Astronomy 103 Fall 2013: Introduction to Astronomy and the Solar System

Instructor: James Hill 662-547-6970, jhill6333@gmail.com
Class: Lewis 101 M & W 4:00 pm or 5:00 pm
Office Hours: M & W 2:00-3:45, Kennon Observatory 1
Lab section and hours TBA

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

Learning Objectives:

1. To learn about planets, the sun, and other wonders of the solar system, and
2. To see how a few laws discovered by physics help understand the physical universe, &
3. To do experiments demonstrating astronomical concepts

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

Date	Subject	Chapter
26 Aug	Introduction, Cosmic address, light year	1
28 Aug	Stars, Constellations, Long/Lat., Seasons, Precession	2
4 Sept	Lunar phases, eclipses, retrograde motion, parallax	2
9 Sept	Earth Size, Kepler's Laws, Venus' Phases, Jupiter's Moons	3
11 Sep	Time, Calendar, RA, Dec., Star Tracks, Long., Lat.	S1
16 Sep	Energy, Temperature, Matter Phases, atoms, energy levels	4
18 Sep	Motion, orbits, Newton's & Kepler's Laws	4
23 Sep	Gravity, Escape Velocity, Weight and Mass, Tides	4
25 Sep	Light waves, spectra, thermal radiation, Doppler shift	5
30 Sep	FIRST HOUR EXAM	1-5
2 Oct	Telescopes: Optical, Radio, and X Ray; Diffraction Limit	6
7 Oct	Solar System Tour and Formation, Radioactive Dating	7, 8
9 Oct	Terrestrial Planets, tectonics, volcanoes, magnetism	9
14 Oct	Planet Earth: S-waves, P-waves, Continental Drift	9
16 Oct	Terrestrial Atmospheres, O2, CO2, Ozone	10
21 Oct	Greenhouse effect, Ozone, Escape Velocity	10
23 Oct	SECOND HOUR EXAM	6-10
28 Oct	Solar System Epic Adventure, Voyager Spaceflight	11
30 Oct	Interiors/Atmospheres: Jupiter, Saturn	11
4 Nov	Interiors/Atmospheres: Uranus, Neptune	11
6 Nov	Rings & Moons: Jupiter, Saturn, Uranus, and Neptune	11
11 Nov	Rock and Ice: Asteroids and Comets	12
13Nov	Pluto and Charon, Kuiper Belt, Meteors, Meteor Showers	12
18 Nov	Planets around stars beyond the sun	13
20 Nov	THIRD HOUR EXAM	11-13
2 Dec	Sunspots, Solar Magnetism, Flares, Energy Transport	14
4 Dec	Why does the sun shine? Nuclear fusion, neutrinos	14
9? Dec	COMPREHENSIVE FINAL EXAM 5:00 pm class, 7:30 pm	1-14
11?Dec	COMPREHENSIVE FINAL EXAM 4:00 pm class 4:00 pm	1-14

Semester Grade Algorithm:

25% Labs: You must do at least 75% of the labs to pass. (max 3 missed)
15% Quizzes/Homework: expect short quizzes for most classes.
12% 1st Test
12% 2nd Test
12% 3rd Test
24% FINAL EXAM: Plan for the final exam on correct date, not earlier.
100%

Mid-term grade will be 1/3 labs, 1/3 quizzes, 1/3 test 1 (Due Oct 11)

Attendance at all classes is expected. Hard copies of chapter outlines and homework/quizzes will be handed out at the end of classes and are posted on Blackboard. Homework/quiz Scantrons are due at the beginning of the class following distribution. You may only turn in your own work - not that of others. Late HW/quizzes will be marked down.

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.

Excused missed tests must be made up during my office hours at Kennon within 1 week of the test being given unless special permission is granted.

Lab Sections: for questions contact your lab TA or Dr.Tibor Torma. Come at the correct time!
Monday-Thursday 7-8:50 or 9-10:50 at Lewis 1 or Kennon Observatory
For information: http://www.phy.olemiss.edu/~kakukk/Astro/Lab/Lab.html

ASTR 103 Lab Manual is required. These may be purchased of the University Printing Office.You will 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.