



Solar System Astronomy

Instructor: Araceli López-Garibay (lopez-garibayaraceli@fhda.edu)

Consultation Hour: Mondays 9:30am-10:30am (back room of Planetarium)

Class Times: Monday - Friday 8:30am - 9:20am

Location: Fujitsu Planetarium at De Anza College (PLT)

Textbook: [The Solar System](#) (8th or 9th Edition) by Seeds and Backman

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 last 4 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 provide a comprehensive 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 present the following three things (at least):

- ✓ Increase sense of place and scale in the universe and how our species reached its current understanding of our world's (Planet Earth) place in the larger scheme of things.
- ✓ Acquaintance with the appearances and other physical characteristics of the major planets, especially as they have been revealed by space probes over the last generation.
- ✓ Familiarity with the various modes of research which Astronomers use to investigate other planets, including (but not limited to) various types of automated spacecraft.

(In addition to the traditional, curriculum-oriented objectives for courses, federal regulations require more general "Student Learning Outcomes (SLOs)" for each course. SLOs for all courses may be found in [De Anza's PSME Division](#), including this course.)

General Outline for Astronomy 4

This Astronomy 4 course will be divided into three major sections, each of which will contribute (to some degree) to each of the objectives:

- ✓ **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.

✓ **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

✓ **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

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). Attending a different Astronomy 4 section does not count towards presence in class and will be counted as an absence.

The following are **strictly forbidden and bound for dismissal (will count as an absence)** for the remainder of the class period:

- Use of cell phones or other electronic devices
- Talking to your neighbor(s) during lecture
- Reading non-course material during class
- Working on other courses homework
- Disruptive behavior of *any* kind

There is "**Absolutely No Gum, Food, or Drinks**" of *any* kind in the Planetarium.

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 -- thus attendance is very important.

(If you decide to drop the course, it is **your responsibility to complete the necessary procedures** 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

Final course grade will be based on your performance on midterm exams and the final examination. **There will be no makeup exams given for any reason.**

Midterm Exams:

There will be three midterm exams in this course (see *Exams Schedule* below) which will count for 2/3 of your final grade for the course (the final exam accounts for the other 1/3). **Your lowest midterm exam score will be dropped**, so that only your two highest scores will count toward your final grade. Thus, the missed exam will be considered your lowest score (zero out of 100 points) and will not be counted. Please note that it is only your lowest (or missed) midterm exam score that will be dropped. According to De Anza College policy, everyone in this class has to take the final exam, and it has to count for everyone.

Final Exam:

Except in the case of an officially verifiable and unforeseeable emergency, **you must take the final exam at the time scheduled** (see *Exams Schedule* below). If you miss the final exam and do not have a formal excuse (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 and on the class website in addition to the readings listed (by chapter title) under each exam date, 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.)

All midterm exams will be held on Fridays during regular class time. **Tardiness to an exam will result in a score penalty** and no one is allowed to start an exam after anyone in the class has finished and left the room. The list of chapter titles, under each exam date, is the reading material to be covered.

1st Midterm Exam: Friday, October 14

- ❖ Here and Now
- ❖ A User's Guide to the Sky
- ❖ Moon Phases and Eclipses

2nd Midterm Exam: Friday, November 4

- ❖ Origins of Modern Astronomy
- ❖ Gravity
- ❖ Origin of the Solar System and Extrasolar Planets

3rd Midterm Exam: Friday, December 2

- ❖ Earth: The Active Planet
- ❖ The Moon and Mercury: Comparing Airless Worlds
- ❖ Venus and Mars

Final Exam: Wednesday, December 14 (7:00am - 9:00am):

- ❖ Jupiter and Saturn
- ❖ Uranus, Neptune, and the Kuiper Belt
- ❖ Meteorites, Asteroids, and Comets

All exams are graded on a percentage (0-100) basis. Score ranges for final letter grades (average of the final and your two highest graded 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 of the multiple-choice variety, and they will be closed-book. You will need a "Parscore" answer sheet and #2 pencils for each exam.

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.

Welcome aboard!

Wishing you an enjoyable quarter.

