

ASTRONOMY 4

Solar System Astronomy

De Anza College Fall 2024

Course Information Summary

Term: 2024 Fall De Anza | **CRN:** 00209 | **Title:** SOLAR SYSTEM ASTRONOMY |
Course: ASTR D004.02Z | **Room:** Asynchronous online + Synchronous Zoom TTh
12:30-1:20 pm

Canvas course name: F24 ASTR D004 02Z Solar System Astronomy

Instructor: Srikar Srinath

Email: srinathsrikar@fhda.edu

Textbook:

Your textbook for this class, *Astronomy* by FHDA's own emeritus Prof. Fraknoi is available for **free** online courtesy the amazing folks at OpenStax, in a variety of formats (web view, PDF, ePUB)!

You have several options to obtain this book:

- - [View online](https://openstax.org/details/astronomy) at <https://openstax.org/details/astronomy>
 - [Download a PDF](#) [**recommended** - you can annotate in a PDF reader]
 - Download on e-reader

You can use whichever format(s) you want. PDF on your device is recommended, followed by Web View

Lectures: Online on Zoom, recorded and archived on the Zoom site, and linked within Canvas. Additional supplementary lectures and videos to be watched on your own time.

Office Hours and questions:

- On Canvas Class Question & Answer discussion board
- In Zoom/Canvas class TTh 1:20-1:50 pm Pacific Time

- Via Zoom by appointment (please send me 3 available or preferred times when asking for an appointment)
- Canvas Inbox

For the inbox and discussion board options, if you send in a question on Friday evening, I may not get to it until Sunday evening, otherwise expect a response within 12-24 hours. If you do not hear from me in that time frame, please send me a reminder - your message may have slipped down in my Inbox.

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 because anybody and everybody can (and does)!

Class Format

This class is mostly a *synchronous* online class, which means lectures are held live with recordings and supplementary material made available shortly afterwards. There will be ~2 hours of lecture every week, live on Zoom, recorded and archived on Zoom for those who miss lectures or want a recap, and links to supplementary lectures on YouTube (by other, and often better, instructors) and linked on the Canvas website. You can expect to be tested on all of the material presented in lectures, supplementary textbook-related lectures, as well as in the textbook reading assignments.

Synchronous Zoom sessions will be held on Tuesdays and Thursdays from 1:30 pm to 2:20 pm Pacific Time. There will be **no class on Thanksgiving Day**.

Registration

If you wish to add the class, you must obtain an add code from me. It is your responsibility to use the add code before the deadline. The preferred method is to add yourself to the class waitlist so I can send you an add code from Active Roster. If you are not allowed to add yourself to the waitlist, please email me directly at the address above. Pretty much anyone who asks for an add code will get one (unless you tell me you want to join my *Astrology* class - actually, you will get an add code even then).

Attendance

Regular engagement with online content is required - there is a difference between attending and being present (the latter is preferred). Participation in online discussions and in synchronous Zoom sessions can boost your grade by as much as 5% (half a grade level). Not signing in or not participating **will not** hurt your grade.

Exams and Grades

Your class grade will be based on your performance on a midterm and a final exam.

1. A midterm will be made available Wed, Oct 23 on Canvas. It will be multiple choice, timed, unproctored, and open book/notes/Internet. This will be 50% of your grade.
2. Before the week of Finals (Wed Dec 04), a final exam will be posted on Canvas. This will also be 50% of your grade.
3. Extra credit opportunities:
 - a. Every week, recent scientific articles related to the course material will be posted. You will be asked to answer some short questions about the article.
 - b. Later in the class (on or after the 8th week), you will be asked to select a Solar System-themed video from the [Silicon Valley Astronomy Lecture](#) series and write a short report about the lecture of your choice.

Cheating

JUST DON'T DO IT!

Cheating on any assignment 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. Some assignments use Turnitin, a plagiarism checking tool. The output of that tool can be, and has been, used to determine whether cheating has occurred and penalized accordingly.

That said, you are encouraged to consult external sources (I link to several of them every week) and use them in your writing provided you mostly use your own words in describing that work and supply either a web link or a pointer to a specific page in a book etc. Please use reputed sources with solid science reporting.

Generative AI Use

The world has changed after the release of ChatGPT and similar models in late 2022. If you are not using Generative AI (GenAI) based tools, then you are at a disadvantage to those in your class who are using it. Detecting its use is very hard, but blindly using the tools without being aware of their errors, biases and issues can lead to shortfalls in your education. Instead of intrusively policing your use of GenAI, I am happy to help and guide you in their use with the understanding that you disclose your use in assignments (there is no penalty for doing so). You are highly encouraged to use such tools for help with studying -- they are great for providing alternate explanations or simplifying material.

Course Outline & Reading

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.

Date	Textbook chapter	Topic
Week 1		
Sep 23	Ch 1	Cosmic Context
	Ch 2	Diurnal, Annual, Planetary apparent motions
Week 2		
Sep 30	Ch 3	Orbits - Kepler & Newton, The Seasons
	Ch 4	Moon phases, Tides, Eclipses
Week 3		
Oct 07	Ch 5	Time & Light
	Ch 5	Spectra
Week 4		
Oct 14	Ch 6	Telescopes on Earth and in Space. How they work.
	Ch 7	Overview of the Solar System
Week 5		

Oct 21	Midterm week	Practice midterm available
Oct 23		Midterm available
Oct 27		Midterm Due
Week 6		
Oct 28	Ch 8	Earth as a planet
		Earth-shaping processes and Climate Change
Week 7		
Nov 04	Ch 9	Cratered Worlds: The Moon and Mercury
	Ch 10.-10.3	Venus
Week 8		
Nov 11	Ch 10.4-10.6	Mars
	Ch 11	The Giant Planets
Week 9		
Nov 18	Ch 12	Moons of the Giant Planets
	Ch 13, 14	Dwarf planets, asteroids, comets
Week 10		
Nov 25	Ch 15	The Sun
	Ch 16	The Sun, Star & Solar System formation
Week 11		
Dec 02	Ch 21, 30	Planets around other stars, Life in the Galaxy
Dec 04		Final available
Week 12		
Dec 08		Final due at 11:59 pm
Dec 13		Extra credit assignments due

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.

Office Hours:

T,TH 01:20 PM 01:50 PM Zoom