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NMH SUMMER SESSION

2010
College Prep Program
PHYSICS

This course was intended to expose students to a year-long physics curriculum with an emphasis on topics in mechanics. The rapid pace of the course required organization and efficiency in study skills and class work. Strong emphasis was placed on the development of problem-solving skills. There was also an extensive laboratory component to the class, allowing the opportunity to fashion hypotheses, test assumptions, and gather data to form a conclusion. In the lab, the students observed and explored firsthand some of the topics covered in lecture.

There were regular tests throughout the five-week session, which culminated in a final exam. There were up to three hours of nightly homework, including lab write-ups. Class participation was also an important part of the course. The students completed various projects during the session, including the construction, testing, and launch of a water rocket.

TEXT: *Glencoe Physics: Principles and Problems* by Zitzewitz, et al., 2005 edition

TOPICS COVERED:

- Chapter 1: Measurement toolkit
- Chapter 2: Representing motion
- Chapter 3: Accelerated motion
- Chapter 4: Forces in one dimension
- Chapter 5: Forces in two dimensions
- Chapter 6: Motion in two dimensions
- Chapter 7: Gravitation
- Chapter 8: Rotational motion
- Chapter 9: Momentum and its conservation
- Chapter 10: Energy work and simple machines
- Chapter 11: Energy and its conservation

The lecture component of the class met for three hours, six mornings a week. In addition, four afternoons a week, the students spent an hour and a half working in the laboratory.

Master Teacher: James Scheidegger
Pine Crest School

Teaching Intern: Kathryn Hayes
Northeastern University