

ASTRONOMY 104 Spring 2006

Monday and Wednesday from 8:00 - 8:50

Instructors: Dr. Henry Bass and Dr. Luca Bombelli
Office: Room 2005 – National Center for Physical Acoustics - Bass
 Room 105 – Lewis Hall - Bombelli
Office Hours: M 9-9:50 (no appointment needed) or by appointment at any time
Phone: 915-5840 – Bass
 915-5319 - Bombelli
Text: J. Bennett et al, *The Cosmic Perspective*, Addison Wesley 1999
 (with CD-ROM)
Lab: Kennon Observatory
Lab Instructor:

18 Jan	Introduction to the course and syllabus; Quick overview	Ch. 1, Sec. 1-4
23 Jan	Introduction to the sky: The celestial sphere, objects, motions	Ch. 1, Sec. 5
25 Jan	Overview of the Solar System and scales in astronomy	Ch. 2
30 Jan	Constitution of matter and forms of energy	Ch. 5
1 Feb	Motion: Kepler's laws and Newton's laws	Ch. 6
6 Feb	Properties of light and radiation; Spectra	Ch. 7
8 Feb	Telescopes: Properties, types	Ch. S2
13 Feb	Test 1	
15 Feb	The Sun: Structure, surface features, and energy production	Ch. 14
20 Feb	Stars: Main properties	Ch. 15, Sec.1-4
22 Feb	Stars: The HR diagram; Star clusters	Ch. 15, Sec.5-6
27 Feb	Stars: Star formation, Evolution of low-mass stars	Ch. 16, Sec.1-3
1 Mar	Stars: Evolution of massive stars; close binary star systems	Ch. 16, Sec.4-5
6 Mar	White dwarfs and neutron stars	Ch. 17, Sec.1-3
8 Mar	Test 2	
	Spring Break March 13-17	
20 Mar	Black holes and Einstein's view of gravity; Gamma ray bursts	Ch. 17, Sec.4-5
22 Mar	The Milky Way: Structure, nebulae	Ch. 18, Sec.1-3
27 Mar	The Milky Way: Evolution, spiral arms, galactic center	Ch. 18, Sec.4-5
29 Mar	Galaxies: Types, properties, distances	Ch. 19, Sec.1-2
3 Apr	Galaxies: The age of the universe and cosmological expansion	Ch. 19, Sec.3-4
5 Apr	Galaxies: Evolution	Ch. 20, Sec.1-3
10 Apr	Galaxies: Active galaxies and quasars	Ch. 20, Sec.4-6
12 Apr	Dark matter: Distribution in galaxies and clusters	Ch. 21, Sec.1-3
17 Apr	Dark matter: Types and relationship with structure formation	Ch. 21, Sec.4-6
19 Apr	Video: Galaxies and cosmology	
24 Apr	Test 3	
26 Apr	Cosmology: The Big Bang and main stages of universe evolution	Ch. 22, Sec.1-3
1 May	Cosmology: Problems and possibilities	Ch. 22, Sec.4-6
3 May	Interstellar Travel	Notes
8-12 May	Final Exam Week	

Grading Scheme:	Lab	35%	You must do at least 70% of the labs to pass
	Pop Quizzes	15%	
	1st Exam	10%	
	2nd Exam	10%	
	3rd Exam	10%	
	Final Exam	20%	

Laboratory: Please come on the night you have signed up for. Labs are a required part of the course.