Course Syllabus

ASTRONOMY 4

Solar System Astronomy

De Anza College Spring 2025

Course Information Summary

Term: 2025 Spring De Anza | **CRN:** 00191 | **Title:** SOLAR SYSTEM ASTRONOMY | **Course:** ASTR D004.50Z | **Room:** Asynchronous online

Canvas course name: **Sp**25 ASTR D004 50Z Solar System Astronomy

Instructor: Srikar Srinath

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Textbook:

Your textbook for this class, *Astronomy* by FHDA's own 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 at https://openstax.org/details/books/astronomy-2e
- Download a PDF [**recommended** - you can annotate in a PDF reader]

You can use whichever format(s) you want.

Lectures: Lecture videos linked in modules to be watched on your own time.

Office Hours and questions:

- 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 don't 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 an a*synchronous* online class, which means lectures are pre-recorded with supplementary material available on Canvas. You can expect to be tested on all of the material presented in lecture as well as in the textbook reading assignments.

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'll get an add code even then).

Attendance

Regular engagement with online content is required - if you do not submit any assignments in the first two weeks you *will* be dropped from the class. Expect to spend around 5-7 hours per week working on course content (watching lectures, doing assignments etc.). Break the workload into manageable, regular chunks. This class builds on prior concepts, so keeping up is crucial to success.

Exams and Grades

Your class grade will be based on your performance on discussions, a final exam, and weekly homework assignments.

1. Every week, recent scientific articles or videos related to the course material will be posted. You will be asked to answer some short questions about the article. These assignments will add up to 30% of your grade.
2. Weekly activity reports or active participation in discussions regarding course material for that week. This will be 30% of your grade.
3. Before the week of Finals (Jun 20), a final exam will be posted on Canvas. This will be 40% of your grade.
4. Extra credit opportunities:

a. Later in the class (on or after the 8th week), you can select a Solar System-themed video from the Silicon Valley Astronomy LectureLinks to an external site. 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 may use Turnitin, a tool that checks for plagiarism and AI model use. 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 a number 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 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 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		
Apr 07	Ch 1	Cosmic Context
	Ch 2	Diurnal, Annual, Planetary apparent motions
Week 2		
Apr 14	Ch 3	Orbits - Kepler & Newton, The Seasons
	Ch 4	Moon phases, Tides, Eclipses
Week 3		
Apr 21	Ch 5	Time & Light
	Ch 5	Spectra
Week 4		
Apr 28	Ch 6	Telescopes on Earth and in Space. How they work.

	Ch 7	Overview of the Solar System
Week 5		
May 05	**Ch 8**	Earth as a planet
Week 6		
May 12	Ch 8	Earth-shaping processes and Climate Change
Week 7		
May 19	Ch 9	Cratered Worlds: The Moon and Mercury
	Ch 10.-10.3	Venus
Week 8		
May 26	Ch 10.4-10.6	Mars
	Ch 11	The Giant Planets
Week 9		
Jun 03	Ch 12	Moons of the Giant Planets
	Ch 13, 14	Dwarf planets, asteroids, comets
Week 10		
Jun 10	Ch 15	The Sun
	Ch 16	The Sun, Star & Solar System formation

Week 11		
Jun 17	Ch 21, 30	Planets around other stars, Life in the Galaxy
Jun 20		**Final available**
Week 12		
Jun 24		**Final due at 11:59 pm**
Jun 27		**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 panet 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:

M,W	2:00 PM - 2:30 PM	Zoom,Canvas,Email,By Appointment