

Time: Tuesdays 11:10AM – 1:00 PM

Instructor: Professor Jillian Bellovary

Semester: Fall 2020

Office Hours: Mon 12-1, 2-3; Tues 1-2pm

Office: <https://us.bbcollab.com/guest/6cdf2d9e6e1c45c8ae60fc2589c08194>

Contact Information: jbellovary@qcc.cuny.edu



Required Materials: QCC PH112 Laboratory Manual, paper, calculator, pencil or pen



Course Description: Topics related to space and astronomy, such as our planet and moon, stars, galaxies and the universe and physical processes and laws that govern the motion and evolution of all objects in the universe will be studied through laboratory exercises.



Inclusivity: I strive to create a classroom environment that is inclusive of all people, regardless of gender/orientation/race/immigration status/class/religion/ability/etc. If you have a disability, preferred gender pronoun, or other thing that you would like to communicate to me so that I can improve your classroom experience, I welcome an email or please visit me during office hours if you'd like to discuss it in person.



Attendance Policy: We will meet **“in person”** starting at 11:10 am on Tuesdays. Please arrive a few minutes early. All sessions will be recorded. If you miss a lab, you may watch the recording and follow along.

If you miss more than two labs, it is department policy that you will not pass the class. Do not miss more than two labs, which does **not** include evening observation lab.



Evening Observation Lab: You are **REQUIRED** to attend an evening observational lab during the semester, which will be held using the 12-inch Cassegrain telescope in the QCC observatory on the library roof. This lab will be held **virtually** and details will be announced later. This is the first lab in the manual.



Blackboard: We will use Blackboard for the submission of all lab reports. No email submissions will be accepted. I may use Blackboard to contact you (which usually is an email to your QCC email). It is crucial that you are able to access Blackboard and understand how to use it. Take the “Are You Ready?” course on Blackboard if you need help figuring it all out.



What to turn in and when and how:

- *Pre-Lab Summary*: includes a one-paragraph summary of the lab and an answer to a thought question. Due before class begins. Either upload a document or type it in the text box. (Do not type in the comment box.) More details below.
- *Lab Report*: includes images of lab notebook (PDF or JPG) a one-page write-up, and an answer to a thought question (upload these as a document or write in the text box). Due on Blackboard before the next class begins. More details below.



Lab Reports and Grading: Each lab is worth 10 points.

- 1 point: **Pre-Lab Report**
Before class begins, read the lab. Write a paragraph summarizing what you think you will do in the lab, and what the purpose of the lab is. The instructor will also provide one “thought question” to be answered in your paragraph. This will be different for each lab. The Pre-Lab Report is submitted on Blackboard, and is due before the start of class (i.e. 11:10 am on Tuesday). **Late reports are not accepted**
- 1 point: **Participation**
Attending the lab on time, bringing your lab manual, and active participation in the activity are worth one point.
- 5 points: **Lab Notebook**
Complete all the tables, graphs, calculations, and questions that are required for each activity. Submit a scan of your lab report on Blackboard. Only PDF and JPG formats are accepted. Lab notebooks are due one week after the lab is completed, before the next class starts (i.e. 11:10 am). **Late reports are not accepted**
- 3 points: **Summary**
The summary should contain (a) what you did (b) why you did it and (c) what you learned for each section of the lab. The instructor will also provide one “thought question” which you must answer in your summary. Summaries are due one week after the lab is completed, before the next class starts (i.e. 11:10 am). **Late lab reports are not accepted**

It is critical that you resolve any Blackboard issues before the first report is due. Lab reports are due before the beginning of the next lab. **Late lab reports are not accepted.** Lab reports will be graded within a week after they are turned in. Grades will be posted on the class Blackboard site. Your lowest grade will be dropped.



Lab Schedule: There are 13 labs, which take place on Tuesdays from 11:10am – 1pm in our virtual classroom.

Week 1, Tuesday September 1: Locating Objects in the Sky and Measuring Lunar Elevations

Week 2, Tuesday September 8: Exploring the Celestial Globe

Week 3, Tuesday September 15: Understanding Celestial Motions

Week 4, Tuesday September 22: Telescopes Optics

(no meeting Tuesday September 29 - a CUNY Monday)

Week 5, Tuesday October 6: Determining the Angular and Physical Sizes of the Sun and Moon

Week 6, Tuesday October 13: Testing Kepler's First Law: The Orbit of Mercury

Week 7, Tuesday October 20: Applying Kepler's Second and Third Laws

Week 8, Tuesday October 27: Measuring Astronomical Distances

Week 9, Tuesday November 3: Spectroscopy and the Nature of Light

Week 10, Tuesday November 10: Understanding Luminosity and a Standard Candle Application

Week 11, Tuesday November 17: Understanding the H-R Diagram and Stellar Evolution

Week 12, Tuesday November 24: Charting the Milky Way's Center

Week 13, Tuesday December 1: Galaxies and the Hubble Law

Week 14, Tuesday December 8: Class wrap-up



Academic Integrity: Lab reports should be your own writing, except possibly for short, **cited** quotes from websites or textbooks, if appropriate.

Typical consequences for some Academic Integrity violations:

- **First offense:** A grade of 0% on the assignment. This grade cannot be dropped.
- **Second offense:** An F in the class and the filing of a report with the Office of Student Affairs.

According to the College's Academic Integrity policy, you must avoid plagiarism, fabrication, cheating, and all forms of academic misconduct. For more information, consult the College Catalog, as well as this document: <http://web.cuny.edu/academics/info-central/policies/academic-integrity.pdf>

You need to start the quarter with an empty lab notebook, even if you have previously taken the class before. Make sure you have the correct (ie, Fall 2016) version of the lab manual.

This syllabus is subject to change.

Grading Rubric

	Novice (0%)	Competent (25%)	Proficient (50%)	Exemplary (75%)	Stellar! (100%)
Pre-Lab Summary (1 point)	Incomplete or completely non-descriptive of the activity		Either procedures or overall goal are not addressed in the paragraph. Paragraph is vaguely related to the lab but does not indicate careful reading. Thought question poorly answered.		Paragraph reflects that the student has read the activity. The student summarizes the basic procedures and measurements, and includes a basic statement of the goal of the lab. The thought question is answered thoroughly.
Attendance and Participation (1 point)	Student arrives late, and/or does not engage with the activity at all.		Student arrives late but is engaged in the activity. Student is engaged with a fraction of the activity. Student is engaged but forgets lab notebook.		Student arrives in class on time and remains fully engaged in the activity throughout class.
Lab Report (5 points)	Lab manual pages were not turned in, or turned in but barely answered. Lab manual is not in PDF format.	Lab manual pages are incomplete, or complete but with several mistakes and misunderstandings.	Lab manual pages are partially complete and/or partially correct.	Lab manual pages are correct and mostly complete, and/or complete and mostly correct.	All tables, graphs, and short answers are correctly filled in.
Summary (3 points)	Summary is missing. Summary includes material copied directly from the lab manual. Thought question missing.		Summary partially describes the goal, procedure, measurements, and learning outcome of the activity. Thought question hastily answered.		Summary contains several paragraphs detailing the goal of the activity, the procedures followed and measurements taken, and what the student learned. The thought question is answered thoroughly.