Astronomy 103 Fall 2015: Introduction to Astronomy and The Solar System

Instructor: James Hill 662-547-6970, <u>jhill6333@gmail.com</u> Class: Lewis 101 M and W 4:00 pm to 4:50 pm or 5:00 to 5:50 depending on section Lab: 1 evening/week M-Th: times 7:00-8:50pm or 9:00-10:50pm Office Hours: M and W 2:00-3:50pm (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
24 Aug	Introduction, scale and history of the universe, spaceship Earth	1
26 Aug	Patterns in the sky: Constellations, Seasons, Lunar phases, eclipses	s 2
31 Aug	LABOR DAY	
2 Sept	History of astronomy, Copernicus, Kepler, Galileo,	3
7 Sept	Physics: Energy, Temperature, Matter, Phases, atoms, spectroscopy	/ 4
9 Sept	Physics: Newton's Laws, Gravity, Escape Velocity, Mass, Tides	4
14 Sep	Physics: Light, spectra, thermal radiation, Doppler shift	5
16 Sep	First hour test	1-5
21 Sep	Telescopes: types and characteristics	6
23 Sep	Our Solar System: Tour and Patterns	7
28 Sep	Our Solar System: Formation and Age	8
30 Sep	Terrestrial Planets: planet shaping processes, Moon & Mercury	9
5 Oct	Terrestrial Planets: Earth and Venus	9
7 Oct	Terrestrial Planets: Mars	9
12 Oct	Terrestrial planet atmospheres:	10
14 Oct	Terrestrial planet atmospheres: Greenhouse effect, Ozone,	10
19 Oct	Second hour test	6-10
21 Oct	Introduction to the Outer Solar System	11
26 Oct	Giant Planets: Jupiter's mysteries	11
28 Oct	Giant planets: Planetary Interiors/Atmospheres: Jupiter, Saturn	11
2 Nov	Giant planets: Planetary Interiors/Atmospheres: Uranus, Neptune	11
4 Nov	Giant planets: Rings & Moons: Jupiter, Saturn, Uranus, and Neptune	e 11
9 Nov	Small solar system bodies: Asteroids and Comets	12
11 Nov	Small solar system bodies: Pluto, Kuiper Belt, Meteors	12
16 Nov	Small solar system bodies: small bodies tell big tales, the Nice mode	el 13
18 Nov	Extrasolar Planets: worlds around stars beyond the sun	13
30 Nov	Third Hour Test	11-13
2 Dec	Our star: Sunspots, layers, energy source, relationship with Earth\	14
7 Dec	COMPREHENSIVE FINAL EXAM 7:30 pm (5pm sections)	1-14
11 Dec	COMPREHENSIVE FINAL EXAM 4:00 pm (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. (Bring a blank Scantron with you to class.) Scantron answer sheets for homework/quiz answers will be due the following class day. (get **purple form 16485**)

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.

Cell phones should be turned off during class. Laptops should not be needed for notes.

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. Labs atart the second seek of classes.

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.

 Web sites for breaking news and information on astronomy topics subscribe to APOD (astronomy picture of the day) at <u>apod.nasa.gov</u> to get daily images and information. (The archive is worth taking time for as well)
 Another great site is <u>universetoday.com</u>
 Also get monthly sky charts at <u>skymaps.com</u>

rev 8/10/15