

ASTRONOMY
PHYS-220/220G, section 001

Spring 2008

Dr. Sergio Picozzi

Department of Computer Science, Audio Technology, and Physics
American University

Email: picozzi@american.edu

Phone: (202) 885-3505

Office: McKinley 100

Office hours: Mon., Thurs, 1:30 – 3:30, Tue, 3:30 – 5:30

Classroom: McKinley 108

Class meeting times: Tue. and Fri., 2:10-3:25 PM

GEFAP Teaching Assistant: Rebecca Wagner

E-mail: rw2232a@american.edu

Meeting times: TBA

Required Text: *Astronomy: A Beginner's Guide to the Universe, 5th Edition*
Eric Chaisson and Steve McMillian, Pearson Prentice Hall.

Course Description: Astronomy (PHYS 220) is a one semester course introducing topics in astronomy. Modern astronomy can be characterized as the study of the universe and the physical mechanisms which are relevant to understand its current structure and its evolution in time. Topics covered in the course include methods for investigating the universe, planets and the solar system, stars and stellar evolution, the Milky Way galaxy, normal and active galaxies, and the large scale structure of the universe. Students will be expected to develop understanding of crucial scientific concepts and how they apply to the classification and investigation of different objects and structures in the universe.

Please see the attached **Course Calendar** for more information regarding topical coverage, as well as key dates for exams.

Requirements: Your final course grade will be based on the following:

Participation (in class and on line)	15%
Partial Exams (3)	45%
Final Exam	40%

Class Participation: Although this is a lecture-based course, I encourage questions, comments and a spirited give-and-take during class and on line.

On a weekly basis, I will be assigning you **homework**, in the form of true/false and multiple-choice questions. This format is analogous to the one adopted in the exams.

The assignments will be due, typically, on Tuesdays each week. Although you will be expected to do and submit your homework, *it will not be graded*. This homework is intended as an opportunity for useful practice and reinforcement of key concepts in view of the in-class exams. It will also enable you to determine the areas in which additional study on your part is needed and, of course, assistance on my part should be sought.

Furthermore, by inspecting your homework, I will obtain a measure of your involvement in the subject, as well as of your current understanding of the topics, and I will be addressing the more prominent gaps during subsequent lectures.

Attendance records will not be taken, but, obviously, it will be difficult for you to earn participation points if you are never present in class. Moreover, although I will not be testing you on material that does not appear in your textbook, it is likely that I will provide during lectures approaches alternative to the ones found in the book when they serve to facilitate the understanding and retention of difficult concepts.

Exams: Three *partial exams* will be given during the course of the semester (see Course Calendar). Each partial exam will count towards 15% of your final grade and will be covering the material pertaining to the lectures given after the preceding exam.

The *final exam* will be comprehensive, and it will be given according to the University schedule.

Telescope Observation Program: Recently, the Department has acquired a state-of-the-art Meade LX90 GPS Schmidt-Cassegrain telescope, which I am planning to make the centerpiece of a new outdoors observation program.

This exciting new activity eventually is going to be incorporated into the astronomy course requirements, to complement the lectures.

This semester, however, we will be inevitably experimenting with the logistical issues involved with such a late-evening outdoors activity: necessity of a dark, yet safe, observation point with an unobstructed view of the sky, transportation, and the vagaries of the weather.

Consequently, this semester the observations will be run as a pilot program and will not count for credit. Although participation to the program will be on a voluntary basis, I should hope that most of you will manifest interest for using the telescope, an activity at once intellectually stimulating and visually appealing.

Grading Scale: I will adopt the following grading scale:

A	>	85%
A-	>	80%
B+	>	75%
B	>	70%
B-	>	65%
C+	>	60%
C	>	55%
C-	>	50%
D	>	45%

Integrity: It is your responsibility to read, understand and abide by the Academic Integrity Code. Any form of cheating will not be tolerated.

Course Calendar

Week 1

01/14

INTRODUCTORY CHAPTER - Exploring the Heavens

Week 2

01/21

CHAPTER 1 – The Copernican Revolution

Week 3

01/28

CHAPTER 2 - Light and Matter

REVIEW

Week 4

02/04

1st Partial Exam

CHAPTER 4 – The Solar System

Week 5

02/11

CHAPTER 5 – Earth and Its Moon

Week 6
02/18

CHAPTER 6 – The Terrestrial Planets

CHAPTER 7 – The Jovian Planets

Week 7
02/25

CHAPTER 8 – Moons, Rings, and Pluto

REVIEW

Week 8
03/03

2nd Partial Exam

Week 9
03/10

Spring Break

Week 10
03/17

CHAPTER 9 – The Sun

Week 11
03/24

CHAPTER 10 – Measuring the Stars

CHAPTER 11 – The Interstellar Medium

Week 12
03/31

CHAPTER 12 – Stellar Evolution

Week 13
04/07

CHAPTER 13 – Neutron Stars and Black Holes

REVIEW

Week 14
04/14

3rd Partial Exam

CHAPTER 14 – The Milky Way Galaxy

Week 15
04/21

CHAPTER 15 – Normal and Active Galaxies

CHAPTER 16 – Galaxies and Dark Matter

Week 16
04/28

CHAPTER 17 – Cosmology

Final Exam

(see *American University* Spring '08 Final Exam Schedule)

