

Astronomy 1101 – *From Planets to the Cosmos*
Autumn Semester 2015
Lab Guidelines and Grading

Lab Meetings

Labs will meet every week except on university holidays and autumn break, unless you are instructed otherwise. If you have a known conflict with a lab date, let Prof. Pogge or Dr. Schlingman know as far in advance as possible, and it may be possible for you to attend a different lab section if space is available. Note, however, it is not possible to make up a lab once all sections have done the lab, as we have no make-up space available. Because we drop the lowest grade of the all the labs, if you cannot make an alternative session for a particular lab, that will be the one that is dropped, but we can only do this once during the semester, so this should be a last resort.

All lab sessions are held in Smith Laboratory, and begin in the OSU Arne Slettebak Planetarium located on the 5th floor of Smith Lab, Room 5033. The planetarium section of the lab may last as little as 5-10 minutes or as long as 30-40 minutes. After the planetarium section, you will go downstairs to your lab classroom in Smith Lab where your lab TA (an OSU Astronomy graduate student or senior astrophysics major) will hand out the week's worksheet, give an introduction to the classroom activities, and give you help and advice in carrying them out.

In the classroom activities and completing the lab worksheet, you will work closely with your lab partners. For each of the first few labs, you should choose a different partner each week. After that you may elect to work with whatever group you wish unless your lab TA requests you to change. In cases where an odd number of students are present, students should join a group to make up an even number of students. No one should be working alone.

You should assume that each lab lasts until the end of the scheduled class period. In some cases you may make it through the week's activities before the end of the period. It is at the discretion of the lab TA to determine if you may leave before the end of the period. Typically this requires, at a minimum, that you and your lab partner have both completed all parts of the lab worksheet, and you have helped others with one of the assignments. If you complete a week's lab activities early, it is better to use the remaining class time to get a start on any extra-credit problems or the week's take-home assignment before leaving.

Take-home Assignments

Each week you will receive a take-home assignment that is usually but not always connected with the just-completed lab. You should take your lab worksheet home with you for reference while working on the take-home assignment. At the beginning of each classroom lab session, you will turn in the lab worksheet and the take-home assignment from the previous week, and pick up any graded assignments.

Grading

Your lab worksheets and take-home assignments are graded by your lab TA. The TAs discuss grading each week so as to keep grading consistent across the different lab sections. We use a 4-point numerical scale for both labs and take-home assignments.

Lab worksheets are graded as a whole (not task by task) on a 4-point scale given as a whole number (0 through 4) without fractions, as follows:

- 4 = worksheet is complete and shows exceptionally high-quality work or thoughtful answers
- 3 = worksheet is complete and correct on the major points.
- 2 = worksheet is incomplete or is complete but has substantive errors.
- 0 = lab was not done

A grade of 1 is not used in the labs. During some weeks, an additional in-class section beyond the standard worksheet will be given out that, if done correctly, will increase the lab grade by 1 point (up to a maximum of 4).

For the take-home assignments, each individual question is scored on a 4-point scale as follows:

- 4 = Fully correct quantitative answers, or complete and thoughtful qualitative answers.
- 3 = Largely correct quantitative answers, or good qualitative answers.
- 2 = Substantive errors on quantitative questions or weak-to-adequate qualitative answers.
- 1 = mostly incorrect or inadequate
- 0 = Not done at all.

The average of the individual question scores is then computed and reported as the overall score for that assignment. This score includes the appropriate fraction in computing the average (we do not round it off to the nearest whole number).

In round numbers, for both labs and take-home assignments, you can use the rough translation between 4-point score and letter grade of 4=A, 3=B, 2=C, 1=D, 0=E as basic guidance to your performance on any given assignment. However, the final letter grade will be computed by averaging the numerical scores (not letter grades), and no letter grade is assigned until the very end.

At the end of the course, the average of your lab scores after dropping the lowest lab score of the semester is computed and becomes your overall lab grade, with an additional 10% assigned by your lab TA based on your participation throughout the semester. The average of your take-home assignment scores after dropping the lowest take-home score of the semester is computed and becomes your overall take-home grade.

In computing these grades, we drop the lowest score for each, and use a curve based on the statistical performance of the entire class to determine the final ABCD breakdown, including the finer (B-/B/B+) divisions. In computing the curve for each of the labs and take-home assignments, the actual dividing lines between ABCD can shift by a few tenths of a point from the strict 4/3/2/1 divisions described above, which allows us to factor in overall student performance in determining the final letter grade (what it means to “grade on a curve”). The final grade divisions will be posted only after they are computed at the end of the semester (since we cannot compute them until all the scores are recorded).