

## **AST 1022L: Astronomy Laboratory**

**Fall 2019**

**Section 11872: Tuesday, Periods 4 – 5 (Time: 10:40 AM to 12:35 PM)**

**Section 11873: Thursday, Periods 4 – 5 (Time: 10:40 AM to 12:35 PM)**

**Instructor: Christina Moraitis**

**Office Hours:** Tuesday 9:30-10:30am

Email: [c.moraitis@ufl.edu](mailto:c.moraitis@ufl.edu)

Thursday 9:30-10:30am

Office: Bryant Space Science Center | room 401

(Or by email appointment)

Office Phone: 352-294-1890

**Teaching Lab Director: Dr. Francisco Reyes**

12 Bryant Space Science Center

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(352) 294-1885

### **Physical science (P) statement:**

Physical Science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the physical sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern physical systems. Students will formulate empirically-testable hypotheses derived from the study of physical processes, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

### **Course objectives and goals:**

AST-1022L Astronomy Laboratory counts for one credit of Physical Science (P) towards the General Education requirement. It introduces students to the scientific method as applied to the field of astronomy. The students are introduced to the process of making astronomical

observations, quantitatively analyzing those observations, extracting information about astronomical bodies, and understanding how they work. The students will also be introduced to the process of writing a report on an experiment, which involves communicating the details, results and conclusions of that experiment to a reader not necessarily familiar with the experiment.

### **General Education Student Learning Outcomes (SLOs):**

- Students demonstrate competence in the terminology, concepts, methodologies and theories used within Astronomy.
- Students communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to Astronomy
- Students analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.

### **Course meeting times and locations:**

AST 1022L Astronomy Laboratory consists of 12 daytime labs and 3 night labs. Daytime labs will be conducted during the scheduled class period (detailed above) in room 7 of the Bryant Space Science Center. The night labs will take place on Thursdays at the Campus Teaching Observatory (CTO) on nights that will be scheduled during the semester. You might want to find it in the daytime before the first lab, because absence due to not being able to find the CTO will not be excused. A map to the CTO can be found at <http://www.astro.ufl.edu/information/cto.html>. Night labs depend on the weather. If the weather turns out to be too bad for a night lab I will send an email to the class cancelling the lab no later than 7 pm on the night of the lab. If you do not get a message, you should come to the CTO at the scheduled time for the lab unless there is bad weather, heavy rain, lightning, thunderstorm or tornado watch or warning. In those cases, the observatory will be closed. If you need assistance finding your way, call the observatory phone number (352) 392-1016 **before** the start of the session. Once the session starts, the instructors will be busy teaching the session and may not answer the phone.

### **Lab requirements:**

Students will need to bring the following items to all labs:

- Lab Manual: Hands on Astronomy Laboratory Manual (\$21.27) is available at Target Copy Center, at 1412 W. University Avenue.
- Writing utensils and extra paper
- Simple scientific calculator

There is no food permitted in the laboratory. Liquids are allowed but you must have a spill-proof container. Cell phones must not be audible at any time during the session and students should refrain from text messaging

**Attendance:**

Attendance is mandatory for ALL labs and will be recorded for each class session. You will not receive credit for labs if you do not participate in data collection. Please contact me BEFORE class if you will be absent.

**Class work:**

Quizzes: There will be 12 day lab experiments performed in this course. For each lab you will be expected to have read the manual for the day's experiment to prepare before you come to class. There will be a short quiz at the beginning of each class (except for the first day). Questions on the quizzes will be taken directly out of the lab notebook objective, introduction and procedure text, so please read through the labs carefully before class. **If you are late to class, you will not be given extra time to work on the quiz.**

Labs and Assignments: After a brief overview of the days lab, will perform the lab experiment and record your data. In most cases you will work with a partner or in a small group, but each student must record their own data sheet. Before you leave, you must have your data sheet initialed by me. You will be assigned either a worksheet or a formal lab report to complete for each lab. You will be assigned 7 worksheets, one formal lab report and two double formal lab reports.

You will have one week to complete the assignment, and it will be due at the beginning of the next class. If you are present for the data collection but do not turn in the assigned lab work, **you will receive zero credit for that assignment.**

Night Labs: There will be three night labs held during the semester outside of the regular class time. Attendance to these labs is mandatory and the worksheets that accompany the lab account for 12% of your grade.

*During weeks we hold night labs, the scheduled day lab will still take place. Night labs do not replace the weekly day labs.*

Additional Homework: There will be one homework assignment the first week of class to read Appendix A of the lab manual and complete the problems assigned. This homework will be turned in at the beginning of the second class.

## Late and make-up work:

Late Work Policy: Lab reports or worksheets that are turned in the day they are due after the beginning of class will be penalized 10% off. If they are turned in the following day, 20% will be deducted (meaning you will start off with an 80%). **Labs turned in more than 1 day late will not receive any credit.** You must turn in late work to the Astronomy Departmental Office in 211 Bryant and hand it directly to a staff member. This means you have to turn it in while the office is open—between 8 am and 4 pm on weekdays.

Make-up Labs: If you missed class unexpectedly, please contact me as soon as possible to discuss turning in the previous week's lab. Make up labs are only an option in serious cases (religious holiday, jury duty, military obligation, University sponsored activity, serious health problems, or emergencies) and require official documentation. If you do not have a legitimate excuse for missing the lab, you will receive no credit for that lab. Please contact me about making up a lab as soon as you know you will miss the lab.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

## Grading:

Letter grades will then be assigned by the following scale (%):

A = 90 or above	B- = 77 – 79	D+ = 64 – 66
A- = 87 – 89	C+ = 74 – 76	D = 60 – 63
B+ = 84 – 86	C = 70 – 73	D- = 57 – 59
B = 80 – 83	C- = 67 – 69	E = 56 or below

A minimum grade of C is required for a general education credit.

Information about current UF grading policies for assigning grade points can be found here: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

The total grade will be weighted as follows:

Worksheet (and answer to the questions) (7)	42%
Formal lab reports (1)	10%
Double formal lab reports (2)	24%
Night labs reports (3)	12%
Quizzes	6%
Answers to problems Appendix A	2%
Participation	4%
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Total	100%

### Final Exam:

There is no final exam in this course.

Incompletes: The College of Liberal Arts and Sciences has a strict policy on incomplete grades. No incomplete grades will be assigned to this course. If at any time you begin to feel you might not be able to complete this course for any reason, do not wait to discuss the matter with myself and/or your academic advisor. The sooner you act the more options you will have available!

### **Academic integrity:**

Group work is encouraged and often necessary during the completion of the labs in this course. Working with others outside of the lab is also acceptable; however, each student must record their data and complete their lab report on their own, and do their own writing. All UF students are bound to abide by the honor code; you can learn more about the honor code here: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>. Any violation of the student code will mean zero points for the experiment and it may be reported to the Student Conduct and Conflict Resolution.

*Cheating will not be tolerated in this course;* that include: plagiarizing other student's lab reports, copying or fabricating data for an experiment for which you were absent, plagiarizing contextual information from the lab manual, or copying/paraphrasing online resources without proper citations. If you are unsure whether or not you are violating the honor code, discuss it with me while you still have time to revise your work.

I will know if you cheat or copy from a previous semester's lab. (E.i. Canvas tools)

**Accommodations:**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodations. Students with disabilities should follow this procedure as early as possible in the semester.

The Disability Resource Center is located at 001 Building 0020 (Reid Hall).

I will then be happy to work with you in providing those accommodations.

**Course evaluations:**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

**University resources for counseling and emergencies:**

The University provides counseling and mental health services for enrolled students. You can learn more about these services here: <http://www.counseling.ufl.edu/cwc/Default.aspx> or by calling 352-392-1575. The University Police Department can be reached at 352-392-1111; for emergencies, dial 911.