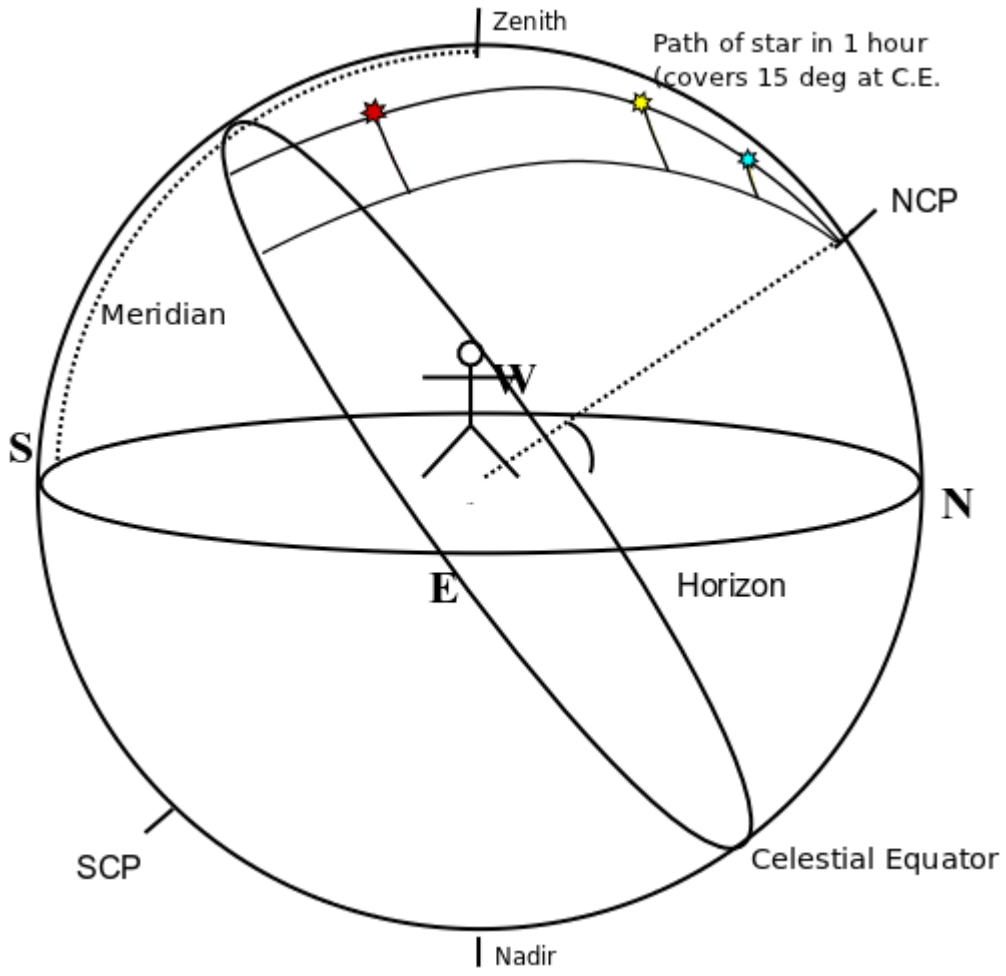
PHYS 1061. Stars and Galaxies Name: _____

Exercise: *The Celestial Sphere*

I. Draw a celestial sphere with all of the following labelled:

1. a horizon (orient it horizontally)
2. the North Celestial Pole (NCP) for a person at about 40° latitude
3. the celestial equator (CE) (again for lat=40°)
4. the SCP
5. a stick figure representing the person
6. a star with an arrow showing its motion in an hour.
7. the zenith (Z) and nadir (N)
8. the celestial meridian (CM)
9. the cardinal points (N,S,E,W)



II. Describe how the celestial coordinate systems work.

1. How many coordinates are needed to describe a star's position? ___2_____
2. What are the names of these coordinates for the equatorial coordinate system? __Right Ascension___ and __Declination_____.
   For the altazimuth coordinate system? __Altitude_____ and ___Azimuth___.
3. What are the units of these coordinates?
   1St Equatorial: ___hours, min, seconds__ 2nd Equatorial __degrees, arcmin, arcseconds__
   1st Altazimuth: ____degrees_____ 2nd Altazimuth __degrees_____
4. Using the Cel. Sphere below, label the CE and NCP, and draw on and label the ecliptic.
   Label the one point where RA, DEC are (0,0), and
   Label the one point where Alt, Az are (0,0).