A100: The Solar System
Mr. Lubell

Night Sky Observing Project

In astronomy, we spend a lot of time looking up and there's only so much of that we can do inside the classroom. So, to help you get more in touch with the kinds of things we talk about in class, please pick **any three** of the following activities. When you have completed all of your chosen activities, please **staple** your materials together and turn in the completed project on or before the due date of **December 5th.**

- **Visit the Kirkwood Observatory**. The astronomy department hosts open nights every clear Wednesday evening for most of the fall semester. Information on the times of the open nights can be found at:

  http://www.astro.indiana.edu/kirkwood.shtml

  Please choose an open night and complete the worksheet that you will find on the table by the door.

- **Visit the Solar Telescope in Kirkwood.** Over the course of the semester, I will schedule a number of times during the day when I'll lead demonstrations of the solar telescope. There will be a worksheet provided at the demonstration for you to fill out.

- **Attend a rooftop viewing session.** Over the course of the semester, several sessions on the roof of Swain West will be lead by various AIs from the department. The schedule can be found at

  http://www.astro.indiana.edu/~classweb/rooftopschedule.shtml

  There will be a worksheet provided at the top of the stairs for you to complete.

- **Track the Moon.** Everyone knows the Moon goes through phases, but what is the precise nature of this phenomenon? Your task is to observe the Moon over the course of one month (30 days). At least every other day, go outside and look for the Moon. Make a sketch of its appearance and note what direction you saw it in, its approximate altitude, and what the time and date of your observation was. If it is cloudy one day, please write down where you think the moon should be and what it should look like at a particular time. Only observations/predictions made when the Moon is above the horizon will be counted. At least 15 observations are required to get full credit on this activity.

- **Track the constellations.** Twice a week for the rest of the semester, observe the big dipper and two other constellations of your choice. Go outside at the same time each night and draw a star chart that shows where the major stars of your chosen constellation live. Be sure to label the cardinal directions on the star chart, and indicate the time, date, and location of your observations. At least 12 observations are required to get full credit for this activity. To assist you, I suggest consulting a star chart like the ones in your text book or downloading a free one such as those found here:

http://www.skymaps.com/downloads.html

Grading Outline for the Project

Your Night Sky Observing Project will be graded on a scale of 1-21. Each of the activities you choose will be worth 7 points, to be distributed based on the specific nature of each activity. In other words, failure to include required elements or incorrect/invalid responses will result in lost points. Failure to staple or complete all aspects of the project will, of course, also result in the deduction of points.