



Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

Semester: Spring

Year: 2025

Course Prefix: Astro

Course and Section #: 1040 004

Course Title: Elementary Astronomy

Credits: 3

Course Description

This course introduces astronomy and cosmology. It provides a physics-based overview of the solar system, the lives and deaths of stars, galaxies, and the evolution of the Universe. It explores the basic principles of physics and light, the tools of astronomy, and interesting concepts such as the Big Bang and black holes

Course Attributes

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: Saxon Stockton

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Describe the process of science and tools by which astronomers gain knowledge about the universe, including how our understanding of the universe, its scale and our place in it has changed over time.
2. Make connections between the earth's daily and yearly motions and their experience of the sky, including positions and motions of celestial bodies, seasons, phases of the moon, and eclipses.
3. Recognize how underlying physical laws govern the formation and evolution of stars, planetary systems, galaxies, and the universe as a whole.
4. Apply basic principles of physics and light to the interpretation of astronomical observations and phenomena.
5. Identify scientific information conveyed in various forms, including simple equations, numbers, diagrams, charts, and graphs.
6. Answer conceptual questions with correct terminology in the fields of stellar astronomy, cosmology, and solar system science.

7. Apply concepts learned in the course to observations of the real night sky, current news and events, and representations of astronomy in the media and popular culture.
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Course Materials and Texts

Mastering Astronomy Course Bundle

Course Requirements

Course Assignments, Assessments, and Grading Policy

Assignments:

Syllabus Quiz: 6% - quiz about the syllabus

Daily Activities: 10% - participation graded questions during class

Exploration Activities: 6% - inquiry based participation graded activity during class

Daily Homework: 20% - assorted practice questions done outside of class

2 Observing Projects: 10% - activities done under the night sky

Media Experience 8% - watch and judge a non-fiction media about astronomy

5 Unit Exams: 25% - based on the sections of the class.

Final Exam: 15% - comprehensive exam

Final Letter grades are given using a standard grade scale. If your grade is in the range, you are guaranteed that letter grade. I occasionally bump grades up if you are very close to a boundary, but I will never move someone to a lower letter grade.

A 94.0 -100.

A- 90.0 - 93.9

B+ 87.0 - 89.9

B 84.0 - 86.9

B- 80.0 - 83.9

C+ 77.0 - 79.9

C 74.0 - 76.9

C- 70.0 - 73.9

D+ 67.0 - 67.9

D 64.0 - 66.9

D- 60.0 63.9

E Below 60.0

Required or Recommended Reading Assignments

- The Essential Cosmic Perspective 9th Edition by Bennet, Donahue, Schneider, and Voit
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General Description of the Subject Matter of Each Lecture or Discussion

- Chapter 1: A Modern View of the Universe
 - Chapter 2: Discovering the Universe for Yourself
 - Chapter 3: The Science of Astronomy
 - Exam 1 covering chapters 1-3
 - Chapter 4: Making Sense of the Universe: Understanding Motion, Energy, and Gravity
 - Chapter 5: Light and Telescopes: Reading Messages from the Cosmos
 - Exam 2 covering chapters 4-5
 - Chapter 11: Our Star
 - Chapter 12: Surveying the Stars
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- Chapter 13: Star Stuff
- Chapter 14: The Bizarre Stellar Graveyard
- Exam 3 covering chapters 11-14
- Chapter 15: Our Galaxy
- Chapter 16: A universe of galaxies
- Chapter 17: The Birth of the Universe
- Chapter 18 Dark Matter, Dark Energy, and the Fate of the Universe
- Exam 4 covering chapters 15-18
- Chapter 6: Formation of the Solar System
- Chapter 7: Earth and the Terrestrial Worlds
- Chapter 8: Jovian Planet Systems
- Chapter 9: Asteroids, Comets, and Dwarf Planets: Their Nature, Orbits, and Impacts
- Chapter 10: Other Planetary Systems: The New Science of Distant Worlds
- Chapter 19: Life in the Universe
- Exam 5 covering chapters 6-10 and 19
- Final Exam

Required Course Syllabus Statements

Generative AI

This course requires you to complete assignments that assess your understanding, application, and problem-solving ability applied to chemistry. You are expected to do your own work. Problem solving and scientific thinking are tools that are necessary for students to learn in this course. The use of artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, is strictly prohibited for any part of your assignments. Using these tools will be considered academic dishonesty and will be handled according to the university's academic honesty policy. If you have questions about acceptable use of AI tools, please consult the instructor before submitting your work.

Using Remote Testing Software

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed

by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.