Astronomy 2291 – Exam 1 Study Guide

While we covered material in Chapters 1 through 3, not all topics were covered during lectures. Note that not all topics on this sheet will necessarily be on Exam 1.

Numbers and Measurements

- Dimensions, Units, Scales
- Precision versus Accuracy
- Significant Figures

Celestial Motions

- Sun, Moon, Stars, Planets

Solar vs. Sidereal Time:

- Definitions of Solar and Sidereal Periods
- Formula for estimating solar and sidereal periods

Copernican Heliocentric Model:

- Inferior Planet Configurations (superior and inferior conjunction & maximum elongation)
- Superior Planet Configurations (conjunction, opposition, and quadrature)
- Sidereal and True Periods of Inferior and Superior planets
- Method for computing distances from the Sun of Inferior and Superior Planets

Kepler's Laws of Planetary Motion:

- Kepler's First Law & elliptical orbits (semi-major axis, peri/aphelion & eccentricity)
- Kepler's Second Law (equal areas in equal times)
- Kepler's Third Law, empirical for objects orbiting the Sun ($P^2=a^3$ for P in yrs & a in AU)

Proof of Earth's Motion:

- Parallax
- Coriolis Effect
- Foucault Pendulum
- Aberration of Starlight.