Astronomy 104 Spring 2008 Instructor: Dr. Don Summers 915-7032
Lewis Hall 101 TTh 1:00-1:50 Text: Cosmic Perspective, 4th, J. Bennett et al.
Office: Lewis Hall Room 221 Monday Lab Section 1: 7-9pm Sec. 2: 9-11pm
Office Hours: TTh 2-3 Tuesday Lab Section 3: 7-9pm Sec. 4: 9-11pm
Lab: Kennon Observatory Lab Instructor: Brooke Rankin

Date	Subject	Read These Chapters Before Class
17 Jan	Introduction, Distances, light years, constellations	Chap 1 & 2
22 Jan	Kepler's 3 laws, Newton's Laws, Gravity, orbits	Chap 3 & 4
24 Jan	Matter, Energy, Temperature, Atomic energy levels	Chap 5
29 Jan	Light, Wavelengths, Spectral Lines, Doppler Shift	Chap 5
31 Jan	Spectroscopes, Wien's Law, Black Body Radiation	Chap 5
5 Feb	Black Body Radiation	Chap 5
7 Feb	Telescopes: Optical, Radio, X-ray...	Chap 6
12 Feb	FIRST HOUR EXAM	
14 Feb	Why does the sun shine?, Sunspots, Neutrinos	Chap 14
19 Feb	Distances, Luminosity, Temperature, and Size of Stars	Chap 15
21 Feb	HR Diagram, Stellar, Masses and Binary Stars	Chap 15
26 Feb	Gas --> New Stars, Old stars Move off the Main Sequence	Chap 16
28 Feb	Variable Stars, Red Giant and White Dwarf Stars	Chap 17
4 Mar	Two kinds of Supernovae can explode	Chap 18
6 Mar	Neutron Stars, Gravity Waves, and Black Holes	Chap 18
18 Mar	Crab Nebula	Chap 18
20 Mar	SECOND HOUR EXAM	
25 Mar	Our Milky Way Galaxy	Chap 19
27 Mar	Globular Star Clusters	Chap 19
1 Apr	100 Billion Galaxies	Chap 20
3 Apr	Finding Distances with Cepheid Variables, Galaxies	Chap 20
8 Apr	Hubble's Law, Redshifts, and Distances	Chap 20
10 Apr	Quasars and Active Galaxies	Chap 21
15 Apr	Dark Matter in Galaxies and Galaxy Clusters	Chap 22
17 Apr	What is Dark Matter?	Chap 22
22 Apr	THIRD HOUR EXAM o	
24 Apr	Cosmology, Expanding Universe, Big Bang, 3 K Radiation	Chap 23
29 Apr	Early Universe, Inflation, Big Bang, Sub-Atomic Particles	Chap 23 S4
1 May	Search for Extraterrestrial Civilizations	Chap 24
6 May	COMPREHENSIVE FINAL EXAM, 4:00pm, Tuesday, not earlier!	

Grading: Lab 25% You must do at least 70% of the labs to pass.
Scheme 1st Exam 12% Bring a picture ID to tests.
2nd Exam 12% Reasoable accomodations will be provided.
3rd Exam 12% You will need a scientific pocket calculator. The
FINAL EXAM 24% Texas Instruments TI-30Xa is a good choice.
Pop Quizes 15%

Extra Credit (~5%) Read Stephen Hawking's book, "A Brief History of Time."
Write one page summarizing and commenting on each chapter. Due May 1.

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.
Labs start on Tuesdayy night, January 22.
Bring a scientific calculator lab. 11
Adding exponents (11+11=22). $10^{11} \times 10^{11} = 10^{22}$
stars/galaxy x galaxies = stars in the universe

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.