

COURSE SYLLABUS

ASTRONOMY 10

Stellar Astronomy

De Anza College Winter 2026

Course Information Summary

Term: 2026 Winter De Anza | **CRN:** 00193 | **Title:** STELLAR ASTRONOMY |

Course: ASTR D010.50Z | **Room:** ONLINE (Asynchronous)

Canvas course name: [W26 ASTR D010 50Z Stellar Astronomy](#)

Instructor: Srikar Srinath

Email: srinathsrikar@fhda.edu

Textbook

Your textbook for this class, *Astronomy 2e* by FHDA's own Prof. Fraknoi (and others) is available for free online courtesy of the amazing folks at OpenStax in a variety of formats (web view, PDF, ePUB)!

You have a couple 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

This is an **asynchronous online class**. There are no scheduled live lectures. Instead, you will find:

- Pre-recorded video lectures and curated YouTube content in each weekly Canvas module
- Interactive simulations and lab activities
- Reading assignments from the OpenStax textbook

Expect to spend approximately **2-3 hours per week** on course content (watching videos, completing readings, doing assignments). Break the workload into manageable, regular chunks. This class builds on prior concepts, so keeping up is crucial to success.

Office Hours and Questions

- **Canvas Inbox** - for private questions
- **Zoom by appointment** - please send me 3 available or preferred times when asking for an appointment

For the Inbox option, 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 10

Astronomy 10 is an introductory-level course about the contents of our Universe beyond the Solar System — from the Big Bang to Black Holes, from atoms to galaxies, and from the first stars to the search for life. We will follow the 13.8-billion-year story of cosmic evolution, introducing the physics we need (quantum mechanics, relativity) at an intuitive level when we encounter it or as it becomes relevant.

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 is a fully asynchronous online class. Each week, a new Canvas module will unlock containing:

1. **Reading assignments** from the OpenStax textbook
2. **Video lectures** (Kurzgesagt, Crash Course Astronomy, and others)
3. **Interactive lab assignment** using free online simulations
4. **Weekly article** with questions connecting current astronomy news to course content

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 & Engagement

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.**

Assignments and Grades

Your class grade will be based on the following:

Component	Weight	Description
Weekly Labs	60%	10 interactive lab assignments using online simulations (drop lowest)
Weekly Articles	25%	10 article analyses connecting news to course content (drop lowest)
Final Analysis	15%	Analysis of a Silicon Valley Astronomy Lecture series video

Weekly Labs (60%)

Each week you will complete an interactive lab using free online tools such as:

- Stellarium (virtual planetarium)
- NASA Eyes on Exoplanets
- Galaxy Zoo (real galaxy classification)
- Star in a Box (stellar evolution simulator)
- PhET simulations
- SDSS Voyages (real astronomical data)

Labs require **screenshots** of your work with specific measurements, observations, or classifications. Expect 30-60 minutes per lab. These are designed to be hands-on experiences that cannot be completed by simply asking an AI chatbot.

Weekly Articles (25%)

Each week, a recent scientific article or video related to that week's topic will be posted. You will answer short questions connecting the article to course concepts. These keep you engaged with current discoveries and help reinforce the material.

Final Analysis (15%)

Select a non-Solar System video from the [Silicon Valley Astronomy Lectures](#) series and write a short analysis connecting the lecture content to concepts from our course. Due during Finals week.

Extra Credit

Additional extra credit opportunities may be offered throughout the quarter.

Academic Integrity

JUST DON'T CHEAT!

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.

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. Please use reputable sources with solid science reporting.

Generative AI Use Policy

The world has changed dramatically since the release of ChatGPT and similar AI models in late 2022. Rather than pretend these tools don't exist, I want to establish clear guidelines for their use in this course.

What's Allowed

Using AI as a study aid:

- Getting alternate explanations of difficult concepts
- Having a chatbot quiz you on material
- Asking an AI model to simplify complex topics
- Brainstorming ideas before writing

Using AI for writing assistance:

- Grammar and spelling checks
- Helping organize your thoughts
- Improving clarity of writing *you have already drafted*

Disclosed use in written assignments:

- If you use AI to help polish your writing, disclose it (no penalty for disclosure) properly with the specific model, question you asked and use case
- Example disclosure: "I used ChatGPT/Gemini/Claude to help clarify my explanation for this question using this prompt: 'Help clarify and clean up this passage: <insert your original text here>'"

What's NOT Allowed

Copying and pasting AI output as your own work:

- This is plagiarism, full stop

- AI detectors exist and are getting better. I have my own (and I work in the field)
- More importantly, *you won't learn anything*

✘ Using AI to complete interactive labs:

- Labs require screenshots from specific simulations
- AI models cannot interact with Stellarium, Galaxy Zoo, or NASA Eyes (for now)
- AI-generated "screenshots" are obvious fabrications

✘ Having AI write your analysis assignments:

- These should reflect YOUR thinking and connections
- Generic AI responses lack the specific, personal observations I'm looking for

Why This Matters

The interactive labs in this course are specifically designed to require *you* to do something an AI cannot: interact with a simulation, classify a real galaxy image, or record observations from a specific location and time. When you're asked to screenshot the night sky from YOUR location at a specific time, or classify galaxies that have never been classified before, or track a specific star's evolution—these are experiences AI cannot replicate.

Blindly copying and pasting AI output is:

1. Easy to detect (it has a distinctive style)
2. Often factually wrong (AI confidently makes up astronomy "facts")
3. A waste of your tuition money
4. Missing the point of why you're here

The Bottom Line

Use AI as a tool to *enhance* your learning, not replace it. If you find yourself asking AI to do an assignment for you, stop and ask: "What am I actually learning here?"

I am happy to help guide you in productive use of these tools. When in doubt, ask me.

Course Outline & Reading

This course follows cosmic history chronologically—from the Big Bang to the present day. We'll introduce physics concepts (quantum mechanics, nuclear physics, relativity) as they become relevant to the cosmic story.

Week	Topic	OpenStax Chapters
1	The Big Bang and Origin of the Universe	Ch 29.1-29.3
2	Particles, Atoms, and Quantum Mechanics	Ch 5.4-5.5, Ch 29.3
3	Nucleosynthesis, Light, and Spectra	Ch 5 (complete), Ch 29.3-29.4
4	The Cosmic Microwave Background	Ch 29.4-29.7
5	First Stars and the Interstellar Medium	Ch 20, Ch 21.1
6	Stellar Evolution: Birth to Death	Ch 15-16, Ch 21-22
7	Stellar Remnants: White Dwarfs, Neutron Stars, Black Holes	Ch 23-24
8	Galaxies and the Milky Way	Ch 25-26
9	Active Galaxies, Quasars, and Dark Matter	Ch 27-28
10	Cosmic Distances and Exoplanets	Ch 19, Ch 21.3-21.6
11	Life in the Universe, Anthropic Principles, and Big Questions	Ch 30, Ch 29.7

Important Dates

Specific dates will be posted on Canvas once the academic calendar is finalized.

- **Week 1:** Course begins
- **Week 2:** Last day to add; Census deadline (must have submitted work or you will be dropped)
- **Week 11:** Last week of assigned content
- **Finals Week:** Final Analysis assignment due

Student Support Services

De Anza College offers many resources to support your success:

- **Tutorial Center:** Free tutoring in many subjects
- **Counseling:** Academic and personal counseling services
- **Disability Support Services:** Accommodations for documented disabilities

- **Student Health Services:** Physical and mental health support

If you need accommodations due to a disability, please contact Disability Support Programs and Services (DSPS) and let me know so we can work together to support your learning.

A Note on This Course

Astronomy is the oldest science—humans have been looking up and wondering about the cosmos for as long as we've been human. In this course, we'll trace the entire history of the universe, from the first fraction of a second after the Big Bang to today, all while we're discovering thousands of planets around other stars and seriously asking whether we're alone in the cosmos.

Along the way, we'll encounter some of the biggest questions humans have ever asked: How did everything begin? What is the universe made of? How will it end? Why does the universe seem "tuned" for our existence? Are we alone?

These questions don't have easy answers—and that's part of what makes them fascinating. I hope you'll leave this course not just with knowledge, but with a deeper sense of wonder and gratitude about the universe we inhabit.

Welcome to the cosmos!

— Srikar

Student Learning Outcome(s):

- Appraise the benefits to society of astronomical research concerning stars and stellar systems.
- Evaluate the impact on Earth's characteristics of the evolution of stars and stellar systems.
- Evaluate astronomical news items or theories about stellar astronomy based upon the scientific method.

Office Hours:

T,TH 4:00 PM - 5:00 PM

Zoom,Canvas,Email