Quick Sanity Check

Howdy!

Are you in the right class?

• Introduction to Classical Mechanics
• Physics 218
Just getting started…

• I like enjoying class, so I’ll work hard for this to be fun for all of us (tough at 8AM!)
• I want everyone to do well and get good grades
• I’ll also to teach you how to get good grades (unfortunately it’s a lot of work)
• We’ll take a joke-break during class, and I’ll show short video clips at the beginning
  – Please send me new material and I’ll do my best to use it in class
Start with our thought for the day…

What it’s like to sit in an 8AM physics lecture…. 
Overview of Today’s Class

• Syllabus and Other Handouts on my WebPage
• Problem Solving
• Other requirements
• Your “homework” before next lecture
Big Picture

• Textbook
  – Young and Freedman, 11th Edition

• There is a both a recitation and a laboratory for this course
  – “Visual Physics”
  – First meeting is this week!
Handouts on my WebSite

faculty.physics.tamu.edu/toback/218

By the next class you need to read:

• WebCT/Homework instructions
  – More on this later…

• Frequently Asked Questions (FAQ)

You can also find on the handouts page links:

• Exam schedule
• Lecture notes
• Lecture Assignment Instructions
  – Send me email if you find problems
Grades

- Exams: 275 points (exam 1: 75, exams 2&3: 100)
- Final: 200 points
- Lab & Rec, Reading Assignments: 200 points
- HW, HW Quizzes & Math quizzes: 75 points

Total: 750 points

I will curve all the exam scores AFTER the final, but will try to give feedback along the way.

Most of your grade will be based on your ability to solve problems.
Problem Solving

Or

How I learned to
Love WebCT
Problem Solving

• The heart of this course is problem solving
• If you spend your time learning how to solve the hard problems you’ll
  – Do well in the course
  – Realize why physics is so interesting
• Everything in this course is designed to help you become an excellent problem solver and give you lots of feedback and help along the way
• We use WebCT a lot to help with this…
WebCT and Recitation Problems

• **Math quizzes:** Using WebCT. Are you prepared mathematically for the course? If not, WebCT will tell you so you can drop now or get help

• **Homework and HW quizzes:** Will be turned in using WebCT. Can you solve the hardest problems on the homework?

• **Recitation quizzes:** Work with others to solidify your understanding of the material
Exam Problems

3 Exams and a Final

– Closed book (formula sheet provided)

– No numbers! In general the problems will be formula solutions with variables

– Problems will be very similar to those on homework and recitation
Math and Math Quizzes

• Studies show that you need to be good at the math to solve physics problems

• Are you ready for this course? Log into WebCT and take (finish?) your math quizzes before Thursday’s lecture
  – These are timed; will take at least an hour
  – Bring paper and a pencil

• High school math! If they aren’t easy for you then get help or DROP NOW
Bad news:
• To get full credit you need to get a perfect score on all ten quizzes. If you can’t get a few perfect scores after just a little practice, you should consider dropping the course or getting SERIOUS help. (Lots of free help out there!!!).

Good news:
• You can take as many quizzes as you want until you get perfect scores. We REALLY want you to learn and get good grades!
Homework: Not your High School Physics Class

Many of you have taken high school physics are used to being given formulas and numbers to plug into them…

• **Bad news:** We are not going to do this on the exams! We’ll use variables…

• **Good news:** We’ve set up the homework so that if you do it the way we ask you to, you’ll be well prepared for the exams!
A New Way to Turn in Homework

Before WebCT:

1. Use a variable for each quantity (e.g., \( Mass = m \)) and work out the algebra without numbers. Your answer should be a formula.

2. Plug the numbers into the final formula and check your answer in the back of the book (even answers on the web).

After you got ALL of them correct and checked:

1. Log onto WebCT
   1. Same problems but with different numbers
   2. Use your formula/calculator to get the “new” answer
   3. Enter “new” answer into WebCT
Homework Warning...

You only get a short amount of time with the new numbers. Do all the problems (and check that they’re right) before going to WebCT

More bad news:

• In order to pass the course you must turn in all the problems correctly!!

The good news:

• You can have as many tries as you want! When you get a 100, we only count your best score!

There is a short, required, HW quiz for each HW set. These are new problems, but you can take this as many times as you like until you get a 100 also!

Homework is due Monday after recitation
My advice

– Turn in your WebCT homework SLOWLY and CAREFULLY. You have more than enough time if you’ve done the problems ahead of time.

If you turn in a problem and WebCT tells you it’s the wrong answer on 2 consecutive tries, our studies show you most likely have the wrong formula!

– Don’t get mad! Get Help! (TA’s, Supplemental Instruction, helpdesk etc.).

If you need an extension, send me an email.

Other advice: We know some students think they are clever and try to cheat the system. *If you try to cheat the system … just wait until the exams…*. XX
Extra Credit – We want you to do well

• When you get a 100 on all the math quizzes, HW1-3 and their associated quizzes, a mini-practice exam will become available to you to help study for the in-class exam

• Take as many as you like!

• If you get a 100, before the in-class exam, I’ll give you 5 bonus points on the exam

• There is a different mini-practice exam for each in-class exam

• Students who get a 100 on the mini-practice exam typically do 30 or more points better on the exams than do students who don’t take it.
Recitation Grades

- A large fraction of your recitation grade is based on the Recitation Quiz
- 10% of your recitation grade will be based on your preparation for recitation
- In order to get preparation points you need to have gotten at least 1 problem in WebCT correct for that week’s homework BEFORE recitation
Other Requirements
Lecture Assignments

• You must do the Reading before lecture

• Answer the Lecture Assignment questions

• Due at the beginning of lecture

• Instructions on my webpage
Requirements

In order to pass this course you must:

• Take all the exams and the final
• Must pass the Visual Physics part
• Must have a 100% on the WebCT stuff*
  – Math quizzes
  – Homework
  – Homework quizzes

*You get as many tries as you want
Example Procedure for Next Week

1. Before lecture on Tuesday:
   1. Read chapter 2
   2. Do the Lecture Assignment (Questions Q2.8 and Q2.20)
   3. Start working on the HW problems

2. Lecture:
   1. Turn in the Lecture Assignment

3. Before Recitation:
   1. Finish/Check all the HW problems before recitation
   2. Start turning in homework on WebCT
   3. Need at least 1 question on WebCT correct

4. Recitation:
   1. Ask questions about the HW problems

5. After Recitation:
   1. Full homework due Monday after recitation on WebCT
Procedure for Each Week

• **Week 1 (This week):**
  – Lecture: Chapter 1 (Reading, but nothing due)
  – Recitation: Calculus and Lab Techniques
  – Homework due: None

• **Week 2 (Next week):**
  – Homework due (Monday): Math quizzes
  – Lecture: Chapter 2 (Reading and Lecture Assignment due)
  – Recitation: Chapter 1 (and Lab 1)

• **Week 3 (The week after that):**
  – Homework due (Monday): Chapter 1
  – Lecture: Chapter 3 (Reading and Lecture Assignment due)
  – Recitation: Chapter 2 (no lab, but lab 1 is due)

• Etc..
Any questions?

• I’ve compiled a list of frequently asked question and their answers and put it on my web site. You should read that before next class.
Checklist for next time:

1. Download the Visual Physics handouts and go to your Recitation this week
2. Download the WebCT instructions
3. Get a Neo account (if you don’t have one already), read your email and log into WebCT
4. Take the free warm-up and evaluation quizzes
5. Start (finish???) your math quizzes
6. Read Chapter 1 in the text book
7. Start working on your Ch. 1 homework problems
8. Download the Frequently Asked Questions handout and read

Can’t remember all this? A copy of all my lecture notes are on my website.
Next time:

Next lecture:
• We’ll cover chapter 1
• We’ll review the feedback on the online math evaluation

For Next Tuesday:
• Read Chapter 2
• Chapter 2 Questions: Q2.8 and Q2.20 (These are the “Discussion Questions” which are after the “Answers to Test your Understanding Questions”)

Can’t remember all this? A copy of all my lecture notes are on my website