

Astronomy 103 Spring 2016: Introduction to Astronomy and The Solar System

Instructor: James Hill: Office: Lewis 122 662-547-6970, jhill6333@gmail.com

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: Lewis 122 Mon. and Wed. 2:00-3:50pm (other times by appointment)

Texts: Cosmic Perspective, Bennett et al., 7th Edition, 2014

Astronomy 103 Lab Manual for Spring 2016

Learning Objectives:

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

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

Date	Subject	Chapter
25 Jan	Introduction, scale and history of the universe, spaceship Earth	1
27 Jan	Patterns in the sky: Constellations , Seasons, Lunar phases, eclipses	2
1 Feb	Patterns in the sky: Constellations , Seasons, Lunar phases, eclipses	2
3 Feb	History of astronomy, Copernicus, Kepler, Galileo,	3
8 Feb	Physics: Energy, Temperature, Matter, Phases, atoms, spectroscopy	4
10 Feb	Physics: Newton's Laws, Gravity, Escape Velocity, Mass, Tides	4
15 Feb	Physics: Light, spectra, thermal radiation, Doppler shift	5
17 Feb	First hour test	1-5
22 Feb	Telescopes: types and characteristics	6
24 Feb	Our Solar System: Tour and Patterns	7
29 Feb	Our Solar System: Formation and Age	8
2 Mar	Terrestrial Planets: planet shaping processes, Moon & Mercury	9
7 Mar	Terrestrial Planets: Earth and Venus	9
9 Mar	Terrestrial Planets: Mars	9
21 Mar	Terrestrial planet atmospheres:	10
23 Mar	Terrestrial planet atmospheres: Greenhouse effect, Ozone,	10
28 Mar	Second hour test	6-10
30 Mar	Introduction to the Outer Solar System	11
4 Apr	Giant Planets: Jupiter's mysteries	11
6 Apr	Giant planets: Planetary Interiors/Atmospheres: Jupiter, Saturn	11
11 Apr	Giant planets: Planetary Interiors/Atmospheres: Uranus, Neptune	11
13 Apr	Giant planets: Rings & Moons: Jupiter, Saturn, Uranus, and Neptune	11
18 Apr	Small solar system bodies: Asteroids and Comets	12
20 Apr	Small solar system bodies: Pluto, Kuiper Belt, Meteors	12
25 Apr	Extrasolar Planets: worlds around stars beyond the sun	13
27 Apr	Our star: Sunspots, layers, energy source, relationship with Earth	14
2 May	Third Hour Test	11-14
4 May	Life in the Universe: possible origins of life	24
9 May	COMPREHENSIVE FINAL EXAM 7:30 pm (5pm sections)	1-14
13 May	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.
20% Daily Homework/Quizzes: expect short in class quizzes too.
35% average of the 3 major tests
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. Scantron answer sheets for homework/quiz answers will be due the following class. Late quizzes lose points and will not be accepted after the answers keys are posted on blackboard. There will also be some short in-class quizzes. (Bring a blank Scantron with you to class.) In class quizzes cannot be made up without a valid excuse for missing the class.(bring - **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 handed out in class and posted on Blackboard. Print these out and use them for study guides.

Missed major tests may be made up during my office hours at Kennon within 1 week of being given unless special permission is granted. Different versions will be used for these.

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. In Lewis 1 or Kennon Observatory. Some labs will be held off campus at our dark sky site. Labs start the second week 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 excused absences and for students with disabilities may be provided with advance notice.

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