

ASTRONOMY 4 Section 04

Solar System Astronomy

De Anza College Winter 2020

Course Information Summary

Term: 2020 Fall De Anza | **CRN:** 00188 |
Title: SOLAR SYSTEM ASTRONOMY | **Course:** ASTR D004.03 |
Days: MW | **Time:** 04:00 PM - 06:15 PM | **Room:** PLT

Instructor: Srikar Srinath

Email: SrinathSrikar@fhda.edu

Free Online Textbook

Our textbook can be found at:

<https://openstax.org/details/books/astronomy>



Best way to use it: Download the PDF!

Lectures: Mondays & Wednesdays 4:00 – 6:15 pm in the De Anza Planetarium

Office Hours: After class in the Planetarium MW 6:15 - 6:45 pm

Introduction to Astronomy 4

Astronomy 4 is an introductory-level course about the contents of our Solar System and what we have learned about them in the past 400+ years of telescopic observation and 60 years of space exploration.

The course has no prerequisites. However De Anza College does advise the following: English as a Second Language 5. The class is taught with the non-science major in mind, but we will be doing Science!

Class Format

Our in-class time will typically be broken up into 3 x 40-minute sessions with a 5-minute break between sessions. It will feature both lectures and audio/visual programs, including videos and demonstrations with the Fujitsu star projector and the Digital Sky system. You can expect to be tested on all of the material presented in class as well as in the textbook reading assignments below.

Registration

If you wish to add the class, you must attend the first week, and you must obtain an add code from me. It is your responsibility to use the add code before the deadline.

Attendance

Regular attendance is required. Attendance will be taken at every class meeting and is 10% of your grade.

Exams and Grades

Your class grade will be based on your performance on engaged attendance, midterm exams and the final exam. There will be extra credit opportunities. **There will be no makeup exams.**

There are three midterm exams. They represent 45% of your grade. Your lowest midterm grade will be dropped. If you miss an exam, that will count as your low score.

The final exam is **comprehensive** and will account for 45% of your grade. It is not optional! An unexcused absence in the final will result in a Zero for that portion of your

grade.

The exams will be held **in class** on the following dates at 4:00 PM:

First Midterm: **Monday, Jan 27 2020**

Second Midterm: **Wednesday, Feb 12 2020**

Third Midterm: **Wednesday, Mar 04 2020**

Final **Wednesday, Mar 25 2020**

The exams will be multiple choice and graded on a curve. A ParSCORE Scantron sheet will be provided. You will need to bring a #2 pencil for each exam.

During tests:

1. After you start working on a test, you must hand it in before leaving the room.
2. If you arrive late for a test, you will not be given extra time to finish it.
3. Once the first person has turned in a test and left the room, no further latecomers will be given tests.

Cheating

Cheating on any exam is grounds for a failing grade in the class and a permanent note in the student's file with additional punishment at the discretion of the administration.

JUST DON'T DO IT!

Course Outline & Reading

Test dates are fixed, but lecture material is tentative based on progress made in class.

Tests will only feature topics covered in class or in the book until the testing date.

Week 1

Jan 06 Ch 1 Cosmic Context

Jan 08 Ch 2.1 Diurnal, Annual, Planetary apparent motions

Week 2

Jan 13 Ch 2.2-3.1 The origins of modern astronomy: From the ancients to Kepler

Jan 15 Ch 3.2-3.6 Newton's discoveries: Motion, gravity, and orbits

Week 3

Jan 20 No class (MLK Day)

Jan 22 Midterm 1

Week 4

Jan 27 Ch 4.1-4.6 Review Test 1, What causes the seasons and Moon Phases

Jan 29 Ch 4.7 Eclipses

Week 5

Feb 03 Ch 5 Light, the electromagnetic spectrum, and spectroscopy

Feb 05 Ch 6.1 How telescopes work; Observatories on Earth and in space

Week 6

Feb 10 Ch 7 & 8 Overview of our solar system; Dating planetary samples and

surfaces, and Earth: Our planet

Feb 12 Midterm 2

Week 7

Feb 17 **No class (Presidents' Day)**

Feb 19 Ch 9.1-9.4 Review Test 2; Earth's Moon

Week 8

Feb 24 Ch 10.1-10.3 Mercury and Venus

Feb 26 Ch 10.4-10.6 Mars

Week 9

Mar 01 Ch 11-12.2 The Giant Planets and Jupiter's Galilean Moons

Mar 04 **Midterm 3**

Week 10

Mar 09 Ch 12.3-12.5 Review Test 3; Titan, Triton, Pluto, and planetary
rings

Mar 11 Ch 13.1-14.2 Asteroids, Comets, Meteors, and Meteorites

Week 11

Mar 16 Ch 14.3, 15, 16 Origin of the solar system; The Sun

Mar 18 Ch 21.3-21.6 Planets around other stars

Finals week

Mar 23 **No class**

Mar 25 **Final 4-6 pm**

Planetarium rules

We are guests in this planetarium and it is one of the most visited public spaces on De Anza campus. In order to maintain the Planetarium's valuable services to the community, these rules will be strictly enforced:

- * **Absolutely no food, drink, or chewing gum is allowed.**
- * Do not litter.
- * Do not leave bicycles or skateboards inside the building.
- * Please keep your feet off the seats.

Student Learning Outcome(s):

*Appraise the benefits to society of planetary research and exploration.

*Compare and contrast the development of planetary systems and of the major planet types, including those factors that have led to Earth's unique characteristics.

*Evaluate astronomical news items or theories concerning solar system astronomy based upon the scientific method.