ASTRONOMY 4 ONLINE Section 34Z Winter 2021

Astronomy 4

Solar System Astronomy

INSTRUCTOR:
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Winter 2021 Office Hours: Mon and Wed, 5:00-7:00pm

You can send me a message through the Canvas "Inbox" system anytime, or email me anytime, but if you want to email me or call me when you know I'll be at my computer, that's when I'll be there, barring any unusual circumstance.

FREE ONLINE TEXTBOOK:

Our textbook can be found at: https://openstax.org/details/books/astronomy

My favorite way to use it is to **download the PDF version** and read that file with a PDF-reader program like the free Adobe Acrobat Reader. A version that can be read in a web browser is also available at the link above.

General Course Information:

Course	Astronomy 4 – Solar System Astronomy
Section	34Z (CRN 00189)
Quarter	Winter 2021
Instructor	Marek Cichanski
Class Location	http://canvas.deanza.edu
Office Hours	Mon and Wed, 5:00-7:00pm
Office Location	Email or Canvas Inbox message
Instructor's Email	cichanskimarek@fhda.edu

Things You Will Need:

- Regular and reliable access to a computer that has a good Internet connection
- A digital copy of the free online textbook. If you want a physical copy, you can order one from OpenStax.

Course Description:
Analyze the physical principles, logic, and development of solar system astronomy from ancient times through the present. Examine earth and sky relationships, exploration of the solar system by spacecraft and earth-based methods, similarities and differences between Earth and other planets, theories of the origin of our planetary system, and properties of other stars' planetary systems.

A Note About Online Courses:

An online course is somewhat different from a traditional on-campus lecture course. Instead of attending the class meetings on campus, you will learn about the subject matter, and interact with your instructor and your fellow students, entirely online through the Canvas learning-management system, along with some Zoom sessions. This course is still a 5-credit course, however, just like the on-campus version, and it requires a similar total amount of work per week. You should plan to be engaged with the course for at least 10-12 hours per week, not including extra study time that you will probably need when you're preparing for the midterm and the final exam. You should also expect to be logging in to the class on at least two different days per week, in order to get maximum points in the weekly discussions. Working on the class during the weekly Zoom sessions is a good strategy, especially for the Module Activities.

Modules:

This online course is divided into Modules, with 1 (one) module per week. During most of the weeks of this quarter, each Module will cover one chapter from the textbook. The structure of the modules will be very similar from week to week, with each Module requiring you to do the same four tasks:

- Read a chapter from the textbook
- Answer a set of Reading Questions about the material in the textbook – you can do these while you do the reading.
- Watch several Online Lectures about the week's material. These will be accessible to you when you are logged in to Canvas.
- Contribute constructively to a weekly Discussion with your fellow students about astronomy and planetary exploration.
- Complete a weekly Module Activity. Most Activities are broken into parts. A typical Part of a Module will involve watching an online video or working with an online computer `simulator', after (or during) which you will answer questions of various types – some of which will involve writing short-answer responses.

Live Zoom Sessions:

I will hold live class sessions on Zoom twice a week. The Zoom link and passcode will be sent to you either by email or through the class's Canvas site. During the Zoom sessions, I plan to do these things: 1) Give "mini-lectures" about key topics, 2) Show and explain how to do the week's Module Activity, 3) Go over answers from the previous Module Activity, and 4) Go over sample test questions.

Reading Assignments and Reading Questions:

Each week's Module has a reading assignment; usually this is one chapter from the free online textbook. While you are doing your reading, you can go to that Module's Reading Questions page and complete the questions as you come across the answers. This is a good way to keep up with your reading and get part of your week's work done at the same time! There are 11 weeks of reading assignments (one per Module), and the lowest week's Reading Questions score will be dropped before I calculate the final grade.

Online Lectures:

Although you will not be coming to campus to attend lectures, you should watch (and listen to) the online lecture videos as though you were attentively present in a lecture hall. It is highly recommended that you take notes during the lectures, and use those notes to study for the midterm and the final exam.

Weekly Discussions:

Each week you will be required to participate in an online discussion about topics in astronomy and planetary exploration. You and your fellow students will come up with the topics to start the discussion "threads", such as by asking each other good questions, answering your fellow students' questions, and digging into topics from the book or the lectures in more detail. The Instructions for the Module 1 Discussion explain what is required to earn a good grade in this part of the course. To summarize this briefly, your posts should contribute clearly and constructively to the discussion, **and**, if you want to earn the most points possible, you will need to post multiple times per week, with some of those posts coming early in the week.

Discussion posts are not accepted late for any reason, although the lowest of your 11 discussion scores this quarter will be dropped before I calculate the final grade.

Important: It is your responsibility to make sure that your Discussion post has actually posted to the page before you leave a Discussion forum.

Module Activities:
During each week's Module, you will dig deeper into some of that Module's topics by completing that week's Activity. Most often, you will have questions to answer – some multiple-choice, and a few short-answer – after watching an online video or working with a web-based computer simulation of some part of the universe. These activities will be completed in Canvas; emailed responses are not accepted for any reason. There are 11 Module Activities this quarter, the lowest week's Module Activity score will be dropped before I calculate the final grade.
If you have an urgent personal situation come up where you cannot turn in this activity on time, an extension of time that you do not need to ask for will be granted to you without penalty. This extension will last for one week. Another extension for this assignment will not be granted for any reason. Use grace periods only in the case of an emergency. In fact, try to work ahead if possible. Continually relying on grace periods is a major sign you are behind in the course.
IMPORTANT: It is always your responsibility to make sure an activity has submitted properly. If for some reason an activity does not submit properly and you do not notice this until after the grace period deadline has passed, you will not have another opportunity to submit this activity for a grade.

ALSO: Attempting to turn in a module activity just before the grace period deadline is at your own risk. If you miss this deadline for any reason at all, even if that reason is out of your control, and you cannot get your assignment turned in because you waited until the very last day of your grace period to turn it in, that is completely on you and you will receive a zero on those activities. It is also your responsibility to make sure your activity has submitted properly.

Midterm and Final Exam:
Together, these two exams will make up 30 percent of your grade. (Each exam is 15 percent.) In the Canvas website for this course, you will find a "What2Know List" for each exam. In the online lecture videos, you will find that I refer to specific parts of that list to show what I'm about to cover in each video. Practice exams will also be made available on the Canvas website for this course – one each for the midterm and final.
Each exam will open and close during a specific "window" of time, and once you start the exam, you will have to finish it in a set amount of time. You will find that this set amount of time is not enough to look everything up if you go into the exam `cold'. I highly recommend studying for each exam, much like you would study for an exam in an on-campus class. However, unlike most of those tests that you may have taken, you may want to prepare notes on the What2Know topics, and develop some system for referring to those notes quickly during the exam. A combination of memorization and note preparation may be your best pathway to scoring well on the exams.

WARNING: IT IS **YOUR RESPONSIBILITY** TO UNDERSTAND WHEN AN EXAM OPENS AND CLOSES. IF YOU MISS AN EXAM PERIOD DUE TO MISUNDERSTANDING THE SCHEDULE, INTERNET ISSUES, CANVAS ISSUES, HOSPITAL STAY, ILLNESS OR FOR ANY OTHER REASON, EVEN IF THAT REASON IS OUT OF YOUR CONTROL, YOU WILL RECEIVE A ZERO ON THAT EXAM. THERE IS AN EXAM'S WORTH OF EXTRA CREDIT IN THE COURSE.

Important Notes about Internet Access:
I will assume you are completing this course from home and with good access to the Internet. Also please note that all dates and times in this course are in the Pacific time zone of the USA unless otherwise noted.
If local circumstances affect your access to the Internet, such as if you are in a region where a local or national government blocks (or partially blocks) access to the global Internet, I cannot change that situation. It is your responsibility to check and make sure that you will be able to access the online course materials.

Policy on Academic Integrity and Our Online Course Environment:
Any student who displays inappropriate conduct, including cheating, plagiarism, or harassment of any other student(s) will be subject to disciplinary action. For more information on the College's policies on subjects such as academic integrity, mutual respect, student due process, and disciplinary action, see the De Anza College Catalog. As with any other course at De Anza College, whether on-campus or online, all College and District policies and guidelines apply to this course.

Policy for Dropping Students:
Any students who have not logged into the course website on Canvas and posted their first Discussion post or submitted their first Module Activity during the first week of classes may be dropped for non-attendance. ADDITIONAL IMPORTANT NOTE: During Week 1, there is an assignment on how to use the textbook that you must complete by 10pm on Wednesday of Week 1, in order to avoid being dropped from the class.
For students who feel that they will not be able to complete the coursework and wish to drop the class, the final deadline to drop with a "W" is the end of Week 8. It is the **student's responsibility** to drop by that deadline if they feel they need to drop the course. I cannot drop them after that date.

Note on accommodations for students with disabilities:
In coordination with the DSS (Disability Support Services) office, reasonable accommodations will be provided for eligible students with disabilities. If you do not yet have an accommodation letter, please contact the DSS office at (408) 864-8753 (voice) or (408) 864-8758 (TTY). If you are a DSS student, please scan and email me your accommodation letter within the first two weeks of the quarter, even if think you might not need to use the accommodations, so we can be prepared if the need arises. DSS's email address is dss@deanza.edu.

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.

Schedule of Topics:

Module 1	Science and the Universe	DUE Sunday 1/10, 10pm
Module 2	Observing the Sky	DUE Sunday 1/17, 10pm
Module 3	Orbits and Gravity	DUE Sunday 1/24, 10pm
Module 4	Earth, Moon, and Sky	DUE Sunday 1/31, 10pm
Module 5	Radiation and Spectra	DUE Sunday 2/7, 10pm
Module 6	Astronomical Instruments	DUE Sunday 2/14, 10pm
Module 7	The Earth and its Place in Our Solar System	DUE Sunday 2/21, 10pm
Module 8	Cratered Worlds: The Moon and Mercury	DUE Sunday 2/28, 10pm
Module 9	Earthlike Planets: Venus and Mars	DUE Sunday 3/7, 10pm
Module 10	The Outer Planets and Their Moons	DUE Sunday 3/14, 10pm
Module 11	Clues to How Our Solar System Began	DUE Sunday 3/21, 10pm

The Midterm exam will be open for you to take during the Wednesday and Thursday of Week 6 (Wednesday 2/10 – Thursday 2/11).
The Final exam will be open for you to take during the Wednesday and Thursday of Final Exam week (Wednesday 3/24 – Thursday 3/25).

GRADING

Your grade in this class will be a percentage out of 1000 points:

900 – 1000+ points	A
800 – 899 points	B
700 – 799 points	C
600 – 699 points	D
less than 600 pts	F

300 points are from the midterm and the final exam (150 points each).

700 points are from **modules**.

Here's how the module points work:

- There is one module per week.
- Most of the Modules cover one chapter from the textbook. Near the end of the quarter, some modules will cover more than one chapter.

Each Module has:

1 Weekly Discussion (20 points)	The lowest of these 11 scores will be dropped.
1 set of Weekly Reading Questions (20 points)	The lowest of these 11 scores will be dropped.
1 Weekly Module Activity (30 points)	The lowest of these 11 scores will be dropped.

Extra-Credit Activities:

The even-numbered modules have optional extra-credit exercises in them. The extra-credit activities add up to 150 possible bonus points.

Student Learning Outcome(s):

*Appraise the benefits to society of planetary research and exploration.
*Compare and contrast the development of planetary systems and of the major panet 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.