Astronomy 104 Fall 2013 Instructor: Dr. Don Summers 915-7032
Lewis 101 TTh 1:00-1:50 Office Hours: Lewis 221 TThF 2-3
Lab Starts Text: Cosmic Perspective, Bennett et al., 7th Ed.
Lab 1: September 4, Wednesday 7- 8:50 Lewis Hall 1 TA:
Lab 2: September 4, Wednesday 9-10:50 Lewis Hall 1 TA:
Lab 3: September 5, Thursday 7- 8:50 Lewis Hall 1 TA:
Lab 4: August 27, Tuesday 9-10:50 Lewis Hall 1 TA:
http://www.phy.olemiss.edu/~ttorma/Astro/Lab/Lab.html
ASTR 104 Lab Manual: Buy at Rebel Graphics, Sam-Gerard Hall

Date	Subject	Chapters to read before class
27 Aug	Introduction	
29 Aug	Distances, light years, stars, constellations, galaxies	Chap 1 & 2
3 Sep	Star motion:daily/yearly Transits Angles Sidereal_Time	Chap 2
5 Sep	Longitude/Latitude, Right Ascension/Declination, RA/Dec	Chap S1
10 Sep	Kepler's 3 laws, Newton's Laws, Gravity, orbits	Chap 3 & 4
12 Sep	Matter, Energy, Temperature, Atomic energy levels	Chap 5
17 Sep	Light, Wavelengths, Spectral Lines, Doppler Shift	Chap 5
19 Sep	Spectroscopes, Wien's Law, Black Body Radiation	Chap 5
24 Sep	Telescopes: Optical, Radio, X-ray...	Chap 6
26 Sep	FIRST HOUR EXAM	
1 Oct	Why does the sun shine?, Sunspots, Neutrinos	Chap 14
3 Oct	Stars: Distances Luminosity Magnitudes Temperature Size	Chap 15
8 Oct	HR Diagram. Stellar Masses and Binary Stars.	Chap 15
10 Oct	Gas --> New Stars, Old stars Move off the Main Sequence	Chap 16
15 Oct	Variable Stars, Red Giant and White Dwarf Stars	Chap 17
17 Oct	Supernovae, Neutron Stars, Gravity Waves, and Black Holes	Chap 18
22 Oct	Crab Nebula	Chap 18
24 Oct	SECOND HOUR EXAM	
29 Oct	Our Milky Way Galaxy, Globular Star Clusters	Chap 19
31 Oct	100 Billion Galaxies	Chap 20
5 Nov	Finding Distances with Cepheid Variables, Galaxies	Chap 20
7 Nov	Hubble's Law, Redshifts, and Distances	Chap 20
12 Nov	Quasars and Active Galaxies	Chap 21
14 Nov	Cosmology, Expanding Universe, Big Bang, 3K Radiation	Chap 22
19 Nov	Early Universe, Inflation, Big Bang, Sub-Atomic Particles	Chap 22
21 Nov	THIRD HOUR EXAM	
3 Dec	Dark Matter in Galaxies and Galaxy Clusters	Chap 23
5 Dec	Search for Extraterrestrial Civilizations	Chap 24
12 Dec	COMPREHENSIVE FINAL EXAM, 12:00 noon, Thursday, not earlier!	

		Sections: 1-3	Section:4
Grading Scheme	1st Exam	12%	7% Save all exams.
	2nd Exam	12%	7%
	3rd Exam	12%	7%
	FINAL EXAM	24%	14% Bring a picture ID to tests.
	Pop Quizzes	15%	15% Save all quizzes.
	Lab	25%	35%
	Project	--	20%

Bring a scientific calculator (e.g. Texas Instruments TI-30Xa) to labs/tests.
Please come to the lab night and time you have signed up for. Labs are a required part of the course. You must do at least 70% of the labs to pass. Come to labs even if it is raining.

$$10^{11} \times 10^{11} = 10^{22}$$
stars/galaxy x galaxies = stars in the universe

Reasonable accommodations for students with disabilities will be provided.
Learning Objectives: To learn how stars, galaxies, and other wonders of the Universe work and to find out how astronomers made these discoveries and to do some of the actual experiments.