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# MODELING PHYSICAL SCIENCE II

## Physics/Astronomy 761

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Instructor:	Dr. Mark Lattery Halsey 351 920-424-7105 lattery@uwosh.edu
Meeting Time:	Three weeks prior to July 4. M-F, 8-11:30 a.m and 1-4 p.m.
Required Reading:	Lattery (2004). <i>Modeling Physical Science II Teacher's Manual</i>  Arons (1990). <i>A Guide to Introductory Physics Teaching</i> , Wiley
Credits:	3
Prerequisites:	Previous teaching experience and permission from the instructor.
Grading Basis:	Pass/Fail. Passing grade contingent on acceptable classroom participation and completion of all homework assignments.

### Course Description:

This course is part of a two-year professional development program for physics and physical science teachers funded by the Wisconsin ESEA (Title II) Program. The course Physics 761 continues to pursue the following program objectives:

- train teachers in the use of a model-based, constructivist method of science teaching and at the same time to improve their content knowledge in physics.
- integrate computer courseware effectively into the physics curriculum.

- establish a learning community among participants.
- help participants to make better use of national resources for physics education.
- strengthen local institutional support for participants as school leaders in disseminating standards-based reform in science education.

## Schedule

The course content schedule is given below. In week 1, teachers receive training in the active-inquiry methods for optics. In the second and third week, teachers continue their study of the modeling method of instruction (Arizona State University), first introduced in Physics 760, as applied to the study of Newton's laws and chemistry.

<i>Week</i>	<i>Unit</i>
1	Geometric optics
2	Newton's laws (energy methods)
3	Chemistry

As in Physics 760, teachers receive technical training in the use of classroom technology. For example, in Week 1, teachers learn to use graphing software; in Week 2, they use force probes and motion detectors; and in Week 3, they use PH sensors and conductivity probes.

The Arons textbook is an important component of the course. Chapters to be covered are: 1-3, 5, 12-13

## Further Information:

For complete information about the Modeling Physical Science program, please visit our web-site at: [www.phys.uwosh.edu/lattery/mps/mps.htm](http://www.phys.uwosh.edu/lattery/mps/mps.htm).