ASTRONOMY 104 Spring 2005
Monday and Wednesday from 8:00 - 8:50

Instructor: Dr. Henry Bass
Office: Room 2001, NCPA Building
Office Hours: M 9-9:50 (no appointment needed) or by appointment at any time
Phone: 915-5840
Lab: Kennon Observatory

19 Jan Introduction to the course and syllabus; Quick overview Ch. 1, Sec. 1-4
24 Jan Introduction to the sky: The celestial sphere, objects, motions Ch. 1, Sec. 5
26 Jan Overview of the Solar System and scales in astronomy Ch. 2
31 Jan Constitution of matter and forms of energy Ch. 5
2 Feb Motion: Kepler’s laws and Newton’s laws Ch. 6
7 Feb Properties of light and radiation; Spectra Ch. 7
9 Feb Telescopes: Properties, types Ch. S2
14 Feb Test 1
16 Feb The Sun: Structure, surface features, and energy production Ch. 14
21 Feb Stars: Main properties Ch. 15, Sec.1-4
23 Feb Stars: The HR diagram; Star clusters Ch. 15, Sec.5-6
28 Feb Stars: Star formation, Evolution of low-mass stars Ch. 16, Sec.1-3
2 Mar Stars: Evolution of massive stars; close binary star systems Ch. 16, Sec.4-5
7 Mar White dwarfs and neutron stars Ch. 17, Sec.1-3
9 Mar Test 2
14 Feb Spring Break March 14-18
16 Feb Black holes and Einstein’s view of gravity; Gamma ray bursts Ch. 17, Sec.4-5
21 Mar The Milky Way: Structure, nebulae Ch. 18, Sec.1-3
23 Mar The Milky Way: Evolution, spiral arms, galactic center Ch. 18, Sec.4-5
28 Mar Galaxies: Types, properties, distances Ch. 19, Sec.1-2
4 Apr Galaxies: The age of the universe and cosmological expansion Ch. 19, Sec.3-4
6 Apr Galaxies: Evolution Ch. 20, Sec.1-3
11 Apr Galaxies: Active galaxies and quasars Ch. 20, Sec.4-6
13 Apr Dark matter: Distribution in galaxies and clusters Ch. 21, Sec.1-3
18 Apr Dark matter: Types and relationship with structure formation Ch. 21, Sec.4-6
20 Apr Video: Galaxies and cosmology
25 Apr Test 3
27 Apr Cosmology: The Big Bang and main stages of universe evolution Ch. 22, Sec.1-3
2 May Cosmology: Problems and possibilities Ch. 22, Sec.4-6
4 May Interstellar Travel Notes
12 May Final Exam 8:00 am

Grading Scheme: Lab 35% You must do at least 70% of the labs to pass
Pop Quizzes 10%
1st Exam 10%
2nd Exam 10%
3rd Exam 10%
Final Exam 25%

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