than the accumulation of points and to support student growth over the course of the semester.
- Students and parents are encouraged to communicate with teachers if current progress does not seem adequate; we can then work together to find strategies to improve proficiency.

Individual Assignment Grade Configuration		
Gradebook Entry	**Description**	**Point Value**
A	Went beyond the basic requirements for proficiency	4
B	Met all the basic requirements for proficiency.	3
C	Met some basic requirements for proficiency	2
D	Met very few basic requirements for proficiency.	1
I	Didn't show enough work to demonstrate proficiency	0
M	Missing Evidence of Proficiency	0

Final Grade Configuration		
A	**3.60**	**4.00**
A-	**3.20**	**3.59**

B+	**3.01**	**3.19**
B	**2.59**	**3.00**
B-	**2.40**	**2.58**
C+	**2.21**	**2.39**
C	**1.79**	**2.20**
C-	**1.60**	**1.78**
D+	**1.41**	**1.59**
D	**0.99**	**1.40**
D-	**0.80**	**0.98**
I	**No Value Assigned**	

*Note: Regardless of the final mathematical calculation, students who do not complete required assessments will receive a final grade of **I** (recovered in summer school, or through after-school credit recovery programming) or **NG** (recovered with the classroom teacher within three weeks of the semester's end).*

Gradebook Setup:
Your overall grade will be divided among homework (5%), quizzes (5%), labs (15%), physics fair (25%), unit tests (40%), and the final exam (10%).

Accessing Grades:
Parents can access grades through ParentVUE. Parents will be able to see assignments for each class, and the assignments may have a score or a code (or both). Assignments may also include written comments from the teacher.

Mi = Missing (the assignment is missing and is currently counting as a score of zero)
Ab = Absent (the student was absent when the assignment was given or due)
La = Late (the assignment was turned in late)
Inc = Incomplete (the turned in assignment was not complete)
TI = Turned in (the assignment is turned in but does not yet have a score)
WIP = Work in progress (the student is working on the assignment and although it is not completed, it is not missing--this is often used for projects that have multiple parts)

Relearning Opportunities:
- Who **must** reassess? Students who earn an "I" on tests or quizzes
- Who **can request** to reassess? Students who earn "D" tests or quizzes
- When can students reassess?
    - Quizzes must be reassessed before the unit test
    - Unit tests must be reassessed before the next unit test

- How can students relearn before a reassessment?
    - Students will be provided additional practice on the course website or provided by teacher in class
    - Students will have the opportunity for additional help during Knight Time
    - Students will have relearning opportunities in the normal sequence of the course as we often spiral back on previous topics via homework or daily questions
- What does a reassessment look like?
    - For unit tests, students will correct all the questions they got wrong on the test. This can only be done after students do the additional practice provided by the teacher.
    - For quizzes, students will retake the quiz.3
- How does reassessment impact a student's grade?
    - Student score will be changed to "proficient"

Homework 4-point scale rubric
A: All from "B", "C", and "D" and a correct answer with units, picture/diagram, labeled properly (where applicable)
B: All from "D" and "C" and work is shown with an answer.
C: All from "D" and partial work/progress is shown.
D: The concept/skill/equation to solve the question is identified.
I: Homework not attempted.

Quiz/Test Percentage Conversion Scale
A: 86-100%
B: 70-85%
C: 60-69%
D: 50-59%
I: 0-49%

Lab Report Rubric
A: Contains all of the look-fors and no conceptual mistakes
B: No conceptual mistakes, missing up to 3 look-fors
C: Slight conceptual mistakes, missing more than 3 look-fors
D: Only contains a few of the look-fors and/or has significant parts missing, shows little to no conceptual understanding
I: Contains very little of the look-fors and/or is missing major parts
Lab report look-fors: purpose, data, graphs (labeled with title, axes, trendline, equation, R^2), conclusion/questions answer and explain slope significance, intercept significance, specific equation, and general equation.

This syllabus is subject to change by instructor.