

## **Astronomy 103 Fall 2014: Introduction to Astronomy and The Solar System**

Instructor: James Hill 662-547-6970, [jhill6333@gmail.com](mailto:jhill6333@gmail.com)

Class: Lewis 101 M-Th 1:00 pm to 2:50 pm

Lab: 1 evening/week M-Th: times 7:00-8:50pm or 9:00-10:50pm

Office Hours: M and W 2:00-4:00pm (other times by appointment)

Text: Cosmic Perspective, Bennett et al., 7th Edition, 2013

### Learning Objectives:

1. To learn the physics background and history of astronomy,
2. to learn the characteristics and science of the solar system, and
3. to participate in observing and astronomical experiments

Read the assigned chapter **before** class. The schedule below is subject to adjustment.

Date	Subject	Chapter
25 Aug	Introduction, scale and history of the universe, spaceship Earth	1
27 Aug	Patterns in the sky: Constellations , Seasons, Lunar phases, eclipses	2
1 Sept	LABOR DAY	
3 Sept	History of astronomy, Copernicus, Kepler, Galileo,	3
8 Sept	Physics: Energy, Temperature, Matter, Phases, atoms, spectroscopy	4
10 Sep	Physics: Newton's Laws, Gravity, Escape Velocity, Mass, Tides	4
15 Sep	Physics: Light, spectra, thermal radiation, Doppler shift	5
17 Sep	<b>First hour test</b>	1-5
22 Sep	Telescopes: types and characteristics	6
24 Sep	Our Solar System: Tour and Patterns	7
29 Sep	Our Solar System: Formation and Age	8
1 Oct	Terrestrial Planets: planet shaping processes, Moon & Mercury	9
6 Oct	Terrestrial Planets: Earth and Venus	9
8 Oct	Terrestrial Planets: Mars	9
13 Oct	Terrestrial planet atmospheres:	10
15 Oct	Terrestrial planet atmospheres: Greenhouse effect, Ozone,	10
20 Oct	<b>Second hour test</b>	6-10
22 Oct	Introduction to the Outer Solar System	11
27 Oct	Giant Planets: Jupiter's mysteries	11
29 Oct	Giant planets: Planetary Interiors/Atmospheres: Jupiter, Saturn	11
3 Nov	Giant planets: Planetary Interiors/Atmospheres: Uranus, Neptune	11
5 Nov	Giant planets: Rings & Moons: Jupiter, Saturn, Uranus, and Neptune	11
10 Nov	Small solar system bodies: Asteroids and Comets	12
12 Nov	Small solar system bodies: Pluto, Kuiper Belt, Meteors	12
17 Nov	Small solar system bodies: small bodies tell big tales, the Nice model	13
19 Nov	Extrasolar Planets: worlds around stars beyond the sun	13
1 Dec	<b>Third Hour Test</b>	11-13
3 Dec	Our star: Sunspots, layers, energy source, relationship with Earth\	14
8 Dec	<b>COMPREHENSIVE FINAL EXAM</b> (2pm sections)	1-14
12 Dec	<b>COMPREHENSIVE FINAL EXAM</b> (4pm sections)	1-14

### Semester Grade Algorithm:

25% Labs: You must do at least 75% of the labs to pass.  
19% Daily Homework/Quizzes: expect short in class quizzes too.  
12% 1st Test  
12% 2nd Test  
12% 3rd Test  
20% FINAL EXAM: Plan for the final exam on correct date, not earlier.

Mid-term grade will be 1/3 labs, 1/3 quizzes, 1/3 test #1

Attendance at all classes is expected. The Automated Attendance System using your Ole Miss ID card will be used. Always have your ID with you. Excess absences will affect your grade.

“Open book” homework/quizzes will be handed out at the end of each class. There may also be short in-class quizzes. Scantron answer sheets for homework/quiz answers will be due the following class day. (get **purple form 16485**) You may only turn in your own work - not that of others.

Answers to HW/quizzes and tests will be posted on “Blackboard”. Keep back quizzes and tests to correct and use as study guides for the final exam. Quizzes and tests will be based on the text though other topics will be covered during the lectures.

Chapter outlines for each chapter will be available in class and posted on Blackboard. These can be printed out and used for study guides.

Missed tests or homework/quizzes must be made up during my office hours at Kennon within 2 class days of being given unless special permission is granted.

Lab Sections: for questions contact the lab TA. Missing more than 25% of labs will cause failure for the course.

Come at the correct time for labs! at Lewis 1 or Kennon Observatory. Some labs will be held off campus at our dark sky site.

For information: <http://www.phy.olemiss.edu/~ttorma/Astro/Lab/Lab.html>

ASTRO 103 Lab Manual is **required**. Available at the Printing Office across from the Police Station. You will also need a scientific pocket calculator. The Texas Instruments TI-30Xa is a good choice. Bring the calculator to labs.

Reasonable accommodations for absences and for students with disabilities may be provided with advance notice.

For breaking news and information on astronomy topics subscribe to

APOD (astronomy picture of the day) at [apod.nasa.gov](http://apod.nasa.gov) to get daily images and information. (The archive is worth taking time for as well)

Another great site is [universetoday.com](http://universetoday.com)

Also get monthly sky charts at [skymaps.com](http://skymaps.com)