PHYS 185
College Physics I

Truman State University - Fall 1999

Meetings:

Lecture: Barnett Hall 251, MTTh 4:30-5:20pm
Lab #1: Barnett 151, M 2:30-4:20pm
Lab #2: Barnett 151, T 8:30-10:20am
Lab #3: Barnett 151, W 1:30-2:20pm

Instructor: Rob Salgado
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Office hours: MWThF 10:30-11:30, T 1:30-3:30
or DROP BY MY OFFICE or MAKE AN APPOINTMENT.

Catalog Description: The motion of objects, from particles to planets, is the focus of this course. The revolution in human understanding of mechanics, inspired by Galileo and developed by Newton and others, is the lens through which our modern mechanical world is surveyed. Students will make extensive use of algebra and trigonometry in applying the fundamental laws of classical physics to real-world problems, and will explore the physicists approach to inquiry through laboratory investigations.
[Prerequisite: MATH 186 (Elementary Functions) or equivalent.]

Textbook: Cutnell and Johnson. *Physics:* 4^{th} *edition.*
If you are not completely happy with the textbook, find another one from the library! (I did this for every class I took!)

Electronic Materials: I will maintain a webpage that lists the assigned problems and, possibly, solutions. Please refer to:
`http://www2.truman.edu/~rsalgado/185/`

Labs: Labs will make up 20% of your course grade. Details will be described in another handout.

Homework: Homework will not be collected. However, I guarantee that at least one of those problems will appear on a quiz or exam. You are encouraged to work together on the homework. However, be sure that you can do the problems by yourself since you'll be working by yourself on a quiz or exam.

Quizzes: Quizzes will be given at the end of each chapter. They will be announced in advance. Each quiz will be given at the start of class-period and will last 20 minutes. Don't be late.

Exams: There are THREE one-50-minute exams and ONE two-hour final. Each exam will be based on a range of chapters covered in the course. It may include questions relating to an activity you did in lab. The final exam will cover the last chapter as well as a "cumulative" part covering all of the other chapters. If you think that you will have a conflict with a scheduled exam, contact me in advance of the exam.

Grades:

- 20% Lab (details will appear in another handout)
- 15% Quizzes
- 45% 50-min Exams ($3 \times 15\%$)
- 20% Final exam

A=90+, B=80+, C=70+, D=60+, F<60.
This class is not graded on a curve.
If your exams show an upward trend, you'll be nudged upwards.
If you are an active participant in class, you'll be nudged upwards.

Course outline: (based on Dr. Ottinger's schedule... but there are differences)
(The Lab schedule will appear on another handout.)

- week of 08/23: Introduction and Mathematical Concepts (Ch. 1)
- week of 08/30: Kinematics in One Dimension (Ch. 2)
- week of 09/06: [MON is Labor Day] Kinematics in Two Dimensions (Ch. 3)
- week of 09/13: relative motion (end of ch. 3); REVIEW; EXAM 1 [THU, 09/16]
- week of 09/20: Forces and Newton's Laws of Motion (Ch. 4)
- week of 09/27: applications of Newton's Laws (end of ch. 4);
  Dynamics of Uniform Circular Motion (Ch. 5)
- week of 10/04: (end of ch. 5); Work and Energy (Ch. 6)
- week of 10/11: (more of ch. 6)
- week of 10/18: (end of ch. 6 and little of Ch. 10); REVIEW; EXAM 2 [THU, 10/21]
- week of 10/25: Impulse and Momentum (Ch. 7)
- week of 11/01: Temperature and Heat (Ch. 12)
- week of 11/08: (end of ch. 12); The Transfer of Heat (Ch. 13); REVIEW
- week of 11/15: EXAM 3 [MON, 11/15]; Thermodynamics (Ch. 15)
- week of 11/22: (more of ch. 15); [WED-FRI is Thanksgiving]
- week of 11/29: (end of ch. 15)
- week of 12/06: REVIEW
  [WED is Reading Day] [[FINAL THU 12/09, 1:30-3:30pm]]