

**Astronomy 4
Solar System Astronomy
Section 54Z, CRN 189**

Winter Quarter 2025
Asynchronous
Class Location: Online via Canvas, Zoom, No Required Live Meetings

Instructor: Rachel Mastrapa, PhD
Email: mastraparachel@fhda.edu

Textbook:

Astronomy, Fraknoi, Morrison, and Wolff Openstax (Free)

Office hours (Optional): Monday, Wednesday 1:30-2:20 PM, or by appointment. Use Zoom in Canvas

Course Description: In this class, students will analyze the physical principles, logic, and development of solar system astronomy from ancient times through the present. Class content is designed for non-science majors. Credit for the 5 quarter units of Astronomy 4 is fully transferable to both the University of California and California State University systems.

**Drop without W by January 19
Drop with W by February 28**

Exam & Project Schedule

Exam 1 Due January 19
Exam 2 Due February 9
Exam 3 Due March 2
Final Capstone Project Due March 14
Final Exam Due March 25

Grade Breakdown

Capstone Project	35%
Homework	35%
Exams	20%
Final Exam	10%

Total	100%
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Course Grade Ranges

A	90–100%
B	80–89%
C	70–79%
D	60–69%
F	<60%

FW W hen “a student has stopped participating in a course after the last day to officially withdraw, without achieving a final passing grade”

Grades will not be rounded.

I will inform you of any changes to the policies or procedures listed below.

Class Format

There are no required live meetings for this class and all work is completed online. I recommend using a laptop/desktop instead of a phone/iPad. Please check the Tech Support section below for information about computer and internet access.

The course work is divided into individual modules in Canvas. Each module contains reading assignments, videos, and homework. All homework assignments are due at 11:59 pm on the date of the module. The class uses Canvas, Zoom, and Pronto.

Module 1) Welcome to Astronomy 4 has instructions for installing and using Pronto. Please keep Zoom up to date.

Late Assignments

Students are responsible for completing all assignments on time. Assignments may be completed after the due date any time before the final. Late homework assignments will lose 2% of their grade per day late (Technically, it is 0.08% per hour so that you don't get hit with the whole 2% if you are two minutes late. You're welcome.). Exams and the Final have a 20% penalty per day. **Canvas automatically assigns a zero to missing assignments.**

Capstone Project: 35% of grade

The capstone project is spread over the quarter with weekly assignments breaking down each section of the overall project. The final project must be about an object in the Solar System and can be just about any format (animated video, essay, comic strip, etc.) but the default format is a slide-based presentation (Powerpoint, Google Slides, Canva, etc.) For a detailed description of the capstone project, please look in Module 1) Welcome to Astronomy 4.

Homework: 35% of grade

Most homework assignments are in the format of Canvas multiple choice quizzes. Although they are called quizzes, they are open notes/textbook and you have three chances to complete them, retaining your highest score. There is at least one quiz on the reading assignment and one quiz for each video lecture. Some homework requires text responses. All homework assignments are due at 11:59 pm on Tuesday, Thursday, or Friday.

Exams: 20% of grade

Exam 1 Due January 19

Exam 2 Due February 9

Exam 3 Due March 2

There will be three open notes exams due at 11:59 PM on the dates listed above. Exam 1 will cover all material covered before that date. Exam 2 will only include material covered since Exam 1 and Exam 3 will include material covered after Exam 2. Each exam is divided into multiple separate assignments. Each section states which modules are covered in that section.

Exams will consist of multiple-choice or matching questions in Canvas. The exam unlocks 1 week before the due date. You will have only **ONE** attempt to take each section of the exam. Although there is no time limit for each section of the exam, if the browser is closed before submission, that section will be graded as zero. Please complete each section in a timely manner. Late exams will have a deduction of 20% per day. The exam will close 5 days after the due date. **There are no make-ups or extensions for any reason. You must take all three exams.** You will be able to drop the lowest grade of the three exams after you complete all three.

Final Exam: 10% of grade

Final Exam Due March 25 Final Closes March 29

The final is due at 11:59 pm on the first date above and closes on the second date above. The final will include all material covered over the entire course. The format is the same as the exams. Late finals will be deducted 20% per day until the final closes. **There are no make-ups or extensions of the final for any reason.**

Communication

I will be communicating with you on a weekly basis with reminders of important due dates through Canvas Announcements. Please check the announcements regularly. You will also receive news about astronomy through Pronto. Most of my Pronto announcements will not contain information required for the course, but is meant to support any interest in astronomy. If I post anything required for the class in Pronto, it will also be posted in Canvas Announcements.

If you wish to contact me please:

- 1) Use the Canvas messaging system (my preference) or
- 2) Pronto direct message or
- 3) E-mail mastraparachel@fhda.edu

Please address messages to Dr. Mastrapa. I check messages and respond between 9am and 6pm M-F. I try my best to respond within 48 hours.

You can also speak to me at my office hours 1:30-2:20 pm on Mondays and Wednesdays. The link for office hours is in Module 1) Welcome to Astronomy 4. If you can't make it to office hours, I would be happy to make an appointment. Please send me a time and date during my availability and I will send you a Zoom link:

Availability

M-W: 9am-12pm

Th: 9am-11am, 2pm-6pm

F: 9am-6pm

Sat-Sun: 9am - 6pm (not preferred, but I can do it)

Attendance

Class participation is judged by completion of assignments. I will contact you if you have missed 10 homework assignments, 2 capstone assignments, or 1 exam. I am happy to work with you on a plan for success in this class. Any student that has the above missing work and does not respond to my attempts to reach them will be dropped from the class. If the incomplete work is after the drop with a W week and the overall grade is not passing, the student will receive an FW in the class.

AI Policy

You may use AI for text responses to assignments and messages, as long as you follow the following requirements:

- 1) Any text that was prepared with AI must be clearly labelled as created with AI.
- 2) The label must include which AI program was used to create the text.

If I suspect that an assignment was completed with AI and does not have a label, the assignment will be graded as zero, and I will post a reminder about AI use in the comments. That zero can be replaced with a grade if the student schedules an appointment with me to discuss the answers to the assignment in person via Zoom.

Tech Support

If you have any trouble accessing the online course materials, please contact me immediately. I will try to help as best as I can, but I am limited in what I can do. Below are some tech resources:

- 1) If you are having trouble with Zoom, Canvas, or MyPortal, please fill out this [form](#) for help.
- 2) If you are registered for 6 units you can [apply](#) for a refurbished computer.
- 3) All students can [borrow](#) computers and Wi-Fi Hotspots from the library.
- 4) [CollegeBuys](#) offers discounts on pre-paid or monthly internet service (Wi-Fi Hotspot). (And Adobe software, but you don't need that for this class)

Tutoring and Other Resources

Please visit the [Student Success Center](#) for tutoring, workshops, and other resources. Free, drop-in tutoring is available in the Math, Science, & Tech Resource Center in S43.

Statement on Inclusion

I am dedicated to making this class an open and welcoming environment where everyone can succeed. This includes differences in ability, age, appearance, athletics and student organization involvement, ethnicity, family/marital status, gender, gender expression, immigration status, language, military/veteran status, nationality, political ideology, race, religion/spirituality, sex, sexuality, socio-economic status, and other personal identities and experiences. Please contact me immediately if you encounter any barriers to your success.

Accommodations

While I try to be as flexible as possible, some accommodations require working with [Disability Support Services](#). If you need additional support, please contact them as soon as possible.

Behavior

All students and instructors are expected to treat each other with respect. Everyone will be held to the expectations listed in the [Student Code of Conduct](#) and the [Academic Integrity Policy](#).

Title IX: Confidentiality and Responsible Employee Statement

I am committed to creating a safe and open learning environment for all students. If you (or someone you know) have experienced any form of sexual misconduct, including sexual assault, dating or domestic violence, or stalking, know that help and support are available. The College strongly encourages all members of the community to take action, seek support, and report incidents of sexual misconduct to the [Title IX Office](#).

Please be aware that under Title IX of the Education Amendments of 1972, I am required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact [Mental Health and Wellness Center](#) 408.864.8868 (RSS Building, Room 258, Second Floor) or [Student Health Services](#) 408.864.8732 (Health Services Office, Hinson Campus Center, Lower Level).

De Anza Connect

If you are facing any challenges this quarter, I encourage you to reach out to [De Anza Connect](#). They can help you find the campus resources and services that work best for you.

About Me

Hello! I have been teaching the Solar System at De Anza since 2019. Before that I taught astrobiology and geology at West Valley. I used to be a full-time research scientist working at NASA Ames and SETI Institute, where I performed experiments simulating ice formation in the outer Solar System. I enjoy spending time with my two kids, playing video games, and reading speculative fiction.

Objectives

- To provide the student with as comprehensive an account of the modern field of planetary astronomy as possible.

- To create an increased sense of place and scale in the universe and a sense of how our species reached its current understanding of our world's place in the larger scheme of things.
- To acquaint the student with the appearances and other physical characteristics of the major planets, especially as they have been revealed by space probes over the last generation.
- To generate a familiarity with the various modes of research, which astronomers use to investigate other planets, including (but not limited to) various types of automated spacecraft.

Student Learning Outcomes

- 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.