

Astronomy 204 - Fall 2010

Solar System Astronomy

Instructor	Professor Jimmy Irwin
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Office Hours	2:00 PM – 4:00 PM Tuesday 10:00 AM – 12:00 PM Wednesday, or by appointment
Web page	http://astronomy.ua.edu/jairwin/AY204.html
Time and Room	Lecture: TR 9:30 AM - 10:45 AM in 310 Gallalee
Textbook	<i>The Cosmic Perspective: The Solar System</i> , by Bennett, Donahue, Schneider, & Voit (6th Edition)

Prerequisites

MA 113 or MA 119 or equivalent

Course Description

This course provides (1) a discussion of the orbital mechanics and of the interior structure, surface features, atmosphere, and origin of the sun, planets, and solar system; (2) an understanding of the detection techniques and current census of extrasolar planets, and (3) a discourse on the possibility of life on other planets.

Learning Objectives

o Students will be able to identify key concepts in the sciences, contributing to the development of a broad perspective on the human condition.

- o Students will be able to recognize and explain the scientific method, and evaluate scientific information.
- o Students will be able to identify the key conceptual advances (and associated figures) in the history of astronomy.
- o Students will understand the relationship between light, matter, and energy in an astronomical context.
- o Students will be able to characterize the appearance and motion of celestial objects.
- o Students will understand the content, formation and evolution of planetary systems.
- o Students will understand detection techniques and characteristics of extrasolar planets.

Attendance

Some lecture material will not be found in the book, so regular attendance is essential.

Extra Credit

No extra credit will be offered in this course, with the possible exception of extra credit problems on an exam.

Important Dates

The last day to register or add this course is August 26.

The last day to drop this course without a grade of "W" is August 26.

The last day to drop this course with a grade of "W" is October 27. After that date students will receive a letter grade that will appear on the student's official transcript.

Grading

Your final course grade will be determined based on the following point structure:

Exams	30%	2 exams, 15% each
Homework	30%	8-10 assignments
Final Exam	30%	
Presentation	10%	A 15 minute presentation of a recent astronomy press release.

Timetable

Time spent on a given subject is indicative only; as the term advances, you may find we are a little ahead or behind this plan.

Date **Topic**

R Aug. 19 - Introduction/Overview & Pre-test

T Aug. 24 - Chapter 1 - Our Place in the Universe

R Aug. 26 - Chapter 2 - Discovering the Universe For Yourself

T Aug. 31 - Chapter 3 - The Science of Astronomy

R Sep. 2 - Chapter S1 - Celestial Timekeeping and Navigation

T Sep. 7 - Chapter 4 - Making Sense of the Universe: Understanding Motion, Energy, and Gravity

R Sep. 9 - Chapter 5 - Light and Matter: Reading Messages From the Cosmos

T Sep. 14 - Chapter 6 - Telescopes: Portals of Discovery

R Sep. 16 - Chapter 7 - Our Planetary System

T Sep. 21 - Exam #1

R Sep. 23 - Chapter 8 - Formation of the Solar System

T Sep. 28 - Chapter 9 - Planetary Geology: Earth and the Other Terrestrial Worlds

R Sep. 30 - Chapter 9 - Planetary Geology: Earth and the Other Terrestrial Worlds/Chapter 10 - Planetary Atmospheres: Earth and the Other Terrestrial Worlds

T Oct. 5 - Chapter 10 - Planetary Atmospheres: Earth and the Other Terrestrial Worlds

R Oct. 7 - Moon Landing Debate

T Oct. 12 - Chapter 11 - Jovian Planet Systems

R Oct. 14 - Chapter 11 - Jovian Planet Systems/Chapter 12 - Asteroids, Comets, and Dwarf Planets: Their Nature, Orbits, and Impacts

T Oct. 19 - Chapter 12 - Asteroids, Comets, and Dwarf Planets: Their Nature, Orbits, and Impacts

R Oct. 21 - Exam #2

T Oct. 26 - Chapter 14 - Our Star

R Oct. 28 - Chapter 14 - Our Star

T Nov. 2 - Chapter 13 - Other Planetary Systems: The New Science of Distant Worlds

R Nov. 4 - Chapter 13 - Other Planetary Systems: The New Science of Distant Worlds

T Nov. 9 - Current Research in Extrasolar Planets/Kepler Results

R Nov. 11 - Current Research in Extrasolar Planets/Kepler Results

T Nov. 16 - Chapter 24 - Life in the Universe

R Nov. 18 - Mid-semester break - no class

T Nov. 23 - Chapter 24 - Life in the Universe

R Nov. 25 - Thanksgiving - No classes

T Nov. 30 - Debate on Life on Other Planets

R Dec. 2 - Review for Final

W Dec. 8 - FINAL EXAM 8:00 AM - 10:30 AM 310 Gallalee