# AST 1022L: Astronomy Laboratory
# Fall 2020

## Section 11926: Wednesday, Periods 6 –7 (Time: 12:50 to 2:45 PM)
## Section 11927: Thursday, Periods 4 –5 (Time: 10:40 AM to 12:35 PM)
## Room: Web (100% on-line class)

**Instructor:** Francisco Mendez
Office: BRT 317
Phone: (352) 294-1870
UF email: fmendez@ufl.edu

**Office Hours Via Zoom:** M: 12:50 – 1:50 & F: 3:00 – 4:00
Or by appointment

**Teaching Lab Director: Dr. Francisco Reyes**
12 Bryant Space Science Center
freyes@astro.ufl.edu
(352) 294-1885

**Contacting the Instructor by e-mail**
To contact the instructor regarding this class, you must go through Canvas.
Do not use your personal e-mail address or the UF e-mail address directly.

**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.

**Statement Privacy-Related Issues**
Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate verbally are agreeing to have their voices recorded.

If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared.

As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited

**Course meeting times and locations:**
AST 1022L Astronomy Laboratory consists of about 9 experiments, 7 of the experiment will be done during the daytime sessions and the other two experiments will be done outside observing the sky after its get dark, at the student location. The daytime labs will be conducted during the scheduled class period (detailed above) using Zoom

**On-line class**
This class is an on-line class. For each experiment, there will be an introduction using Zoom to explain some of the basic concepts related to the experiment, a demonstration on how we run the experiment and collect the data. The instructor will send the data to the students to work on the report.
There will be no sessions at the Teaching Observatory.
We will be using Canvas for all the activities regarding this class.

**Lab requirements:**
To work on the reports, students will need to have the following items:
- Simple scientific calculator
- Basic ruler (inches and centimeters)

Cell phones must not be audible at any time during the session. Students should refrain from text messaging as well.

**Attendance:**
Attendance to the on-line sessions is mandatory for ALL labs and will be recorded for each class session. You will not receive credit for labs if you are not present during the introduction and data collection. Please contact me BEFORE class if you have a valid reason to be absent. Please

read the section "**Late and make-up work**" regarding valid reasons to skip a lab.

**Class work:**
Quizzes: There will be about 9 day lab experiments preformed in this course. For each lab you will be expected to have read the write up for the day's experiment to prepare before you attend to class session. 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 write up 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 the introduction and quiz, I will do the presentation, explain the basic concepts, demonstrate the lab experiment and send the data. 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 a 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.

Additional Homework: There will be one homework assignment the first week of class to read a write up **"Math and Science Basics"** and complete the problems assigned by the instructor. 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 day after they are due, they will be marked 50% off. Labs turned in more than one day late will not receive any credit.
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 labs, 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) (5) | 40% |
| Formal lab report (1) | 10% |
| Double formal lab report (1) | 20% |
| Observing Night labs reports (2) | 12% |
| Quizzes | 8% |
| Answers to problems in "Math and Science Basics" | 5% |
| Participation | 5% |
| | --- |
| Total | 100% |

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 of 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.

**Accommodations:**
Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, 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.

# AST 1022L: Tentative Schedule for Fall Term, 2020

## All sessions and activities will be on-line

| Week of | No. | Activity | Comments |
|---|---|---|---|
| AUGUST 31 | | Organize; discuss syllabus<br>Review of "Math and Science" basics | Assignment of problems from "Math and Science" |
| SEPTEMBER 7 | 9 | Impact Craters (Formal report) | Monday Holiday |
| 14 | 1 | How Big is the Sun? | |
| 21 | 21 | 3rd Kepler's Law | |
| 28 | 3 | The Astronomical Telescope: I | Friday Homecoming |
| OCTOBER 5 | | Assignment of Double report | |
| 12 | 12 | Features of the Moon | |
| 19 | 20 | The Sun, Sunspots, Flares and Prominences | |
| 26 | | 1st Outside Night lab Observing experiment | |
| NOVEMBER 2 | 19 | Detection of Exoplanets | |
| 9 | | 2nd Outside Night Observing experiment | Wednesday Veteran Day |
| 16 | | TBD | |
| 23 | | No labs this week | Thanksgiving Holiday<br>No classes |
| 30 | | No labs this week | |
| DEC 7 | | No labs this week, end of semester | Classes end Wednesday |
| | | | |

**OBSERVATORY LABS (Night labs at Campus Teaching Observatory, CTO):**

No session at the Campus Teaching Observatory for the Fall 2020 semester