Astronomy 104 Spring 2016 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: February 3, Wednesday 7- 8:50 Lewis Hall 1 TA: Nazanin Omidi
Lab 2: February 3, Wednesday 9-10:50 Lewis Hall 1 TA: Nazanin Omidi
Lab 3: February 4, Thursday 7- 8:50 Lewis Hall 1 TA: Nazanin Omidi
Lab 4: February 4, Thursday 9-10:50 Lewis Hall 1 TA: Shadi Alhihi
http://www.phy.olemiss.edu/~ttorma/Astro/Lab/Lab_Spring2016.html
104 Lab Manual: Buy at Rebel Graphics, Sam-Gerard Hall

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

Grading Scheme			
	1st Exam	12%	Save all exams to study for the final.
	2nd Exam	12%	
	3rd Exam	12%	
	FINAL EXAM	24%	Bring a picture ID to tests.
	Pop Quizzes	15%	Save all quizzes.
	Lab	25%	

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. Grading is +/-.
Attend class. Scan your ID card.

$$10^{11} \times 10^{11} = 10^{22}$$
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.