

## **Astronomy 103 Spring 2017: Intro. to Astronomy and The Solar System** rev 1/5/16

Instructor: James Hill) or 662-547-6970 (H), 662-392-1862 (C) [jhill6333@gmail.com](mailto:jhill6333@gmail.com)

Class Location: Lewis 101 MW 4:00 pm to 4:50 pm (sec 1-4) or 5 to 5:50 (sec 5-8)

Lab: One evening/week day M through Th, 7:00 pm-8:50 or 9:00-10:50

Office Hours: M or W 9:30am-3:45pm Lewis Hall #122 (other times by appointment)

Texts: Cosmic Perspective, Bennett et al., 8th Edition, 2017

Astro 103 Lab Manual

### Learning Objectives:

1. Introduction to the physics background and history of astronomy,
2. Learn the science and characteristics of planetary bodies, and
3. Participate in observing and astronomical experiments

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

Date	Subject	Chapter
23 Jan	Introduction, scale and history of the universe, spaceship Earth	1
25 Jan	Introduction: continued	1
30 Jan	Patterns in the sky: Constellations, Seasons	2
1 Feb	Patterns in the sky: Lunar phases, eclipses, retrograde motion, parallax	2
6 Feb	History of astronomy, Copernicus, Kepler, Galileo,	3
8 Feb	Physics: Energy, temperature, matter, phases, atoms, spectroscopy	4
13 Feb	Physics: Newton's Laws, Gravity, Escape Velocity, Mass, Tides	4
15 Feb	Physics: Light, spectra, thermal radiation, Doppler shift	5
20 Feb	Complete chapters 1-5 as needed	5
21 Feb	<b>First hour Test (Brevard 134)</b>	<b>ch 1-5</b>
22 Feb	Telescopes: types, characteristics, calculations	6
27 Feb	Our Solar System: IntroTour and Patterns	7
1 Mar	Our Solar System: Formation and age of the Solar System	8
6 Mar	Terrestrial Planets: planet shaping processes, Moon & Mercury	9
8 Mar	Terrestrial Planets: Mars and Venus	9
20 Mar	Terrestrial planets: Earth	9
22 Mar	Terrestrial planet atmospheres: Atmospheric basics	10
27 Mar	Terrestrial planet atmospheres: Comparing terrestrial atmospheres	10
28 Mar	<b>Second hour test (Brevard 134)</b>	<b>ch 6-10</b>
29 Mar	Introduction to the Outer Solar System	11
3 Apr	Giant planets: Planetary Interiors/Atmospheres: Jupiter, Saturn	11
5 Apr	Giant planets: Planetary Interiors/Atmospheres: Uranus, Neptune	11
10 Apr	Giant planets: Moons & Rings: Jupiter, Saturn, Uranus, and Neptune	11
12 Apr	Small solar system bodies: Asteroids, Meteorites, and Comets	12
17 Apr	Small solar system bodies: Pluto, Kuiper Belt, Impact dangers	12
19 Apr	Extrasolar Planets: Detection and Nature	13
24 Apr	Extrasolar Planets: Formation and Comparison to Our Solar System	13
25 Apr	<b>Third Hour Test (Brevard 134)</b>	<b>ch 11-13</b>
26 Apr	Our Star: the Sun, Structure and Energy Source of the Sun	14
1 May	Our Star: the Sun, The Sun-Earth Connection	14
3 May	Life in the Universe: What life is and where might it be found	23
8 May	<b>COMPREHENSIVE FINAL EXAM</b> chapters 1-14 7:30pm (sec 5-8)	<b>1-14+23</b>
12 May	<b>COMPREHENSIVE FINAL EXAM</b> chapters 1-14 4:00pm (sec 1-4)	<b>1-14+23</b>

### Semester Grade Algorithm:

25% Labs: You must do at least 75% of the labs to pass the course. Don't miss labs!

20% Daily Homework/Quizzes: expect short in class quizzes too.

35% Average of the 3 tests Lab discussion points will count here

20% FINAL EXAM: comprehensive. Plan for the final exam on correct date.

Mid-term grade will be 1/3 labs, 1/3 quizzes, 1/3 test 1. This doesn't affect the semester grade.

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. More than 3 unexcused absences will affect your grade.

The course syllabus and chapter outlines are posted on Blackboard. The outlines should be printed out and used for study guides. If you don't have a printer, see me. Lecture PowerPoints are like the chapter outlines and are available on a 1 gig flash drive you provide me.

Cell phone use is not allowed in class. Turn them off before class. Laptops for note taking in class should not be needed. It's more important for you to participate and ask questions.

Homework/quizzes will be handed out at the end of each class. There may also be short in-class quizzes. Have a filled in scantron with you. Scantron answer sheets for homework/quizzes will be due the class day after we finish each chapter. Use **purple Scantron form 18465**. Sharing answers to these quizzes is NOT ETHICAL. Read the text and do your own work!

Answer keys to HW/quizzes and tests will be posted on Blackboard. Quiz scantrons will not be accepted after answers are posted. Keep back quizzes and test hard copies to correct and use as study guides. Quizzes and tests will primarily be based on the text though other topics will be covered during the lectures.

Missed tests should be made up within 2 class days of being given unless special permission is granted. I can't post answers until everyone has taken the tests.

Lab Sections: Weekly 2 hour labs are required. For questions contact your lab TA. Missing more than 25% of labs will cause failure for the course.

Be prompt for labs! Some off campus observing sessions at the dark sky site will be held .

For information: <http://www.phy.olemiss.edu/~torma/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 calculator for labs. The Texas Instruments TI-30X is a good choice. Bring the calculator to labs.

Extra credit reading assignments will add to your exam grade. See me. Deadline May 1

YouTube "Study Less Study Smart" Marty Lobdell - highly recommended.

Keep up with posted grades in the hall by the classroom. Don't wait to notice missing quizzes.

When e-mailing me please include your section number.

Recommended web sites and books to add to your "favorites": (I'm always looking for other good sites and books to check out. Let me know if you find good ones.)

APOD (Astronomy Picture of the Day) at [apod.nasa.gov](http://apod.nasa.gov) daily images and neat information

Daily space news is at [universetoday.com](http://universetoday.com)

Monthly sky maps and info at [skymaps.com](http://skymaps.com)