



Methods of Teaching Physics I: Modeling Workshop in Mechanics

Course description

This course is a Modeling course based off of the American Modeling Teachers Association.

This course is based Goals:

The Modeling Workshop in mechanics is a semester long course with these goals:

1. Educate teachers in use of a model-centered, guided inquiry method of teaching high school physics.
2. Help participants integrate computer courseware effectively into the physics curriculum.
3. Help teachers make better use of national resources for physics education.
4. Establish electronic network support and a learning community among participants.
5. Strengthen local institutional support for participants as school leaders in disseminating standards-based reform in science education.

Objectives:

The main objective of the 1st online course in Modeling (in mechanics) is to acquaint teachers with all aspects of the modeling method and develop some skill in implementing it. To that end, teachers are provided with a fairly complete set of written curriculum materials to support instruction organized into coherent modeling cycles (as described in Wells et al., 1995). The physical materials and experiments in the curriculum are simple and quite standard, already available in any reasonably equipped physics classroom.

To develop familiarity with the materials necessary to fully implement them in the classroom, we find that teachers must work through the activities, discussions and worksheets, alternating between student and teacher modes. Each of the nine units in the mechanics course manual includes an extensive Teacher Notes section. Throughout the course, teachers are asked to reflect on their practice and how they might apply the techniques they have learned in the course to their own classes.