Basic apparent motions of stars, planets, Sun and Moon as seen from Earth, and interpretation as seen from out of the Solar System.

Coordinate systems:
- Horizon system: altitude, azimuth, cardinal points, local meridian, zenith.
- Celestial equatorial system: right ascension, declination, celestial equator, celestial poles, equinoxes, solstices, ecliptic

Renaissance astronomy: Know major scientific achievements of Copernicus, Tycho, Kepler, and Galileo. Terminology: configurations: inferior and superior conjunction, opposition, quadrature, greatest elongation, superior and inferior planets, retrograde motion

Classical Mechanics
- Kepler's and Newton's laws
- 2-body problem: understand basic steps in deriving sol’n., understand allowable types of orbit, and different ways that these orbits can be expressed.
- Conservation laws
- Orbital elements (in a very qualitative way).
- Restricted 3-body problem:
  - lunar perturbations on artificial satellites
  - restricted problem in the plane
  - rotating coord. system: Lagrange points and their stability, examples
- Tides and differential gravity: know how force law is derived, important effects on Earth, definition of: synchronous rotation, Roche overflow (and disruption).

Solar Atmospherics: photosphere, chromosphere, corona, spots and magnetic cycle, flares and prominences.

EM Radiation theory: Different wavebands in the EM spectra, thermal radiation, Wien’s law, Stefan-Boltzmann law, Planck law, definition of optical depth, basic theory of absorption and emission lines.