

**Astronomy 4**  
**Solar System Astronomy**  
**Section 2, CRN 187**

Winter Quarter 2020  
MW 1:30-3:45 PM  
Class Location: The Fujitsu Planetarium (PLT)

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

**Textbook:**

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

**Office hours:** Tuesday, 1:30 PM. Access online office hours through 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. This class includes multimedia planetarium demonstrations. 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 with Refund by January 19**  
**Drop with W by February 28**

**Grade Breakdown**

Class Participation	10%
Homework	35%
Exams	40%
Final Exam	15%
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Total	100%

**Exam Schedule**

Exam 1 Due January 29  
Exam 2 Due February 26

**Final Exam:** Monday, March 23,  
1:45 – 3:45 PM

**Course Grade Ranges**

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

**No food, drinks, or chewing gum are permitted in the Planetarium.**

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

**Class Participation: 10% of grade**

Each day, students will participate in an in-class assignment. This work cannot be made up outside of class.

**Homework: 35% of grade**

Homework assignments are available through Canvas. Each assignment has a component of reading, a vocabulary quiz, and a quiz on reading content. All quizzes are open notes and open textbook. You will have two chances to complete the quizzes. I strongly recommend that you do the reading before each class, or else the lecture will be much harder to follow. **The homework loses 1% of the score per day late.**

**Extra Credit Star Party** (20 points) The instructions and worksheet for this assignment are available in Canvas. You will need to download the worksheet and attend a local star party to complete your observations. The worksheet must be turned in on or before the day of the final, March 23. I recommend completing this assignment as soon as possible.

**Exams: 40% of grade**

There will be two take-home, open notes exams due on January 29 and February 26. The exam in January will cover all material covered before that date. The exam in February will focus on material covered since the previous exam. Exams will consist of multiple-choice questions in Canvas. You will have only ONE attempt to take the exam and it must be completed before the deadline or you will receive a 0.

**Final Exam: 10% of grade**

The final will be given on March 23 from 1:45 to 3:45 PM. The final will include all material covered over the entire course. The exam will be open notes, on paper, and will be marked on Scantron. There are no make-ups or rescheduling of the final.

**Attendance**

Regular class attendance is required. Students missing ANY classes in the first two weeks of class may be dropped from the class.

**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.

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