ASTRONOMY 4

Solar System Astronomy

De Anza College Winter 2021

Course Information Summary

Term: 2021 Winter De Anza | **CRN:** 36011 |

Title: SOLAR SYSTEM ASTRONOMY | **Course:** ASTR D004.40Z | **Room:** Online

Instructor: Srikar Srinath

Email: srinathsrikar@fhda.edu

Canvas course name: W21 ASTR D004 Solar System Astronomy

Textbook

Your textbook for this class is available **free** online, in a variety of formats (online, PDF, ePUB)!
Astronomy from OpenStax: Print ISBN 1938168283, Digital ISBN 1947172247

You have several options to obtain this book:

- View online
- Download a PDF
- Order a print copy
- Download for iBooks

You can use whichever format(s) you want. Online web view is recommended -- the responsive design works seamlessly on any device.

Lectures

Online on YouTube and linked within Canvas

Office Hours and questions

- **On Canvas:** Class Question & Answer discussion board
- **On Canvas:** class chat room: TTh Noon - 1 pm Pacific Time
- **On Zoom:** at the class designated time MW 6-6:50 pm. Link to be posted on Canvas.
- **On Canvas:** Inbox

Introduction to Astronomy 4

Astronomy 4 is an introductory-level course about the contents of our Solar System and what we have learned about them in the past 400+ years of telescopic observation and 60 years of space exploration.

The course has no prerequisites. However, De Anza College does advise the following: English as a Second Language 5. The class is taught with the non-Science major in mind, but we will be doing Science because anybody and everybody can (and does)!

Class Format

This class instruction will combine *asynchronous* online class (which means lectures can be viewed at any time once made available) and *synchronous* lecture time as well (MW 6-6:50 pm). There will be 4 hours of lecture every week posted in advance to the YouTube channel and the Canvas website. You can expect to be tested on all of the material presented in lecture as well as in the textbook reading assignments.

Registration

If you wish to add the class, you must obtain an add code from me. It is your responsibility to use the add code before the deadline. The preferred method is to add yourself to the class waitlist so I can send you an add code from ActiveRoster. If you are not allowed to add yourself to the waitlist, please email me directly at the address above.

Attendance

Regular engagement with online content is required. Participation in synchronous online discussions can boost your grade by as much as 5% (half a grade level).

Exams and Grades

Your class grade will be based on your performance on lecture assignments (two per week), homework (every alternate week), a midterm and a final report. Class participation (measured by lecture questions answered or participation in discussions) will help boost your grade.

1. Every lecture will have some short answer questions associated with them. Answering these questions will make up a total of 25% of your grade. Your two lowest scores will be dropped. These assignments have generous due dates (typically 7-10 days) but please try not to fall behind on them.
2. Every other week (i.e. skipping a week), except during midterm and finals week, a homework assignment on Canvas will test your understanding of the subject. Homework will make up 25% of your grade. Two homework assignments will actually be preparation for your final report so I can give you feedback on its format and on your understanding of concepts and make preparation of the final report a lot easier. Homework will typically not be accepted after due date unless there are extenuating circumstances communicated to me **before** the deadline.

3. A midterm will be made available on or around Sun, Jan 31 (the date may change depending on how far we are in the class). It will be multiple choice, timed and open book/notes/Internet. This **cannot** be dropped and will be 25% of your grade.
4. The week of Finals, a report (single-spaced, maximum 12pt font, minimum 2000 words) will be due. This will **not** be dropped and will be 25% of your grade. The report topic will be revealed in Week 2 of the quarter.

Cheating

JUST DON'T DO IT!

Cheating on any assignment is grounds for a failing grade in the class and a permanent note in the student's file with additional punishment at the discretion of the administration. Some assignments use Turnitin, a plagiarism checking tool. The output of that tool can be, and has been, used to determine whether cheating has occurred and penalties have been (and will be) imposed.

Course Outline & Reading

Lecture material and dates are tentative based on progress made in class. Tests will only feature topics covered in class or in the book until the testing date.

Date	**Textbook chapter**	**Topic**
Week 1	Ch 1	Cosmic Context
Jan 4	Ch 2	Diurnal, Annual, Planetary apparent motions
Week 2	Ch 3	Orbits - Kepler & Newton, The Seasons
Jan 11	Ch 4	Moon phases, Tides, Eclipses
Week 3	Ch 5	Time & Light
Jan 18	Ch 5	Spectra
Week 4	Ch 6	Telescopes on Earth and in Space. How they work.
Jan 25	Ch 7	Overview of the Solar System
Week 5		
Feb 1	**Midterm**	**Practice midterm made available, midterm available after 3 days**
Feb 6		**Midterm due**

Week 6	Ch 8	Earth as a planet
Feb 8	Ch 8	Earth-shaping processes and Climate Change
Week 7	Ch 9	Cratered Worlds: The Moon and Mercury
Feb 15	Ch 10.-10.3	Venus
Week 8	Ch 10.4-10.6	Mars
Feb 22	Ch 11	The Giant Planets
Week 9	Ch 12	Moons of the Giant Planets
Mar 1	Ch 13, 14	Dwarf planets, Asteroids, Comets
Week 10	Ch 15, 16	The Sun
Mar 8	Ch 21	Star Formation & Planets around other stars
Week 11	Ch 30	Life in our Galaxy (and in the Universe)
Mar 15		Wrap-up
Finals		
Mar 26		**Final assignment due by 11:59 pm**

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.