Astronomy 103 Summer 2021: Intro. to Astronomy and The Solar System rev 4/27/21

Instructor: James Hill 662-547-6970 (H), 662-392-1862 (C) email <u>jhill6333@gmail.com</u> Class Location: Lewis Hall 101 MTWTh 1:00 pm to 3:00 pm CDT Lab: two evenings/week. Lewis Hall 1 (enter from the Bus area), M & W 8:30 pm-10:50 pm Office Hours: M-Th 10:00 am-12:00 pm (other times by arrangement)

Texts: Cosmic Perspective, Bennett et al., 9th Edition, 2017 (7th or 8th ed. are OK) Astro 103 Lab Manual (from Ole Miss Media)

Learning Objectives:

- 1. Introduction to the history and physics background of astronomy,
- 2. Learn the characteristics of solar system's bodies, and
- 3. Participate in observing the sky and astronomical experiments

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

Date	Subject	Cha	apter
1 June	Introduction, scale of the universe		1
1 June	Introduction: history of the universe, spaceship Ea	ırth	1
2 June	Patterns in the sky: Constellations, Seasons		2
2 June	Patterns in the sky: Lunar phases, eclipses, retrog	grade motion, parallax	2
3 June	Ancient astronomy, Copernicus, Kepler, Galileo,		3
3 June	The nature of science and pseudo-science		3
7 June	Physics: Motion, Newton's Laws, Conservation la	WS,	4
7 June	Physics: Gravity, orbits, tides, acceleration of gra	vity	4
8 June	First Test		ch 1-4
8 June	Physics: Properties of light and matter		5
9 June	Physics: Spectroscopy: learning form light		5
9 June	Telescopes: types, characteristics, calculations		6
10 Jun	Our Solar System: Intro Tour and Patterns		7
10 Jun	Our Solar System: Formation and age of the So	lar System	8
14 Jun	Terrestrial Planets: planet shaping processes		9
14 Jun	Terrestrial planets: Moon, Mercury, & Mars		9
15 Jun	Terrestrial Planets: Venus and Earth		9
15 Jun	Second test		ch 5-8
16 Jun	Terrestrial planet atmospheres: Atmospheric bas	ics	10
16 Jun	Terrestrial planet atmospheres: Comparing terres	strial atmospheres	10
17 Jun	Giant planets: Planetary Interiors/Atmospheres: J	upiter, Saturn	11
17 Jun	Giant planets: Planetary Interiors/Atmospheres: L	Jranus, Neptune	11
21 Jun	Giant planets: Moons & Rings: Jupiter, Saturn, U	ranus, and Neptune	11
21 Jun	Small solar system bodies: Asteroids, Meteorites	s, and Comets	12
22 Jun	Small solar system bodies: Pluto, Kuiper Belt, Im	pact dangers	12
22 Jun	Extrasolar Planets: Detection and Nature		13
23 Jun	Extrasolar Planets: Formation and Comparison to	Our Solar System	13
23 Jun	Third Test		ch 9-12
24 Jun	Our Star: The Sun, Structure and Energy Source	of the Sun	14
24 Jun	Our Star: The Sun, The Sun-Earth Connection		14
	Life in the Universe: What Life is & Where Might	It Be Found	(24?)
29 Jun	FINAL EXAM 8:00 am		ch 1-14 (24?)

Semester Grade Algorithm:

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

30% Average of the 3 tests. Lab discussion points will be added to the 3rd test. 20% Final Exam: chapters 1-14 + 24? Any extra credit points will be added to the exam score.

Attendance at all classes is expected. More than 3 unexcused absences will affect your grade.

The course syllabus and chapter outlines are posted on Blackboard. The outlines should be used for study guides. Lecture PowerPoints as PDFs are available on Blackboard. Lecture videos are on my Google Drive.

https://drive.google.com/drive/folders/12oXETEgYr53siTkBGKSIXjiom4bjCtLA

Daily Homework/quizzes will be posted on Blackboard. The quizzes are open book and notes. Unit tests are timed and *not* open book/notes. Read the text. Do your own work! Don't miss the weekly submission deadlines. (normally Saturday by midnight.)

Answer keys to HW/quizzes and tests will be posted on Blackboard. Use back quizzes and tests to correct misunderstandings and use as study guides. Quizzes and tests will primarily be based on the text though other topics will be covered during the lectures.

Lab Sections: 2 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!

ASTRO 103 Summer 2021Lab Manual. Obtain this from Ole Miss Media across from the Univ. Police Station. You will need a scientific calculator for labs.

Extra credit reading/journaling and/or outside class video viewing can add to your exam grade.

Recommended YouTube video: "Study Less - Study Smart" by Marty Lobdell

Keep up with posted grades. Don't wait to notice missing work.

<u>Recommended web sites to check or to subscribe to</u>: (I'm always looking for other good sites and books. Let me know if you run across good ones.)

APOD (Astronomy Picture of the Day) at **apod.nasa.gov** daily images and information Space news is at **universetoday.com** astronomy.com and **skyandelescope.com** Monthly sky maps and info at **skymaps.com**

Highly recommended: YouTube site for Astrum. Check out the planet and moon videos, but be ready to skip the adds.

https://www.youtube.com/channel/UC-9b7aDP6ZN0coj9-xFnrtw