

ASTR 15L – Astronomy Laboratory

Spring 2023

Instructor: Caitlin Kepple (she/they)

Instructor email: kepplecaitlinmarie@fhda.edu

Office hours: Tu 10:30a-12p, Wed 2-3:30pm, Th 3:45-4:45pm

Office Location: S46-A (S4 Building)

Class day/time: Mon, 12:30-3:20 pm

Class Location: S15 (S1 Building)

Welcome to Astronomy Laboratory! In this course, we will work to develop familiarity with navigating the night sky as well as investigate various topics in astronomy using data, software, and simulations. We will also discuss current research in the field of astronomy as we work our way through the quarter. We will draw on knowledge from several disciplines and cultures to help us understand the forces that shape our view of science as individuals and in society.

Important Dates

April 22: Last day to add classes

April 23: Last day to drop classes with no record

May 27-29: Memorial Day Weekend (no classes)

June 2: Last Day to withdraw (“W”) from classes

June 19: Juneteenth Holiday (no classes)

June 26-30: Final Exams

Course Learning Goals

Throughout this course, we will pursue the following set of skills related to studying laboratory astronomy:

- Evaluate claims about the nature of the physical universe using the scientific method of hypothesis testing.
- Compare and contrast the histories of solar-system bodies (e.g., moons, planets, asteroids, comets, meteorites) by integrating data from spacecraft and Earth-based observatories.

Grade Breakdown

Grades are based on a combination of lab assignments, homework assignments, in-class activities, and lab assignments that are described more below. The graded assignments are constructed and distributed so that folks can succeed in the class via a wide variety of methods to display their understanding.

The grade breakdown for the course will be:

Lab Assignments (9 total, lowest 1 dropped) - 60%

Moon Observations - 10%

Sky Observations - 5%

Final Exam - 25%

Absences: This course allows for one absence (excused or unexcused) by dropping the lowest lab score. There are no makeup labs, so please let me know if you will need to

miss more than a week of class. In this instance, you may be able to complete the lab at home for partial credit, but this is *not guaranteed*.

Course Structure



Lab Assignments

- Each week you'll work with your colleagues to complete the in-class lab assignment as well as a brief individual post-lab. The main part of the lab will be submitted on one copy for the whole group when you finish, and the post-lab will be done on Canvas individually. Both the group and individual portions of the lab will be graded on completeness and correctness. See Canvas for more details.



Moon Observations

- Because this lab is designed to get you more familiar with the night sky, you'll do a series of moon observations throughout the quarter. ***Don't procrastinate this assignment as it does take several weeks to complete!*** The minimum number of moon observations is 5 total. You may also submit 2 extra moon observations for extra credit once you've submitted the first 5. All observations are due by the Week 10 class day.



Sky Observations

- There will be two required "Sky Observations" for the quarter, which should take about 15min each. You may also do a third observation for extra credit, especially if we are able to schedule telescope nights. More details on telescope nights to come later.



Final Exam

- We will have one comprehensive final exam that covers topics from each lab. This is a paper-based exam, not a "practical" exam. There will be a group component and an individual component to the exam, with the majority of the credit on the individual component. The final is closed-note, but you can bring a calculator if you would like—though it is not necessary.

A note on technology

We'll be using laptop computers most weeks to complete the labs. You are welcome to bring your own laptop if you would like, though the lab room is equipped with laptops which you may check out during the lab class. Additionally, the [Library](#) offers Chromebook rentals (which should also work fine for our lab purposes) on a first-come, first-served basis.

Disability access and support

If you have registered with the [Disability Access Services](#) (DSS; located in Registration and Student Services Bldg, RSS 141; dss@deanza.edu) or need alternate support for creating an accessible learning experience, please do not hesitate to communicate with me about this. DSS staff can meet with students, review the documentation of their disabilities, and discuss the services that De Anza offers and any appropriate ADA accommodations for specific courses. Additionally, I will do whatever I can to ensure these needs are met during your time in my class. Please see [this page](#) for information about the computer accessibility lab (CAL) at De Anza.

Student disclosures of sexual violence

De Anza College strives to foster a campus free of sexual violence including sexual harassment, domestic violence, dating violence, stalking, and/or any form of sex or gender discrimination. Please note, if you disclose a personal experience as a De Anza student, I (the course instructor) am required to notify the Title IX Coordinator (Laureen Balducci).

To disclose any such violence confidentially, contact the Title IX coordinator using the following forms or by phone at 408-864-8945

- [Reporting Sexual Misconduct or Concern](#)
- [Contacts Page](#)

Counseling Services

The De Anza Psychological Services office provides a wide variety of counseling services for students or groups **free for students**. Please see [their website](#) for their current schedule and list of contacts. They can be contacted at 408-864-8868 or by emailing dapsychservice@deanza.edu.

Resources for Basic Needs

If you or someone you know are in need of housing assistance, food assistance, baby supplies and resources (along with many other services), the [Resources for Basic Needs page](#) has a wide range of support for De Anza students and family members.

Math, Science & Technology Resource Center

De Anza's Math, Science & Technology Resource Center has *free* peer tutoring and workshops, found [here](#). Additionally, the Student Success Center can provide help with general skills, writing, Canvas, and much more [here](#). They have drop-in tutoring via Zoom, or Weekly Individual tutoring (see updates on this for Fall 2022 on their website).

Academic Advising

For more general advice on setting up a study schedule, choosing a major/classes, and navigating other logistics of your degree, you can visit the General Counseling Division [here](#). There are several other resources related to academics and other resources for De Anza students [here](#).

*Schedule subject to change as we progress through the quarter

Tentative Laboratory Schedule*

Week	Topics	Important Dates
Week 1	Syllabus; Community agreements; Intro to the Night Sky	
Week 2	Measuring the Sky	
Week 3	Tracking and Observing the Sky	
Week 4	Tracking and Observing the Sky II	
Week 5	Spectroscopy	Sky Observation 1 Due
Week 6	Types of Stars	
Week 7	Exoplanets	
Week 8	No Classes – Memorial Day	
Week 9	Image Processing	Sky Observation 2 Due
Week 10	Determining the Scale of the Universe	Moon Observations Due
Week 11	No Classes – Juneteenth Holiday	EC Sky Observation Due <i>**Final due date for all assignments is Friday, 6/23**</i>
Finals Week		Monday, 6/27 11:30am-1:30pm

Student Learning Outcome(s):

*Evaluate claims about the nature of the physical universe using the scientific method of hypothesis testing.

*Compare and contrast the histories of solar-system bodies (e.g. moons, planets, asteroids, comets, meteorites) by integrating data from spacecraft and Earth-based observatories.

Office Hours:

T	10:30 AM	12:00 PM	In-Person	PSME Village Space
TH	03:45 PM	04:45 PM	In-Person	S46-A
W	02:00 PM	03:30 PM	In-Person	S46-A