

# ASTR 15L Section 01

## Astronomy 15L

### Astronomy Laboratory

**Labs:** Mondays 1:30 – 4:20 pm in room S-15 (This room is in Building S1, near the De Anza Planetarium)

#### Instructor:

Marek Cichanski

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Office Hours: M, Tue, and Thu, 12:00 – 1:20pm

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. A link to this class's Canvas site was probably sent to you around the beginning of the quarter.

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

#### **Textbook: This class has no assigned textbook.**

However, if you're also taking Astro 4 or Astro 10, the textbook for those classes is available for free online at:

<https://openstax.org/details/books/astronomy>

I recommend downloading the PDF version and using a PDF-reader program to read it, such as the free Adobe Reader software.

#### **Our Goals This Quarter:**

You'll be learning a lot about how the universe works 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. You'll often see, hear, or read something about the universe (like a news article on the web). How accurately has it been reported, and what is the level of certainty on the part of the scientists who are investigating that part of the universe? Science is all about evaluating claims, and scientists also call this *testing hypotheses*. As we work through our labs, you'll get the chance to do this.
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.

# GRADING

## Step 1:

You do the labs and take the final exam.

Lab 1            40 pts

Lab 2            40pts

Lab 3            40 pts

Lab 4            40 pts

Lab 5            40 pts

Lab 6            40 pts

Lab 7            40 pts

Lab 8            40 pts

Lab 9            40 pts

FINAL EXAM    80 pts

## Step 2:

The lowest two (2) labs get dropped.

**-80 pts = 280 pts of labs**

The final exam doesn't get dropped.

## Step 3:

I calculate the final grade.

Your final percentage =

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

DIVIDED BY...

360 possible points

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

89-100 A

79-88 B

68-78 C

57-67 D

<57 F

## Notes:

1. A percentage like 88.7% rounds to 89, 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.*
4. Since the deadline to add classes is the end of the second week of class, it occasionally happens that a student adds the class after the first one or two labs. In such a case, the total points possible will be adjusted to reflect the number of labs that occur after they enroll.

## Astronomy 15L Rules and Procedures

### ATTENDANCE:

Starting on the first day, I'll use a sign-in chart to learn peoples' names, and to take attendance. Remember (from the grading policy) that the lowest two labs get dropped. If you have to miss a lab, that will be one of the labs that gets dropped. If you miss more than three labs, you are at risk of getting dropped from the class.

### 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. For example, if you miss the Geology 10 field trip, you will get an "I" grade, and that grade will get cleared up after you go on the field trip the following quarter. But 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.

### COMPUTER USAGE AND CHECK-OUT:

Most of our lab work will involve computer software. You can use your own computer if you want, but make sure your computer can run Adobe Flash animations. The lab has a set of MacBook Pro computers. If you want to use one, you'll need to temporarily give your instructor a photo I.D. You'll get your I.D. back when you turn the computer back in at the end of class.

### COLLABORATION AND QUESTIONS DURING LAB SESSIONS:

During the lab exercises, you can ask your instructor and/or your fellow students questions about the concepts and methods involved in the lab exercise. Collaboration can really help you figure out what's going on and what you've been asked to do!

However, you can't ask other students "What'd you get?", and you can't ask your instructor "Is this the right answer?", since you'll be turning in the lab for grading. I'll let you know if you're on the right track.

**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 staff. 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 15 Lab Schedule, Winter 2020

	<b>Date</b>	<b>LAB TOPIC</b>
Wk 1	Jan 6	Maps of the Sky
Wk 2	Jan 13	Internet Image Hunt and Seasons of the Sky
Wk 3	Jan 20	No Lab <b>HOLIDAY</b>
Wk 4	Jan 27	Moon Phases
Wk 5	Feb 3	Kepler's Laws of Planetary Motion
Wk 6	Feb 10	Astronomical Image Processing
Wk 7	Feb 17	No Lab <b>HOLIDAY</b>
Wk 8	Feb 24	Blackbody Spectra and Filtered Light
Wk 9	March 2	The Hertzsprung-Russell Diagram
Wk 10	March 9	Extrasolar Planets
Wk 11	March 16	The Cosmic Distance Ladder
Wk 12	March 23	FINAL EXAM  This has the same number of points as 2 labs.

**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.