Astronomy 115-01 Spring 2013
Midterm #1 Review Sheet

The exam will take place in class on Friday, March 8th. It will be closed book and closed notes. Any equations or 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 half-sheet) and a #2 pencil. It is highly recommended that you bring extras, and a good eraser. Remember to be on time!

Relevant Lecture-Tutorials: Position, Motion, Seasonal Stars, Seasons, Cause of Moon Phases, Observing Prograde and Retrograde Motion, Kepler’s Third Law, Newton’s Laws and Gravity (Optional but helpful: Path of the Sun, Predicting Moon Phases, Kepler’s Second Law)

Relevant Homework Assignments: #1-#5

Topics/vocabulary to be covered:

Chapter 1
• Relative size & distance of objects in the universe
• Earth’s place in the universe
• The metric system
• Light years
• The AU

Chapter 2:
• Stars, constellations, asterisms
• Measuring angles on the sky, altitudes, positions
• Celestial sphere model
• Rising and setting/daily motion of the sky
• Circumpolar constellations
• View of the sky from different locations on Earth
• The zodiac and ecliptic
• Yearly apparent motion of the Sun through the constellations
• Rise & set positions of the Sun over a year, noon altitude of the Sun over a year
• Solstices & Equinoxes
• Cause of the seasons
• Moon phase names
• Cause of the moon phases
• Rise and set times of the moon phases
• Lunar and solar eclipses
• Prograde and Retrograde motion of the planets as seen from Earth
Chapter 3:
• Ptolemaic model of the solar system
• Copernican model of the solar system
• Galileo’s telescopic observations
• Significance of Tycho’s planetary observations
• Kepler’s Laws of planetary motion
• Using Kepler’s third law to calculate orbital period or average distance

Chapter 4:
• Mass and weight
• Force
• Acceleration
• Newton’s Laws of Motion
• Newton’s Law of Gravity