

The Mississippi School for Mathematics and Science

Advanced Problems in 1st Year Physics

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Office Hours: TBA

Textbooks: *Serway & Vuille, College Physics 9ed, Brooks/Cole, 2011*

Objectives: This course will provide an immersion into advanced computational topics of 1st year physics courses. Advanced Problems in 1st Year Physics taken co-requisite with AP[®] Physics-1 comprises the most rigorous first-year physics program offered at MSMS. This course meets one day per week for the full year.

Co-requisite: AP[®] Physics-1

Chronology of Objectives:

Weeks 1-4 “Motion in One Dimension & Motion in Two Dimensions”

Weeks 4-8 “Forces & Motion / Statics”

Weeks 9-12 “Work, Energy & Power”

Weeks 13-16 “Momentum & Collisions”

Weeks 17-18 Review

Weeks 19-22 “Rotational Kinematics & Rotational Dynamics”

Weeks 23-27 “Electricity & Multi-loop DC Circuits”

Weeks 28-32 “Waves & Sound”

Weeks 33-35 “Geometrical Optics”

Week 36 Review

Grading Scale: A: 90 – 100 B: 80 – 89 C: 70 – 79 NC: 0 – 69

General Information:

Keep a three-ring notebook to organize class notes, homework, and returned quizzes and tests.

Use a pencil.

Bring your notebook and calculator to class.

After each section is discussed in class, homework problems will be assigned. These problems should be completed/attempted on a daily basis.

Homework problem sets will be assigned. These account for 20% of your nine weeks average.

Several quizzes will be given each nine weeks. These account for 20% of your nine weeks average.

A test will be given at the end of each unit. These account for 60% of your nine weeks average.

The final exam counts as 20% of your semester average. The test date will be announced later.

Your semester grade is 20% Exam and 40% 1st term and 40% 2nd term.

Follow the make - up work guidelines as set forth in *Student Handbook*.

Attendance will be taken at the beginning of each class period. Tardies and unexcused absences will be reported to the office. See the *Student Handbook*.

Follow the academic honesty guidelines as set forth in *Student Handbook*. ALL INSTANCES OF ACADEMIC DISHONESTY WILL BE REPORTED TO THE DIRECTOR FOR ACADEMIC AFFAIRS.