

AST 309S (47370)
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:
Jan 21:	Ch 1	Introduction and overview
Feb 2:	Ch 2	Interiors of Terrestrial Planets
Feb 11:	Ch 3	Volcanism
Feb 20:	Ch 1-3	Exam #1
Feb 23:	Ch 4	Impacts and Weathering
Mar 2:	Ch 5	Atmospheres of Terrestrial Planets
Mar 13:	Ch 4-5	Exam #2
Mar 23:	Ch 7	Minor Bodies
Apr 1:	Ch 6	Giant Planets
Apr 10:	Ch 6-7	Exam #3
Apr 13:	Ch 8	Origin of the Solar System
Apr 22:	Ch 9	Meteorites
Apr 29:		Exoplanets
May 8:	Ch 8-9+X	Exam #4
May 14 9:00:	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:

Venus and Mars are in the west after sunset all semester. At first, Venus may be too close to the Sun to be seen, but it will move away from the Sun during the semester, while Mars will move closer to the Sun.

Jupiter rises in the east around sunset early in the semester. It rises earlier later in the semester, so it is already high in the eastern sky in the evening by March and near overhead in the evening in April. Early in the semester Saturn won't be visible until morning, but it will be rising by midnight in April.

Mercury may be visible after sunset in January and in the morning in late February.