Hokin 207 – Lecture 1 – Course Intro, Expectations, What is Physics?

Handouts: syllabus, course info, consultation room schedule

Introduce self – "office" is 2334 Chamberlin, but I won't be there much

TA intros

What are students into?
- Physical sciences?
- Biological/Life sciences?
- Engineering?
- Liberal arts?
- Navy?

Administration stuff / Syllabus
- Honors section – Friday lectures required, ALL are welcome!
- Two midterm exams:
  - 1. Wed Feb 23 Ch 1-8 7:15pm 2103 Chamberlin (25% total exam score)
  - 2. Wed Apr 13 Ch 9-15 7:15pm 2103 Chamberlin (25% total exam score)
- Homework is due following Mondays at 11pm, done online at masteringphysics.com
- Course stuff is at www.physics.wisc.edu/undergrads/courses/current/207
- Labs can NOT be missed – two make-up weeks
- Discussions – TA's work for YOU, tell them what you need!
- Consultation room schedule
- Final exam: Mon May 9, 10:05am, room to be determined, two equal parts:
  - 3. Ch 16-21 (25% total exam score)
  - 4. Cumulative (25% total exam score)
- Grading – 60% from exams, 20% from labs, 15% from homework, 5% from discussion

Expectations
- KEEP UP WITH COURSE!!!!
- Read chapter BEFORE lecture, and COME TO LECTURE
- DO HOMEWORK – due 11pm following Monday, NO LATE HW
- Study with friends!
- Use consultation room, talk to me if you need further help (other resources available)
- LABS MATTER – show up, work together, write clearly, have fun!
- Do lots of practice problems
What is Physics?

• True/False: Physics is a religion
  ◦ 01-01-hawking-god-created-integers.jpg
  ◦ 01-02-hawking-grand-design.jpg

• True/False: Physics is an art
  ◦ 01-03-kim-dylla-stellarator-painting.jpg

• True/False: Physics is a branch of philosophy
  ◦ 01-04-newton-principia.jpg

• True/False: Physics is the most fundamental science

• True/False: Physics requires math (and if so, whose math?)
  ◦ throw a ball – there's physics, where's the math???

This is NOT a math class – apply ideas first!! THEN apply math.

How to approach demos in lecture

• LISTEN to the setup – what physics is happening?
• PREDICT what will happen (learn more if you're wrong!)
• OBSERVE the demo
• ANALYZE what happened (was your prediction correct?)
• DEMO: vacuum ping-pong ball bazooka

Look at physics all around you, every day:

• My gas grill at 10F outside – why does the gas stop at full flame?
  ◦ 01-05-my-grill.jpg

• Bicycle cable in winter – why is it so stiff?
• Motorcycle racer – how can he remain upright?
  ◦ 01-06-valentino-rossi-catalunya.jpg

Assignment:

• Read Chapter 1
• Spend an hour playing in the Physics Museum