

AST 309S (48565)
The Solar System
MWF 9:00-10:00 WEL 3.502

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Text: An Introduction to the Solar System, ed. Rothery, McBride & Gilmour (either edition)

Prerequisite: AST 301 or equivalent introduction to astronomy.

Contents: We will discuss the planets, moons, and other bodies in the solar system. Our emphasis will be on how the solar system bodies got to be like they are and why they differ as they do. This course is for non-science majors, and we do not expect you to have taken any physics courses. But we will be discussing physical laws and how they apply to the solar system. And we will at times put numbers into formulas.

This course may be used to fulfill three hours of the natural science and technology (Part I) component of the university core curriculum and addresses the following four core objectives established by the Texas Higher Education Coordinating Board: communication skills, critical thinking skills, teamwork, and empirical and quantitative skills.

Reading and Homework: A chapter of reading will be assigned most weeks. You must do the reading by the day we start the chapter (usually a Monday), and we will have a quiz on days when we start a new chapter. Each quiz will have one question about the previous chapter and one on the reading. An ongoing assignment for the semester will be to watch the planets and keep a record of your observations. In addition, we will have other homework assignments involving observations or calculations. You are encouraged to work together on homework and get help from us, but you must write out your own answers in your own words. Duplicate homeworks will not receive credit. Late homeworks will receive half credit up until the day we return them to you.

Tests: There will be 4 exams (see the schedule on back) and an optional final. The final will be a comprehensive one-hour test, which can be used to replace your lowest exam score. At the same time there will be a second one-hour make-up test for excused absences. Exams will cover material from both class and the reading. The exams will be closed-book and closed-notes, and calculators will not be allowed (or needed).

Grades: 60% of your grade will be determined from your exam scores and 40% from homeworks, quizzes, and other in-class assignments. Your lowest quiz and homework scores (one of each) will be dropped.

Collaboration: You are encouraged to study and work on homework assignments with other students, and you are encouraged to get help from the professor and TAs, but you must write out your own answers and make the assigned observations yourself. If you copy another homework or let someone copy yours, both of you will receive zero credit.

Schedule:

Starting:	Reading:	Topics:
Aug 27:	Ch 1	Introduction and overview
Sep 8:	Ch 2	Interiors of Terrestrial Planets
Sep 17:	Ch 3	Volcanism
Sep 26:	Ch 1-3	Exam #1
Sep 29:	Ch 4	Impacts and Weathering
Oct 8:	Ch 5	Atmospheres of Terrestrial Planets
Oct 17:	Ch 4-5	Exam #2
Oct 20:	Ch 6	Giant Planets
Oct 29:	Ch 7	Minor Bodies
Nov 7:	Ch 6-7	Exam #3
Nov 10:	Ch 8	Origin of the Solar System
Nov 17:	Ch 9	Meteorites
Nov 24:		Exoplanets
Dec 5:	Ch 8-9+X	Exam #4
Dec 12:	Ch 1-9+X	Optional final

Painter Hall telescope:

There is a good telescope for viewing planets on top of Painter Hall. Go there at least once during the semester on a Friday or Saturday night. See <http://outreach.as.utexas.edu/public/viewing.html>

Viewing planets:

Mars and Saturn are together in the southwest in the evening at the beginning of the semester. In September Saturn will disappear behind the Sun, while Mars lingers in the southwest through November.

Mercury can be seen about 45 minutes after sunset in early September and before sunrise at the beginning of November.

Jupiter and Venus rise before sunrise in August. Jupiter rises earlier later in the semester, rising by midnight in November, while Venus disappears behind the Sun.