ASTR 4 Section 10

Astronomy 4

Solar System Astronomy

Lectures: Mondays 1:30 – 3:45pm in Admin 102 and Wednesdays 1:30 – 3:45pm in the De Anza Planetarium

Instructor:

Marek Cichanski
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(408) 864-8664
cichanskimarek@fhda.edu
Office Hours: MW 4:00-6:00pm on campus. During my office hours, you can send me an email message or a Canvas Inbox message and we can do Zoom, if you can't make it to campus.

Everything you need to know about the class – i.e. the same information as in this syllabus – can be found on the class's Canvas website. Canvas is the online "learning management system" used by De Anza College, and can be accessed through your MyPortal login.

Make sure to check the class's Canvas site whenever you have questions!

Textbook:

The textbook for this class is available for free online at:

https://openstax.org/details/books/astronomy-2e

Our Goals This Quarter:

You'll be learning a lot about what solar systems are and how they work this quarter. You'll also learn a lot about how a large college course like this works. Here are some specific things I want to help you do; I hope that doing these things enables you to become a more scientifically aware citizen, and gets you excited about science no matter what your eventual path in life!

1. Make your own judgements about how the exploration of space might be of benefit to society. Many people often question why we explore the universe and study the Earth from space. In this course, you'll learn more about how these endeavors might benefit us "on the ground".
2. Compare and contrast the planets (and other objects) in our solar system, and in other solar systems, so as to understand why they turned out the way they did. We call this *comparative planetology*, and it's one of the main goals of the astronomers who study solar systems – i.e. the planets and other objects that orbit around stars.
3. Evaluate things that you read, hear, or see in the news about astronomy. We are all exposed to many sources of information (internet, TV, etc…) and there's a method for evaluating the things these sources tell us about the world and the universe – it's called the *scientific method*.

There's a technical name for those goals I described above – they're called the:

Student Learning Outcomes

Here's the official list… but they're basically the same things I listed under "Our Goals This Quarter":

- 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.

GRADING

Step 1:

You take three (3) midterm exams and the final exam.

Test 1	200pts
Test 2	200 pts
Test 3	200 pts
FINAL EXAM	300 pts

Step 2:

I drop the lowest midterm exam.

-200 pts = **400 pts of midterms**

There's no way I'm going to drop **this** one…

Step 3:

I calculate the final grade.

Your final percentage =

The points you earned, after dropping lowest scores as described at left

DIVIDED BY…

700 possible points

I then round your final percentage to the nearest whole percent, and use the following grading scale:

90-100	A
80-89	B
70-89	C
60-69	D
<60	F

Notes:

1. A percentage like 89.7% rounds to 90, so it's an A.
2. If something causes you to miss a test or quiz, that will be the one you drop.
3. I'm afraid my schedule won't allow me to give you a final at a different time in order to fit your vacation. You'll need to plan around the final – *you may want to tell family members about this before they buy non-refundable plane tickets.*

Astronomy 4 Class Rules and Guidelines

During the first few weeks of class, I will collect state-mandated class attendance data using a sign-in sheet and/or seating chart.

ADDING THE CLASS:

If you add the class, make sure that your add code has worked, and that you have been properly added to the class. If not, it is your responsibility to check with the Admissions/Records office to find out how this can be corrected. After the end of Week 2, the College CAN NOT process a late add, and you could find yourself not enrolled and not receiving a grade for the course, if you're not registered

DROPPING THE CLASS:

I would like to see everyone complete the course, earn a good grade, and become excited about science. However, the realities of life sometimes get in the way.
You should assess your situation realistically throughout the quarter.
If you decide to drop the class, you must do so by the final date to drop with a "w", or you risk receiving an "F" if you haven't earned enough points to pass the class.

Also – and this is very important – ASKING FOR AN INCOMPLETE GRADE WILL NOT WORK AS A WAY AROUND THE FINAL DROP DATE! I can only assign an Incomplete in a few, very specific situations. If it's after Week 8, and you realize you should have dropped, and someone in Counseling or Admissions and Records tells you to ask me for an Incomplete, it is VERY UNLIKELY that the situation will actually warrant one! "I" grades cannot be given for missing a large fraction of the work in the course.

CLASS ENVIRONMENT:

Remember that we have all chosen to be in this class. We should thus have an environment that fits this choice.

Talking to your neighbor(s) while I'm lecturing, reading non-course material in class, doing outside homework, and using wireless devices of any kind* are not allowed in class, and may result in dismissal for the remainder of the class period.

*this means you won't be able to use the calculator on your cell phone during tests and quizzes. You'll need to get a separate calculator if you want to use one on tests and quizzes.

TESTS:

- After you start working on a test, you must hand it in before leaving the room.
- If you arrive late for a test or quiz, you won't be given extra time to finish it.
- On tests and quizzes, once the first person has turned it in and left the room, no further latecomers will be given tests.

ACADEMIC INTEGRITY AND CHEATING: Cheating on any exam or project is grounds for a failing grade in the class and a permanent note to a student's file. "Cheating" is defined (in this course) to be an effort by a student to obtain a grade by any means other than demonstration of that student's individual achievement in mastering the class material and/or fulfilling terms of a project.
Further grounds for expulsion from the class include any activity which interferes with others' ability to benefit from the class (such as chronic distracting behavior) of which degrades the classroom's function or environment.

NOTICE: No exceptions will be made to policies stated on this course syllabus and/or on the class website, unless made by the instructor in consultation with the Dean of the Division of Physical Sciences, Mathematics, and Engineering, and/or in consultation with the College's Disability Support Programs and Services counselors. If the schedule(s) of the relevant person or persons listed above does not permit such consultation during the quarter that this class takes place, then the stated policy (or policies) will stand.

ASTRONOMY 4 Lecture Schedule, Spring 2025 MW 1:30pm Class (= Section 10)

Important: Dates of TESTS are fixed, but the lecture topics (shown in *italics*) are tentative. For example, we may or may not cover "Observatories…" on May 7th, depending on how quickly we cover the preceding material.

Each test covers the material since the last test. Final Exam is comprehensive – it covers the whole quarter.

		MONDAY	**WEDNESDAY**
Wk 1	Apr	7 Class Enrollment, website, and procedures Our Cosmic Context	9 Apparent motions in the sky: Diurnal, Annual, and Planetary
Wk 2	Apr	14 Ancient Astronomy A Sun-Centered Model Laws of Planetary Motion	16 Newton's Laws Gravity How do orbits work?
Wk 3	Apr	21 **TEST 1**	23 **Review Test 1** What REALLY causes the seasons?
Wk 4	Apr	28 Eclipses of the Moon Eclipses of the Sun	30 Moon phases
Wk 5	May	5 Light and the Electromagnetic Spectrum Spectroscopy	7 How Telescopes Work Observatories on Earth and in space
Wk 6	May	12 **TEST 2**	14 **Review Test 2** Overview of the solar system we live in Earth: The planet we know best
Wk 7	May	19 Earth's Moon Mercury: The (slightly) shrinking planet	21 Venus: Our near-sibling planet Mars and the search for life
Wk 8	May	26 **HOLIDAY**	28 The Giant Planets The Galilean moons of Jupiter
Wk 9	Jun	2 **TEST 3**	4 **Review Test 3** Titan, Triton, and Pluto
Wk 10	Jun	9 **Review Test 3** Asteroids: A failed planet	11 Comets Rosetta: Mission to a comet Meteors and Meteorites
Wk 11	Jun	16 Origin of the Solar System The Sun: Its structure, magnetic field, and energy generation	18 How to find planets around other stars Extrasolar planets: What we know so far
Wk 12	Jun FINALS	23 **FINAL EXAM** *1:45 – 3:45 pm*	25

For reading assignments, go to the class's Canvas website.

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Office Hours:

M,W	4:00 PM - 6:00 PM	S-15a