

PHYS 5300
Fall 2008

Professor: Dr. Beth Thacker
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Schedule: for 1403 F 2:00pm – 4:50pm in SC 118
for 1404 W 2:00pm – 4:50pm in SC 118

Office Hours: By appointment.

Prerequisites: none

Course Text: Real Time Physics Active Learning Laboratories, Module 1, Mechanics, David. R. Sokoloff, Ronald K. Thornton and Priscilla Laws (John Wiley and Sons, Inc., Hoboken, NJ, 2004) or the laboratory manual for PHYS 1404. The text will be supplied for you.

Course Coverage: Teaching methods for Real Time Physics laboratories and teaching pedagogy for teaching recitation sections. We will also discuss teaching methods in general, including working with groups, student-centered pedagogy, discovery and inquiry-based methods, grading and other pedagogy.

The Nature of the Course: Students will work through the laboratory they will be teaching each week, discuss teaching methods relevant to the materials, work through the recitation portion of the laboratory and discuss teaching methods for the recitation portion of the laboratory. There will also be discussions about teaching in general and time allotted for discussion of issues of grading, course administration and other topics.

Expected Learning Outcomes:

- 1) Students will be able to teach Real Time Physics laboratories effectively.
- 2) Students will be able to demonstrate their understanding of the nature of the materials, including the use of a learning cycle, modeling, critical physics concepts, interpretation of data, both in class and teaching.
- 3) Students will understand various pedagogies, such as how to use interactive engagement, student-centered pedagogies and other teaching techniques.
- 4) Students will be able to grade physics problems that require students to explain their reasoning and physics problems that require both conceptual and quantitative responses effectively.

Methods for Assessing Expected Learning Outcomes:

- 1) Students will be observed teaching introductory physics laboratories.
- 2) Students will be evaluated on their discussion of the nature of the materials in class.
- 3) Students will be evaluated on their discussion of different teaching techniques in class.
- 4) Students' grading of undergraduate students' physics papers will be evaluated.

Grades: The grade will be weighted as follows:

Class participation	50%
Evaluation of grading	25%
Evaluation of teaching	25%

Any student who because of a disability may require special arrangements in order to meet course requirements should contact the instructor as soon as possible to make any necessary accommodations. Student should present appropriate verification from AccessTECH. No requirement exists that accommodations be made prior to completion of this approved university procedure.