

# **ASTR1010L & 1020L – Introduction to Astronomy Lab**

**Fall 2024**

CRN 25915 & 25925

*The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary during the course of the semester and will supersede anything written here.*

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Class Website: The eLearning Common (ELC) will serve as the repository for general information, announcements and lecture materials. You should monitor this website regularly, at least once per week.

Class: Tuesdays 8:00 – 10:00 PM. The first class meets on Tuesday, January 28<sup>th</sup>, in room 202 Physics. We will meet for class in room 202 Physics, unless we are doing an outdoor observing lab where we will meet at the site designated in class.

## **COURSE OBJECTIVES**

The purpose of this course is to introduce the student to the night sky and to small telescopes for making simple astronomical observations. These courses are de-coupled from the ASTR 1010, ASTR 1020, ASTR 1110, ASTR 1120, ASTR 1110H, and ASTR

1120H 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 or ASTR 1120 using our small telescopes at the not-very-dark-sky site we use.

## METHODOLOGY

The objectives of the course will be achieved by having the students complete 8 astronomical lab exercises, 6 of which are completed indoors, and 2 of which involve visual and telescopic observations outside. This will give the students an introduction to the night sky and to simple astronomical observations. Some of the indoor labs involve using online astronomical databases: an important research technique in modern astronomy. Additional topics include the celestial sphere, parallax, Kepler's laws, the phases of the Moon, spectra and how astronomers use them, Hubble's Law, and sizes and scales in the Universe, among others. There will also be an online lab final exam and 2 in-class quizzes during the semester.

To do the written labs in class, you will need to bring a laptop to class. Laptops are not necessary for the outdoor observing labs. Some components of both indoor and outdoor labs will require students to make various measurements using the *Celestron* FirstScope telescopes. These components are encouraged to be done outside of regular class time and in groups. By the end of the semester, you will have turned in lab reports on 8 of the above labs (2 observational and 6 indoor) and learned to recognize some of the stars and constellations of the Spring sky.

## **STRUCTURE OF THE CLASS**

The class meets on Tuesday evenings from 8:00 PM to as late as 10:00 PM, although on many evenings class will end before 10:00 PM. When we are doing written labs, we will meet in room 202. On some clear nights we may go outside to use the telescopes. The location is the field in front of Hardman Hall, adjacent to the Science Library and will be specified in class. In the last few weeks of the semester, it is likely to be cold outside, so, if we meet outside, dress appropriately. If you miss a class, you are still responsible for all announcements and material discussed and/or covered in class. This includes revisions to this syllabus.

## **GRADING**

Each lab report is 6% of your final grade. Thus, the 8 labs contribute a total of 60% 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 20% to your final grade. As mentioned above, the lab-final will be given during the last two weeks of class. You will have two opportunities to take the lab final during the last two 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 – 8:45 PM. At the end of the semester, 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**

When attending class, please make a reasonable attempt to arrive on time. If you must leave earlier than the scheduled end of class, please do so quickly and quietly. 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.

*UGA Student Honor Code: "I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others." A Culture of Honesty, the University's policy and procedures for handling cases of suspected dishonesty, can be found at [www.uga.edu/ovpi](http://www.uga.edu/ovpi). Every course syllabus should include the instructor's expectations related to academic honesty.*

## ***Mental Health and Wellness Resources***

- *If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.*
- *UGA has several resources for a student seeking mental health services (<https://www.uhs.uga.edu/bewelluga/bewelluga>) or crisis support (<https://www.uhs.uga.edu/info/emergencies>).*
- *If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (<https://www.uhs.uga.edu/bewelluga/bewelluga>) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center.*
- *Additional resources can be accessed through the UGA App.*

### **TENTATIVE SCHEDULE (subject to weather and changes announced in class or by email)**

- 1) Jan. 28 – Introduction, syllabus review, the Celestial Sphere part 1
- 2) Feb. 4 – Celestial Sphere part 2, Celestial Sphere Lab
- 3) Feb. 11 – Telescopes, Telescope Lab
- 4) Feb. 18 – Go outside, use telescopes
- 5) Feb. 25 – **Quiz 1: Celestial Sphere & Telescopes, NO LAB**
- 6) Mar. 4 – **NO LAB – SPRING BREAK**
- 7) Mar. 11 – Observational session or indoor lab exercise

- 8) Mar. 18 - Observational session or indoor lab exercise
- 9) Mar. 25 – Observational session or indoor lab exercise
- 10) Apr. 1 – Observational session or indoor lab exercise

**Thursday, April 3 – withdrawal deadline**

- 11) Apr 8 - Observational session or indoor lab exercise
- 12) Apr 15 - **Quiz 2**, Observational session or indoor lab exercise
- 13) Apr. 22 – First chance to take the **Lab Final** and finish any incomplete labs
- 14) Apr. 29 – Second chance to take the **Lab Final** and finish any incomplete labs