WE '03

PHYSICS 140 - INTRODUCTION TO ASTRONOMY

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Webboard is here

Welcome to the online version of Physics 140 - Introduction to Astronomy. As time progresses, the notes may be altered (as new information becomes available) so developing webpages will be an ongoing project. Of course I will strive to post pages as rapidly as possible, but please be patient.

COURSE REQUIREMENTS.

TEXT: ASTRONOMY TODAY , CHAISSON AND McMILLAN, 4TH EDTION.

The course assumes no prior science background, though if you've had previous courses, that's certainly o.k. too. Being a survey course, the math employed will be simple and will be used in simple calculations. The CD that accompanies the book won't be used in the course per se, however I encourage you to make use of it. The animations are great!

COURSE OBJECTIVES:

1. To provide students a basic understanding of how science, particularly astronomy, is done.
2. To illustrate the development of modern astronomy in a historical context.
3. To familiarize students with astronomical terminology.
3. To teach students the basic underlying physical laws governing the behavior of astronomical objects (planets, stars, etc).
4. To enhance critical reasoning skills via problem-solving. Such skills benefit students both in and outside of science.
5. To acquaint students with the scales of time and length encountered by astronomers.
6. To familiarize students with the solar system, stars, and how stars evolve over time.
7. To illustrate how information from many disciplines such a physics, chemistry, and geology are employed by astronomers to understand the phenomena they encounter. Thus astronomy, the oldest science, is in fact interdisciplinary.

ASSIGNMENTS:

At the beginning of each chapter, you will be assigned 10 questions taken from the Review And Discussion section and 2 problems at the chapter's end to be completed as soon as possible. The Review and Discussion questions are 1 point each and the problems are 5 points each. Thus each homework assignment will be worth 20 points and we'll have 12 assignments for a maximum of 240 points.

TESTS:

There will be 2 midterm exams, each worth 100 points. Each will consist of 33 multiple choice questions and will cover about 4 chapters, corresponding to each PART (see Brief Contents) of the book. There may be exceptions; for example, exam 2 covers the Solar System (planets) and the information is found in various chapters. The final exam is comprehensive and will consist of 50 multiple choice questions . The final is also graded on a 0 - 100 scale.

GRADES:

The homework assignments count for 40% of your grade. The 2 midterms will count for 30% of your grade, while the final exam makes up the remaining 30%. The final grade is then determined by the formula: grade = 40 x (sum of homeworks)/240 + 30 x (sum of midterms)/200 + 30 x (final exam)/100. From there, the letter grade is determined by

- 90 - 100 = A
- 80 - 89 = B
- 70 - 79 = C
- 60 - 69 = D
- 0 - 59 = F

Tentative Schedule:
Chapter 1 - Charting the Heavens
Chapter 2 - The Copernican Revolution
Chapter 3 - Radiation
Chapter 4 - Spectroscopy
EXAM 1
Chapter 6 - The Solar System
Chapter 7 - Earth
The Inner Planets - material taken from Chapters 8,9,10
The Outer Planets - material taken from Chapters 11,12,13
EXAM 2
Chapter 17 - Measuring the Stars
Chapter 19 - Star Formation
Chapter 20 - Stellar Evolution
Chapter 21 - Stellar Explosions

EXAM 3

Now on to the lecture notes!
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