

AST 103L

Observational Astronomy

Fall 2014

Unique Number: 48530

Classroom: RLM 13.132

Instructor: Alan Sluder

Office: RLM 16.327 471-6858

Office Hours: 1-2PM Tuesedays

Purpose

The point of this course is to understand the observations that astronomers make and how they are explained by theory.

Prerequisites

You should understand some basic astronomy and mathematics (algebra and how to use a scientific calculator).

Materials

You need a scientific calculator, or something that functions as one.

Grading

There will be one assignment for each week and 100% of your grade is from these. All assignments are worth 100 points, and your final grade will be your total number of points divided by 100 times (number of assignments minus 1).

The grade scale is:

Grading Scale	
Grade	Final Score
A	85-100%
B	70-84%
C	55-69%
D	40-54%
F	0-40%

Worksheets are due one week after assigned.

Course Website

We will use Blackboard as the course website. Login to <http://courses.utexas.edu/>. The syllabus and all worksheets will be posted there.

Academic Honesty

You will work together in groups. There will be a section on each worksheet for your name and your group member names. Typically each member of your group will make a measurement, and you will record all measurements on your worksheet. You have to fill out your worksheet yourself, and write the name of the person who made the measurements beside each measurement. You can do calculations together, but everyone should participate and only you should write anything on your worksheet (except your partners can write their names on your worksheet if you wish).

Attendance

Please notify me in advance if you are going to miss a lab.

Students with Disabilities

If you need academic accommodations, please contact 471-6259 (voice) or 232-2937 (video) as soon as possible. I will need an official letter outlining authorized accommodations.

Topics

We will cover the following topics:

1. Mathematical Review
2. Measuring Distance (Parallax)
3. Measuring Chemical Composition (Spectroscopy)
4. Finding the Velocity of a Comet
5. Computing the Age of the Universe
6. Building a Refracting Telescope
7. Building a Reflecting Telescope
8. Specifying the Location of an Object in the Sky
9. Apparent and Absolute Magnitudes
10. Radius, Temperature, and Luminosity of a Star
11. Weather, Climate, and Observational Astronomy (Seasons, Temperature of a Planet, Ice Ages, etc.)
12. Relativity
13. The Cosmic Microwave Background
14. Why do Stars Shine?