

# General Physics Workshop

# Rational

- More consistency was required between General Physics sections.
- A discussion, among faculty teaching General Physics, was helpful to find common ways of dealing with certain difficulties.

# Goals

- Put together materials that can be used in all sections of General Physics.
- Have a workshop for faculty teaching General Physics courses (including 2 new faculty).

# Common Class Materials

- In-class Example Problems
- Practice Problems
- Clicker Questions
- Demonstrations
- Study Guides

# In-Class Example Problems

- A set of relatively simple problems for each chapter to be worked out by the instructor in class.
- These problems are designed to help introduce a certain type of problem and demonstrate how to solve it.

# Practice Problems

- These are extra “homework”-type problems to be work out by students outside of class.
- These are for practice only. Students get no credit for these problems.
- These were put together by Jessica Graber.

# Clicker Questions

- These are conceptual, multiple-choice question presented to students in class.
- These can be answered by students with either letters or clickers.
- A “think-pair-share” approach can be used.

# Demonstrations

- The department has a store room filled with demonstrations.
- Demonstrations have proven very helpful in getting certain concepts across to students.
- All professors can use the same demonstrations. (List)



# Study Guides

- These have a quick review of the basic ideas, vocabulary and equations used in each chapter.
- They also have a number of multiple-choice questions that reinforce the concepts.

# Common Assessment

- Homework
- Quizzes
- Exams

# Homework

- We already use common, online homework through Webassign.

# Quizzes

- All sections should give quizzes with the same number and type of questions.
- Same content and difficulty on quizzes for each section.
- Each section must have a different quiz to reduce the likelihood of cheating, but kept equivalent.

# Exams

- Have hour and a half, out-of-class exams.
- Use a standard set of problem types for each semester. (List)
- All sections must test the same content and at the same difficulty. → Common Tests

# Discussions

- Student study habits
- Student time management (esp. on tests)
- Student moral
- Use of office hours
- Use of Concept Maps
- Communicating expectations to students
- Interaction with students in class
- Good teaching practices

# Conclusions

- Established common practices for all General Physics sections
- Common activities
- Common assessment
- Common content and difficulty level

# Results

- It's has gone well, for the most part.
- No means of assessment.
- While we have common materials, there is still some variation in their use (examples, demos, etc.)



# Results

- Reasonably successful – could improve with continued communication between professors.
- Future plans: maybe repeat the workshop when needed. (Hasn't been needed yet.)
- No plans for dissemination