

AST 2011: Descriptive Astronomy Laboratory

Instructor: Elisabeth Atems
atems@physics.wayne.edu
Office: 233 Physics
Office Hours: MW 3:00-5:00pm or by appointment

Class Meeting: M 10:40 – 12:30, 134 Physics (unless otherwise announced)

Required Materials: Astronomy 2011 Lab Manual (available on Blackboard)
Optional Materials: Star and Planet Locator (available in the Bookstore)

The lab manual will be posted on Blackboard as individual PDF files, usually the Friday before the experiment is to be done. Unless otherwise notified, **it is your responsibility to download and read the lab materials before coming to class.**

Departmental Lab Supervisor: J. Scott Payson
166 Physics

Astronomy Lab Supervisor: Elisabeth Atems, elisabeth.atems@wayne.edu
233 Physics

Lab Schedule (TENTATIVE):

Week	Date	Experiment	Report Due
1	1/6	NO LAB	
2	1/13	Lab Orientation & Intro to Home Exercise #1 ; SkyMaps	1/27
3	1/20	NO LAB	
4	1/27	Planetarium	2/3
5	2/3	Planetary Orbits	2/10
6	2/10	The Spectroscope	2/17
7	2/17	Earth's Orbital Velocity	2/24
8	2/24	Solar Astronomy	3/3
9	3/3	Turn in HE #1; Angles and Parallax ; Intro to Home Exercise #2	3/17
		SPRING BREAK	
10	3/17	The H-R Diagram and Star Clusters	3/24
11	3/24	NO LAB	
12	3/31	The Hubble Constant	4/7
13	4/7	NO LAB	
14	4/14	Turn in HE #2	

Home Exercises:

#1: Naked Eye Observations of Stars, Constellations, and Planets

DUE: 6th lab meeting (February 24).

#2: Naked Eye Observations of the Moon - This is a month long process!

DUE: Final lab meeting (April 14).

Night Viewings:

#1: Observing Stars, Planets, and Other Celestial Objects (possibly beginning week 4 – to be determined)

#2: Observing the Moon (weeks 6 and/or 13/14)

BOTH DUE: Next lab meeting after the viewing session.

Night Viewings are *weather permitting*, and information will be posted on Blackboard.

Day Viewing:

Observing the Sun (beginning week 5 IF equipment is available -- still uncertain).

Grading Policy:

- All labs and exercises will be graded on a scale of 0-10, and the overall grading scale will be announced.

- Unless otherwise noted, all labs are due one week after assigned.

- Assignments are due at the *beginning* of class. Any assignment submitted more than 15 minutes after the beginning of class will be considered late. Each day that an assignment is late, one point will be deducted from that assignment. Weekends and any day that the university does not hold classes will not count for this rule.

- Assignments will be accepted in person during lab meetings or in person at my office. **Do not count on submitting an assignment at the lab instructor's office unless you have made an appointment.** Assignments can be safely submitted to the Physics Dept. Office, right across the hall from the lab room. Give your assignment to one of the office staff and tell him or her your lab instructor's name. S/he'll date stamp it and get it to the correct mailbox. **Under no circumstances will a lab instructor accept emailed labs, labs slipped under an office door, or by any method other than those listed as acceptable.**

- There will be 8 in-laboratory experiments, a Planetarium visit, and 2 Home Exercises, for a total of 11 assignments requiring a lab report. Your final grade in the course will be based on your best 10 lab report grades, thus your lowest grade out of the 11 regular reports will be dropped. The Night (and Day, if held) Viewings are offered for extra credit and are worth only 5 points each. However, it is very possible that due to weather, none of the Viewings will be held. ***Therefore, YOU SHOULD NOT ASSUME THAT YOU CAN MISS LABS AND MAKE THEM UP BY ATTENDING THE VIEWINGS.***

- There are no make up labs. If you miss a lab, you **may** be permitted to attend one of the other lab sections (mine or another Teaching Assistant's) that week. Talk to your lab instructor if you want to try to set this up. **There are no guarantees.**

Pre-lab Quizzes:

Unless otherwise notified, there will be a short pre-lab quiz on Blackboard on the material in the experiment writeup before each class meeting. You must take the quiz before coming to lab and score at least 75% in order to be allowed to do the experiment. You may retake the quiz up to three times to improve your score. The purpose of the quiz is to ensure that you have read and understood the lab materials before trying to do the experiment.

Lab Report:

Even though you will be working with at least one other student in the laboratory in most of the experiments, your lab report must be your own work. If members of a group turn in lab reports that are identical or show convincing evidence of plagiarism, **all of those reports will receive a score of zero.**

Lab reports should be prepared with care and thought. Handwritten reports are acceptable only if legible to your instructor, who has full discretion to ask you to type your report or prepare it using a word processor. Unless otherwise notified, all reports should include:

- Title and experiment number
- Your name and your lab partner's name
- Introduction: A brief discussion of the lab's purpose and methods.
- Data: An organized presentation of all data and observations made during the lab.
- Results: A summary of the lab's results and **answers to all lab manual questions.**
- Conclusion: Briefly discuss your results. Do they agree with your expectations, or with established results? If not, what may have been the source(s) of the error?

If you have a data sheet, a plot, a graph, or anything else that was part of the lab manual and you filled it out, it must be included in your lab report. You don't have to submit all of the pages of your lab manual. For example, if you fill a table in your lab manual with data, you can simply turn that in as your data sheet – but you must submit your data.

Some labs may not require all of these parts, and your lab instructor will let you know if any of the requirements aren't needed. Otherwise, assume you need to do all of it.