

**South Plains College
Common Course Syllabus: ASTR 1404
Revised Summer 1 2026**

Department: Science
Discipline: Astronomy
Course Number: ASTR 1404
Course Title: Solar System
Available Formats: Online
Campuses: Levelland

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Course Description: Study of the sun and its solar system, including its origin

Prerequisite: There are no prerequisites for this course, however you will be expected both on the homework and on the exams to be able to perform simple mathematical calculations. Examples of the mathematical concepts we will use in this course are scientific notation, multiplying and dividing powers of 10, converting between different metric units, rearranging and solving simple equations. It will be assumed that you are familiar with high school algebra.

Credit: 4 **Lecture:** 3 **Lab:** 3

Course Textbook: The Essential Cosmic Perspective, 9th Edition by Bennett, Donahue, Schneider, and Voit. Students will also need the online code for Pearson's Mastering Astronomy. The Mastering code will come with access to the e-text.

This course partially satisfies a Core Curriculum Requirement:
Life and Physical Sciences Foundational Component Area (030)

Core Curriculum Objectives addressed:

- **Communications skills**—to include effective written, oral, and visual communication
- **Critical thinking skills**—to include creative thinking, innovation, inquiry and analysis, evaluation and synthesis of information
- **Empirical and quantitative competency skills**—to manipulate and analyze numerical data or observable facts resulting in informed conclusions
- **Teamwork**—to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Student Learning Outcomes:

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

1. Compare and contrast objects in the Solar System based on their features.
2. Explain Earth's motion in space, including both rotation and revolution.
3. Show how the relative motions of the Earth, Moon, and Sun lead to eclipses.
4. Model phases of the moon and explain how the phases come about.
5. Visualize the way in which the Earth's motion around the Sun produces retrograde motion in other planets.
6. Understand tides and tidal forces.
7. Describe why the Earth has seasons.
8. Identify the Sun's features and explain the Sun's effects on the Solar System.
9. Understand how the Sun produces energy.
10. Develop an understanding of the size/scale of the Solar System and learn to model different aspects of the Solar System.
11. Explain basic physics principles involved in our Solar System, including Conservation of Energy and Conservation of Momentum.
12. Learn about different types of telescopes, their main parts, and how to use them.

Course Evaluation:**Breakdown of Grading:**

Homework	20%
Quiz average	20%
Exam 1	20%
Exam 2	20%
Final	20%

Grading scale:

100---A---90, 89---B---80, 79---C---70, 69---D---60, 59---F---0

Note: Final grades will be calculated using the breakdown above.

(**Late Work** will not be accepted. **Bonus points** may be given for assignments and activities that are considered above and beyond course requirements. *Students are strongly encouraged to attempt all bonus assignments.* Bonus points will be added to the Quiz average at the end of the semester.)

Computer/Software requirements

Minimum Computer Requirements:

1. Personal computer with a 1 GHz Pentium processor and at least 512 MB of RAM memory, a minimum 5 GB of free hard drive, running Windows 7 / MacOS 10.8 or later (Windows 10 / MacOS 10.12 recommended).
2. Web Browser: Google Chrome seems to work the best with Blackboard and HOL.
3. A high speed internet connection of 5+ Mbps.
4. Microsoft Office and Microsoft PowerPoint and Word software (a recent version, preferably 2016 or higher).
5. Windows Media Player (the latest version).
6. Soundcard and functioning speakers.
7. Knowledge of how to navigate Google Chrome web pages and how to deal with pop-up blockers and other devices and warnings on Google Chrome.
8. Knowledge of how to download files from the Google Chrome and find them on your computer once they are downloaded.
9. Knowledge of basic operations of Microsoft Word and Microsoft PowerPoint.
10. Knowledge of how to view and adjust videos with Windows Media Player.

Additional notes on technology:

I will respond to individual emails as quickly as I can. If you send me something through email, and you do not receive a response within 1 business day, please resend it. I will always at least touch base with you within a 1-day time period unless I am ill.

Also, a student will not be punished in the event that Blackboard or an SPC server is down when an assignment is due. If you need to print, turn something in, or access something online, please try to do so ahead of time and not at the last minute in order to avoid this situation.

For information regarding official South Plains College statements about intellectual exchange, disabilities, non-discrimination, Title IX Pregnancy Accommodations, CARE Team, and Campus Concealed Carry, please visit <https://www.southplainscollege.edu/syllabusstatements/>.

ASTR 1404 Solar System Tentative Schedule Summer 1 2026

(Some of the scheduled activities are weather dependent and subject to change accordingly.)

Note: Dates are locked in for all items in bold.

Week 1A June 1-2 Introduction Register for Mastering Astronomy HW 1, due June 3 at 11pm <i>(All HW assignments will be posted in the Blackboard folder for that week.)</i>	Week 3C June 19-21 Ch 6 HW 7, due June 22 at 11pm
Week 1B June 3-4 Ch 1 HW 2, due June 5 at 11pm	Week 4A June 22-23 Ch 7 HW 8, due June 24 at 11pm At Home Observation Lab 2
Week 1C June 5-7 Ch 2 HW 3, due June 8 at 11pm	Week 4B June 24-25 Quiz 2 over Ch 6-7 due June 26 at 11pm
Week 2A June 8-9 Ch 3 HW 4, due June 10 at 11pm	Week 4C June 26-28 Ch 8 HW 9, due June 29 at 11pm *Sky Observation Session in Levelland
Week 2B June 10-11 Quiz 1 over Ch 1-3 due June 12 at 11pm	Week 5A June 29 Ch 9 HW 10, due June 30 at 11pm
Week 2C June 12-14 Ch 4 HW 5, due June 15 at 11pm	Week 5B June 30 Ch 10 HW 11, due July 1 at 11pm
Week 3A June 15-16 Ch 5 HW 6, due June 17 at 11pm At Home Observation Lab 1	Week 5C July 1 Exam 2 over Ch 6-10 due July 2 at 11pm
Week 3B June 17-18 Exam 1 over Ch 1-5 due June 19 at 11pm	Final exam will be posted on Blackboard at 8am on July 2. It will be due by 11pm on July 2.