Astronomy 115-01 Spring 2012

Final Exam Review Sheet

The exam will take place in Science 201 on Monday, May 14 from 10:45AM-1:15PM. It will be closed book and closed notes. Any equations or numerical constants needed will be provided on the test. You may bring a calculator that is not part of a cell phone.

You will need to bring a Scantron form 882-E (teal green), a #2 pencil, and your student ID or other photo ID. It is highly recommended that you bring extras, and a good eraser. We will be checking IDs as exams are handed in.

Topics/vocabulary to be covered: The exam is cumulative, so you will want to study the topics listed on the old midterm review sheets in addition to the topics listed here. About half of the questions will be on material from the midterms, and the other half will be on material covered after the midterms.

Topics/vocabulary to be covered:

Chapter 13: neutron stars, degeneracy pressure, pulsars, lighthouse model of pulsars, relation of pulsars to neutron stars, black holes, escape velocity, event horizon, schwartzschild radius, formation of black holes, evidence for black holes

Chapter 14: “Discovery” of the center of the Milky Way; parts of the Milky Way (bulge, halo, disk); approximate size & shape; star populations (population I and population II stars); location of star formation; relative scale of solar system, Milky Way, and local group

Chapter 15: Types of galaxies (spiral, elliptical, irregular), properties of different galaxy types, measuring distances to galaxies, main sequence fitting, standard candles, Cepheid Variable stars, and Type Ia Supernovae, Hubble Law (v = H0 x d), age of the universe

Chapter 16: Evidence for dark matter, detection methods of dark matter, critical density, fate of the universe

Chapter 17: Big Bang, history of the early universe, the cosmic microwave background (CMB), inflation, Oblers’ paradox

Chapter 18: Habitable zones, search for extraterrestrial intelligence (SETI), the Drake Equation

Relevant Lecture-Tutorials: Stellar Evolution, Milky Way Scales, Galaxy Classification, Expansion of the Universe, Looking at Distant Objects

Not on exam: Gamma Ray Bursts, Quasars, AGNs