Astronomy 110G Laboratory, Spring 2015: Course Syllabus

Basic Info:	Lab section M01 Monday 3:30 – 5:30 pm
Instructor:	Meredith Rawls
Office:	Astronomy Building, AY 110
Email:	mrawls@nmsu.edu
Office Hours:	Monday 2:30 – 3:30 pm, or by appointment
Class website:	http://astronomy.nmsu.edu/cwc/Teaching/ASTR110/
Lab website:	http://astronomy.nmsu.edu/mrawls/teaching.html
Text:	NMSU Astronomy ASTR 110G Laboratory Notebook Available at FedEx Office Print & Ship Center, 1001 E University Ave or: http://astronomy.nmsu.edu/astro/Ast110Fall2014.pdf
Required Materials:	Lab manual, scientific calculator, pencil

Course Goals

By the end of the semester, I hope you:

- Are comfortable using math and experimentation to solve problems relating to astronomy.
- Understand how astronomers use observations to learn about the universe.
- Are able to teach and show others (such as myself and your peers) what you have learned.

Course Expectations

You are expected to actively participate in every lab session. This requires not only your presence, but also your attention and preparedness. Please be on time, refrain from using mobile devices, and bring all necessary materials with you. This is a laboratory with in-class exercises and regular attendance is required to earn a passing grade.

During a typical lab meeting, I will briefly present the day's material and you will work in groups of two to four to complete an experiment. In general, you should…

- Read and familiarize yourself with the lab **BEFORE** you come to class.
- Follow the directions in the lab manual and be sure you understand what is being asked.
- Work with your lab group to take turns answering questions on the provided answer sheets.
- **INDEPENDENTLY TYPE** a summary of the day's lab outside of class.
- ***Turn in your group answer sheet in class, and submit your summary on Canvas by 5 pm Friday.***

Summaries should briefly explain what you did, why you did it, and what you learned by doing it. Review the lab after class and use complete sentences to address each lab's summary questions. Summaries must be typed paragraphs and approximately 500 words in length.

Plagiarism

Science is collaborative by nature and you will be working in groups, but you must perform your own calculations and write your own summaries. Asking for help is encouraged—just be sure a conversation does not lead to copying. ***The work you turn in must be your own.*** Do not borrow a friend's summary, paraphrase the lab notebook, copy and paste from a website, or take credit for work done by anyone else. Plagiarism of any form is not tolerated. Any problems will be handled according to university policy.

Campus Observatory
As part of this course, you will go to the Campus Observatory twice. Each time you will record four observations. The observatory is open on Monday and Wednesday nights from 9:00 – 10:00 pm, weather permitting. You must have each sheet stamped at the observatory for full credit.

- **You must visit the observatory once between January 26 and March 4 AND once between March 9 and April 22.** Going early is highly recommended to avoid the rush!
- Bring four printed Campus Observatory Sheets with you, and dress warmly. A PDF Sheet is here: http://astronomy.nmsu.edu/astro/observatory/Campus_Observatory_Sheet.pdf
- Around 8pm, visit http://astronomy.nmsu.edu/astro/observatory or call 575-646-6278 to check if the observatory is closed due to weather.
- Afterward, research each object you saw and write a fact about it. *Be sure to cite your source.*
- Hand in your completed Campus Observatory Sheets to me during lab.

Grading Policy
Laboratory work accounts for 25% of your course grade in Astronomy 110G. Each lab is worth 100 points and has two parts. The lab exercise, completed in class by your group, is worth 65% of the lab grade. ***Please take turns writing on the answer sheet so it is clear that everyone in the group is contributing*.** Your individual typed summary, submitted online with Canvas, is the remaining 35% of the grade.

Late work is not accepted. However, make-up labs are available. See http://astronomy.nmsu.edu/astro/. It is your responsibility to select and attend an appropriate Astronomy 110G make-up section. Introduce yourself to the TA, join a lab group, but do all your own work on an individual lab packet or answer sheet. *For full consideration, you must hand in the lab and typed summary to me the same week as the make-up lab*. Contact me with any questions. Extenuating circumstances are handled at my discretion.

Your single lowest nonzero lab score will be dropped. Campus Observatory visits cannot be dropped.

Laboratory Schedule

Week of	Lab title	Summary due	Notes
Jan. 26	Introduction*	*5pm Jan. 30*	Short homework instead of summary
Feb. 2	10. Spectroscopy	*5pm Feb. 6*	
Feb. 9	11. Our Sun	*5pm Feb. 13*	
Feb. 16	Stellar Evolution (1/2)*	—	
Feb. 23	Stellar Evolution (2/2)*	*5pm Feb. 27*	
Mar. 2	2. Seasons	*5pm Mar. 6*	
Mar. 9	9. Optics	*5pm Mar. 13*	1st campus observatory sheet due
Mar. 16	4. Comets and Asteroids	*5pm Mar. 20*	
Mar. 23	—	—	Spring break
Mar. 30	8. Parallax	*5pm Apr. 3*	
Apr. 6	16. Hubble's Law	*5pm Apr. 10*	
Apr. 13	13. Mapping the Galaxy	*5pm Apr. 17*	
Apr. 20	14. Galaxy Morphology	*5pm Apr. 24*	
Apr. 27	Review session	—	2nd campus observatory sheet due

*These labs are not in the lab manual, and will be provided in class.