

Astronomy 110G-M08 Lab Syllabus

Fall 2009

Thursday 1:30 to 3:30 pm

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office hours: Mon 3:00 – 5:00 pm
or by appointment
Astronomy 110 (across from BX)

Lab Requirements

- **Attend all labs and arrive on time.**
 - Attendance to all lab sessions is mandatory, including review sessions. It is also required that you stay for the full class period. If you have any time conflicts with other classes or activities, please drop the class or switch to another section.
 - I will typically do a 20 min presentation at the start of each session to make sure you understand the material related to the lab exercises. If you arrive more than 5 min late you will miss the lecture and I may ask you to leave and count it as an absence.
 - There are no make up labs, and labs count for 25% of your total grade. If you know that you will have to miss your laboratory session one week for a legitimate reason, talk to me beforehand about joining other lab sections (Section 7, W 4:30-6:30pm or Section 9, Th 3:30-5:30pm) for that week. In this case you must also request permission from the respective TA to attend their lab. All lab sections' schedules can be found at <http://astronomy.nmsu.edu/astro/Fall09Sched.pdf>. You are still required to turn in the previous week's lab report on time.
- **Prepare for labs.**
 - You need to purchase the ASTR110 lab manual before laboratory sessions begin (by Aug 27th). It can be found at Kinko's Copy Center on University Ave. It costs \$17. The lab manual is also online at <http://astronomy.nmsu.edu/astro/labmanual.pdf>. Note that some labs (e.g., the HR Diagram) have figures with exact scales that may not print correctly. Let me know if you are printing out the labs on your own. Only print and bring the section of the lab manual listed in the "Pre-Lab Reading" column of the table below. Be advised that I will not have extra copies of the lab manual so you need to always bring your own.
 - Please read the lab manual and assigned readings for that week before you enter the lab. Reading the material beforehand will aid in comprehension and move you efficiently through the lab. I may quiz you at the beginning of each lab session on the material in the lab manual. If you took the time to read it you will have no problem answering the questions.
- **Bring a scientific calculator.** You will also need to have a scientific calculator (one that can compute sines and cosines, and take square roots). Beware that cell phone calculators cannot perform such operations. Also bring your lab manual, paper, a ruler and a writing utensil.
- **Turn off or silence your cell phones.** It is a courtesy to the rest of the class. I will not tolerate voice calls or text messaging during class. Do not use your cell phone as a calculator.
- **Complete your lab write-ups.** After each lab you will need to turn in:
 - one lab report per group. It consists of the lab section printout for the given week, with all the questions answered (hand-written) in the appropriate spaces and stapled together. Don't expect to find a stapler in the classroom. All the group members should discuss the questions and collaborate in writing the answers. Each group member will still need to fill out his/her own copy of the lab report since this information is necessary for writing the summary. Each report must include all attending group members' names.
 - one individual lab summary. These **must be one-page or less double spaced TYPED**. The questions to be answered in the summary are outlined at the end of each section in the manual. You may discuss the

summary with others, but whatever you turn in must be your own work. On that note, plagiarism, as defined in the Student Code of Conduct, will not be tolerated, and any evidence of plagiarism will result in a zero for that week's entire lab and harsh consequences for all involved parties. Do not copy from each other or from the lab manual or from other sources, and cite all outside sources if used. Note that changing a few words in each sentence still qualifies as plagiarism. All the information necessary for the summary can be found in the respective lab manual section. **Your lab summaries must be well-written essays in paragraph form using complete sentences.** Do not just answer each question separately.

- Both the lab report and summary are due at the start of your next lab session. Since after each session you will have a full week to finish your lab exercises, work turned in late will receive no credit. If you happen to miss lab one day, your report and summary are still due and must be received by me by your lab section meeting time. It is your responsibility to make sure that whoever turns in your group's lab report does so on time.
- Each lab report is worth 65 points (with a few exceptions) and each summary 35 points, for a total of 100 points per lab. All lab sessions have equal weight.
- **Participate!** You are encouraged to ask questions during the lab about anything related to material we are covering including the material from the lectures. You are in lab to learn about how awesome astronomy is, not just to finish the lab work. By participating in class you show me that you are interested and motivated and I will take that into account when I grade your work. Asking questions is also a good way to help you learn and will also help others in the class.
- **I am here to help you succeed.** If you have questions, concerns or need help with any aspect of the lecture or lab, you are welcome to stop by my office during office hours. If you need to see me at any other time, please send me an email in advance letting me know when you are coming. I am in my office most of the day, everyday.

Campus Observatory Requirements

- **Go to a campus observatory session at least twice.**
 - You are required to visit campus observatory a total of two times over the course of the semester. Directions and a map can be found at <http://astronomy.nmsu.edu/astro/observatory/>.
 - Each time, **bring four of the observing sheets found in the back of your lab manual.** You will need to get these stamped at each session to prove your attendance. Observatory notebooks without stamps on each observatory worksheet page will not be given credit. At the observatory, the TAs will show you four objects in the night sky using a telescope or the naked eye. You will sketch these in the observing sheets and fill out the information for each object. Don't wait till the end of the semester, as you may encounter long lines or canceled sessions due to bad weather. Since the objects for each half will be different, there will be no way to make up for a missed observation. You can check the schedule online on the campus observatory website (<http://astronomy.nmsu.edu/astro/observatory/>). Also, you can call the observatory before you go to check and see if it's canceled due to bad weather at (575) 646-6278.
 - On each of your observing sheets, you must write at least **two facts** about the object you observe. *Cite your sources!* If you don't cite your sources, you will lose credit. If you use an online source, for example, writing down the exact website where you got your information is fine. TAs at the observatory do not count as sources. Please staple the four sheets together when you turn them in.
 - Below are the due dates for your observatory notebooks. Note that these are Mondays:
 - First half of semester: due 22 October 2009
 - Second half : due 3 December 2009
 - Each campus observatory notebook (with four objects each) is worth the equivalent of one week's lab or 100 points.

Lab Schedule

Week	Lab Name	Pre-Lab Reading	Date
1	Lab # 1: Introduction to ASTRO Labs	Lab 1 in manual	27 August

2	Lab # 3: Moon	Lab 3 in manual	3 September
3	Lab # 5: Geology of Terrestrial Planets	Lab 5 in manual	10 September
4	Lab # 4: Comets and Asteroids	Lab 4 in manual	17 September
5	Lab # 2: Seasons	Lab 2 in manual	24 September
6	Lab # 7: Orbit of Mercury	Lab 7 in manual	1 October
7	Lab # 8: Parallax	Lab 8 in manual	8 October
8	Lab # 13: Mapping the Galaxy	Lab 13 in manual	15 October
9	Lab # 11: Sun	Lab 11 in manual (first observatory notebook due today)	22 October
10	Lab # 10: Spectroscopy	Lab 10 in manual	29 October
11	Lab # 12: The Hertzsprung-Russell Diagram	Lab 12 in manual	5 November
12	Lab # 14: Galaxy Morphology	Lab 14 in manual	12 November
13	Lab # 16: Hubble's Law	Lab 16 in manual	19 November
14	Review	Everything (second observatory notebook due today)	3 December