ASTRONOMY 4
Solar System Astronomy

Section 01 (Mondays and Wednesdays, 1:30pm)

DeAnza College
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Consultation hours: 2:00 - 3:00pm Tuesdays and Thursdays
Textbook: *The Solar System*, 6th Edition, by Michael Seeds **Note**: Please make sure that you have the correct book. The text for our other course (Astronomy 10, *Stars and Galaxies*) is by the same author and contains some of the same chapters, but it cannot be used for this course.
Website (for handouts, schedule updates, etc.): http://tinyurl.com/ytmdg (this is an alias for http://planet.fhda.edu/DACAstr/Harr4s/4contents.htm)

Introduction to Astronomy 4

Astronomy 4 is an introductory-level course which concentrates on the planets (and some other objects orbiting around the Sun) in the Solar System and what we have learned about them in the past four decades since the advent of humanity's ability to explore space. The course has no astronomy, physics, or math prerequisites and is taught in a "non-mathematical" manner. Credit for the 5 quarter units of Astronomy 4 is fully transferable to both the University of California and California State University systems.

Objectives of Astronomy 4

The basic objective of Astronomy 4 is to give you as comprehensive an account of the modern field of planetary astronomy as is possible in mostly nontechnical terms in one quarter. In particular, this course is designed to give you the following three things (at least):

1. An increased sense of place and scale in the universe and a sense of how our species reached its current understanding of our world's place in the larger scheme of things.

2. An acquaintance with the appearances and other physical characteristics of the major planets, especially as they have been revealed by spaceprobes over the last generation.

3. A familiarity with the various modes of research which astronomers use to investigate other planets, including (but not limited to) various types of automated spacecraft.

General Outline of Astronomy 4

This quarter's version of Astronomy 4 will be divided into three major sections, each of which will contribute

(to some degree) to each of the objectives:

1. Overview and Fundamentals: This section will involve an introduction to the astronomer's universe: definitions of basic terms; useful properties of matter and motion; and an overview of the Solar System's properties as a *system*, rather than a random congregation of worlds. In this section we will also briefly recount the history of our species' view of the structure of our Solar System and its place in the larger universe.

2. The Solar System Today: This section will take the form of a "tour" of the other worlds which orbit the Sun. We will make extensive use of the many visual materials which NASA and other agencies and organizations have made available while we investigate the landforms and physical properties of more than 50 bodies that had never been seen in detail before 1962.

3. The Solar System Yesterday and Tomorrow: The Sun, the planets, and their satellites have existed for roughly 4.5 billion years and will continue as a recognizable system for about that much longer -- but major changes have taken place and will continue to occur. In this section, we will look at the history and future of the Solar System with a particular eye toward the life-bearing capacities of the planets.

Class Format

Our in-class time will be divided roughly 50-50 between lectures and audiovisual programs and other demonstrations. Notes that you take on the in-class material will be at least as important as the textbook reading material in preparing for exams; material covered in the text, lectures, and audiovisual programs will not always be the same.

Planetary exploration has been one of the most thoroughly image-intensive major scientific endeavors ever undertaken; there is a huge inventory of visuals (in a variety of media) available to help us picture what the other worlds in our Solar System are like. As a result, a good deal of our class time will be spent taking advantage of a wide variety of audiovisual programs. For most of these programs, you will be given a series of questions beforehand that you will be expected to be able to answer after having seen the presentations.

Attendance

Attendance will be taken at every class meeting, and I will be free to drop you from the course if you miss **more than five class meetings** (for *any* reason). Keep in mind also that not everything covered on the exams will be covered adequately in the readings -- much of the material will be available *only* in class.

(NOTE: If you decide to drop the course, **it is your responsibility to complete the necessary paperwork** with the college. If you do not do so and simply stop attending class before the end of the permissible withdrawal period, you may find an embarrassing "F" on your transcript.)

Exams and Grades

Your final grade will be based on your performance on midterm exams and the final examination.

Midterm Exams: There will be three midterm exams in this course (see the schedule below), and they will count for 2/3 of your point total for the course (the final exam will account for the other 1/3). Your lowest midterm exam score will be dropped -- so that only your two highest scores will count toward your grade --

but **no makeup exams will be given for any reason**. Thus, if you miss an exam, that exam will be considered to be your low score and will not be counted.

Final Exam: Except in the case of an officially verifiable and unforeseeable emergency, **you must take the final exam at the time scheduled** (see the schedule below). If you miss the final exam and do not have a formal excuse (such as, for example, a physician's statement verifying illness), then a grade of zero will be recorded.

Exams Schedule:

(Please note that you will be held responsible for material presented in class in addition to the readings listed here, and that all exams are cumulative. Also, **you must take all exams -- final included -- with your section**. No exceptions are made to this policy for reasons of exam security, and different sections have different exams.)

Wednesday, January 21: **Practice test** (does not count toward your grade).
Wednesday, January 28: **First Midterm Exam**. Reading material to be covered: Chs. 1, 2, & 4
Wednesday, February 18: **Second Midterm Exam**. New reading to be covered: Chs. 3, 8, & 19
Wednesday, March 11: **Third Midterm Exam.** New reading to be covered: Chs. 20, 21, & 22
Wednesday, March 25 (at 1:45): **Final Exam.** New reading to be covered: Chs. 23, 24, & 25

All exams are graded on a percentage (0-100) basis. Score ranges for final letter grades (average of the final and your two highest midterms):
A+: 97 – 100 A: 93 – 96 A-: 90 – 92
B+: 87 – 89 B: 83 – 86 B-: 80 - 82
C+: 75 – 79 C: 65 – 74 D: 60 - 64
F: 0 - 59

The exams will be primarily of the multiple-choice variety, with a few short-answer style questions, and they will be closed-book. You will need a "Parscore" answer sheet and #2 pencils for each exam except the practice test.

Welcome aboard!

NOTICE:

Cheating on any exam or project is grounds for a failing grade in the class and a permanent note to a student's file. "Cheating" is defined (in this course) to be an effort by a student to obtain a grade by any means other than demonstration of ***that student's individual achievement*** *in mastering the class material and/or fulfilling terms of a project.*

Further grounds for expulsion from the class include any activity which interferes with others' ability to benefit from the class (such as chronic distracting behavior) or which degrades the Planetarium's function or environment.

Your Class Website:

http://tinyurl.com/ytmdg

Please visit it frequently.