

ASTR 1010L & 1020L
INTRODUCTION TO ASTRONOMY LAB
Fall 2017

Professor: Loris Magnani

Teaching Assistants: Ms. Lauren Sgro and Ms. Ashton Rutkowski

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Web Page: www.physast.uga.edu/~loris follow the link to ASTR1010L & 1020L. IT IS IMPERATIVE THAT YOU MONITOR THIS WEB PAGE AT LEAST ON A WEEKLY BASIS. Important announcements for the course will be posted there throughout the semester.

Class: Tuesday 8:00 – 10:45 PM – Room 202, Physics Bldg.

Office Hours – Dr. Magnani: Monday 3:30 – 5:00 PM or by appointment

Office Hours – Ms. Sgro: TBD

COURSE OBJECTIVES

The purpose of this course is to introduce you to the night sky and to small telescopes for making simple astronomical observations. These courses are de-coupled from the ASTR 1010 and ASTR 1020 lecture courses in the sense that (1) they don't have to be taken the same semester as the corresponding lecture course and (2) they don't necessarily cover the subject matter of the lecture course. The reason for not covering the subject matter of the corresponding lecture course is that it is too difficult to observe most of the non-stellar objects discussed in ASTR 1020 using our small telescopes at the not-very-dark-sky sites we use. In the case of ASTR 1010, there are too few solar system objects that are visible from our observing site during any given semester.

The basic aim of the course is to get the student to complete 8 lab assignments, 5 indoor labs involving written handouts, and 3 outdoor labs (1 is actually done indoors with the telescopes) which involve making observations of the night sky with the naked eye and with a telescope. This will give the students an introduction to the night sky, to small telescopes, and to online astronomical databases. Because we are at the mercy of the weather (you cannot make visual telescopic observations of the night sky if it's cloudy or raining), we have 5 indoor labs.

METHODOLOGY

The objectives of the course will be achieved by having the students to complete 8 astronomical lab exercises, 3 of which involve either visual or telescopic observations. There will also be a written lab final exam and 2 in-class quizzes.

The three observing labs are the following:

- 1) Learning to use the telescopes (some of this actually takes place indoors), and learning the constellations (includes a light pollution assignment).
- 2) Finding at least three double stars with telescopes.
- 3) Sketches of lunar craters to determine the height of lunar mountains.

The observing labs are done outside as are many of the tutorial sessions for learning the night sky. It will get very cold during the early parts of the semester – so DRESS WARMLY and be prepared to spend a good deal of time outside in the cold weather.

In addition to the observing labs you will complete 5 written (indoor) labs during the course of the semester including:

- 1) Star Charts and the Celestial Sphere.
- 2) Kepler's Law
- 3) Parallax
- 4) Telescopes
- 5) Stellar spectra

More written labs may be assigned if the weather does not allow us to go outside regularly.

To do the above written labs,

YOU WILL NEED TO BRING A LAPTOP TO CLASS THAT CAN WIRELESSLY CONNECT TO THE INTERNET.

We will allow people to work together (see below) so only one person in each group needs to bring a laptop. But at least one person in each group needs to bring a laptop.

By the end of the semester, you will have turned in lab reports on 6 of the above labs (2 observational and 4 indoor).

A write-up describing each lab is on the web page.

We will break up the class into groups of 2-3 (or, if the situation calls for it, groups of 4) because it will make the observing sessions more manageable. The composition of these groups will remain the same throughout the semester. A single lab report can be turned in by a group, and it is not necessary that all members turn in an individual lab report. However, the quizzes and lab final exam are taken individually.

GRADING

Each lab report is 8% of your final grade. Thus, 8 labs contribute a total of 64% to your final grade. The 2 in-class quizzes will each contribute 10% to your final grade (thus, they will together contribute 20%). The lab-final exam will contribute 16% to your final grade. You will have two opportunities to take the lab final during the last three weeks of class. You only take the lab final once, but it can be on any one of the last two Tuesdays of the semester from 8:00 PM – 8:30 PM.

From the lab reports, the quizzes, and the lab final, your total score on a scale of 100 will be computed. That numerical grade will be turned into a letter grade using the following key:

A is for a score of 90.00 or above, A- is for the range 87.00 – 89.99, B+ is for 84.00 – 86.99, B is for 80.00 – 83.99, B- is for 77.00 – 79.99, C+ is for 74.00 – 76.99, C is for 70.00 – 73.99, C- is for 60.00 – 69.99, D is for 50.00 – 59.99, and F is for any average below 50.00.

STUDENT RESPONSIBILITIES

Please make a reasonable attempt to arrive on time. If you must leave earlier than the scheduled end of class, please try to use the upper exits at the top of the lecture hall when we are in room 202. Class disruptions or distracting behavior will not be tolerated.

Ask for clarification on anything you find unclear, ambiguous, or unspecified in this syllabus. This includes both course policies and astronomical topics.

Know the rules concerning withdrawals and incompletes, published in the UGA *Undergraduate Bulletin*. Note that I will NOT withdraw you from the course for excessive absences.

ACADEMIC HONESTY

All students are responsible for knowing, understanding, and abiding by the academic

honesty policy of the University of Georgia, which can be found online at <http://honesty.uga.edu> . If you have any questions about this policy and how it pertains to your work in this course, please ask me for clarification.

TENTATIVE SCHEDULE

August 15 – No class

August 22 – Introduction, lecture on the celestial sphere in room 202

August 29 – Lecture on the celestial sphere in room 202

September 5 – Lecture on telescopes in room 202; Learning to use telescopes

September 12 – Exercise on the celestial sphere – Learning the night sky

September 19 – **Quiz on the celestial sphere** – Learning the night sky.

September 26 – Learning the night sky – observational session or indoor exercise

October 3 – Observational session or indoor exercise

October 10 – Observational session or indoor exercise

October 17 – Observational session or indoor exercise

Withdrawal Deadline: Thursday, October 19th, 2017

October 24 – Observational session or indoor exercise

October 31 – **Quiz on night sky** - Observational session or indoor exercise

November 7 – Observational session or indoor exercise

November 14 – Observational session or indoor exercise

November 21 – No classes – Thanksgiving break

November 28 – **1st chance to take lab final** – Observational session or indoor exercise

December 5 – **2nd chance to take lab final** – Finishing up indoor/outdoor labs