

Astronomy 104 Fall 2012 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., 6th Ed.  
 Lab 1: August 29, Wednesday 7- 8:50 Lewis Hall 1 TA: Jim Reidy  
 Lab 2: August 29, Wednesday 9-10:50 Lewis Hall 1 TA: Jim Reidy  
 Lab 3: August 30, Thursday 7- 8:50 Lewis Hall 1 TA: Cody Arceneaux  
 Lab 4: August 21, Tuesday 9-10:50 Lewis Hall 1 TA: Cody Arceneaux  
<http://www.phy.olemiss.edu/~kakukk/Astro/Lab/Lab.html>

Date	Subject	Chapters to read before class
21 Aug	Introduction	
23 Aug	Distances, light years, stars, constellations, galaxies	Chap 1 & 2
28 Aug	Star motion:daily/yearly Transits Angles Sidereal Time	Chap 2
30 Aug	Longitude/Latitude, Right Ascension/Declination, RA/Dec	Chap S1
4 Sep	Kepler's 3 laws, Newton's Laws, Gravity, orbits	Chap 3 & 4
6 Sep	Matter, Energy, Temperature, Atomic energy levels	Chap 5
11 Sep	Light, Wavelengths, Spectral Lines, Doppler Shift	Chap 5
13 Sep	Spectroscopes, Wien's Law, Black Body Radiation	Chap 5
18 Sep	Telescopes: Optical, Radio, X-ray...	Chap 6
20 Sep	FIRST HOUR EXAM	
25 Sep	Why does the sun shine?, Sunspots, Neutrinos	Chap 14
27 Sep	Stars: Distances Luminosity Magnitudes Temperature Size	Chap 15
2 Oct	HR Diagram. Stellar Masses and Binary Stars.	Chap 15
4 Oct	Gas --> New Stars, Old stars Move off the Main Sequence	Chap 16
9 Oct	Variable Stars, Red Giant and White Dwarf Stars	Chap 17
11 Oct	Supernovae, Neutron Stars, Gravity Waves, and Black Holes	Chap 18
16 Oct	Crab Nebula	Chap 18
18 Oct	SECOND HOUR EXAM	
23 Oct	Our Milky Way Galaxy, Globular Star Clusters	Chap 19
25 Oct	100 Billion Galaxies	Chap 20
30 Oct	Finding Distances with Cepheid Variables, Galaxies	Chap 20
1 Nov	Hubble's Law, Redshifts, and Distances	Chap 20
6 Nov	Quasars and Active Galaxies	Chap 21
8 Nov	Dark Matter in Galaxies and Galaxy Clusters	Chap 22
13 Nov	THIRD HOUR EXAM	
15 Nov	Cosmology, Expanding Universe, Big Bang, 3 K Radiation	Chap 23
27 Nov	Early Universe, Inflation, Big Bang, Sub-Atomic Particles	Chap 23 S4
29 Nov	Search for Extraterrestrial Civilizations	Chap 24
6 Dec	COMPREHENSIVE FINAL EXAM, 12:00 noon, Thursday, not earlier!	

		Sections: 1-3	Section:4	
Grading	1st Exam	12%	7%	
Scheme	2nd Exam	12%	7%	
	3rd Exam	12%	7%	
	FINAL EXAM	24%	14%	Bring a picture ID to tests.
	Pop Quizzes	15%	15%	
	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.