AST 1022L: Astronomy Laboratory
Fall 2015

Section 0469: Wednesday, per 4-5 (10:40 am – 12:35 pm)
Section 0470: Wednesday, per 6-7 (12:50 am – 2:45 pm)

Instructor: Rebecca Pitts
Email: rlpitts@ufl.edu
Office: 319 Bryant Space Science Center
Office Phone #: (352) 294-1853
Office Hours: 1:00 – 2:30 pm on Mondays, 3:00 – 4:30 pm Thursdays, or by appointment

Teaching Lab Director: Dr. Francisco Reyes
Email: freyes@astro.ufl.edu
Office: 12 Bryant Space Science Center
Office Phone #: (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 13 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 with take place at the Campus Teaching Observatory (CTO) on nights to be scheduled during the first few weeks of class. 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](http://www.astro.ufl.edu/information/cto.html).

Night labs depend on the weather. If the weather becomes too bad for a night lab I will send an email to the class canceling the lab no later than 7 pm on the night of the lab. If you do not get a message, you must come to the CTO at the scheduled time for the lab unless there is severe weather, heavy rain, lightning, hail, or a tornado watch/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 in Butler Plaza (3422 SW Archer Rd) and at 1412 W. University Avenue.
- Writing utensils such as pencils, erasers, and extra paper
- Simple scientific calculator
- Metric ruler (mm/cm)

In addition, it may be useful to bring a flashlight (preferably with a red filter) to the night labs at CTO. I also strongly suggest wearing insect repellent to the CTO (there are lots of mosquitoes!).

There is no food or drink permitted in the laboratory, but you may have water in a spill-proof container. Cell phones must not be audible at any time during the session. Students should refrain from text messaging as well.

**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. If you miss the introduction to an experiment I reserve the right to disallow your participation in the lab, in which case you will receive no credit for that day’s lab. Please contact me BEFORE class if you will be absent.

**Class work:**
**Quizzes:** There will be 13 lab experiments preformed 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 pop quizzes to check that you have done the reading at the beginning of some classes. 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. If you arrive after the quizzes have been collected, you will receive a zero.

**Labs and Assignments:** After the introduction and quiz, you 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. You must have your data sheet initialed by me before you leave. You will be assigned either a worksheet or a formal lab report to complete for each lab. A total of 5 worksheets, 4 formal lab reports and 2 double formal lab reports will be assigned in class over the course of the semester.
You will have one week to complete each assignment (one week after the last experiment included in the report for double formal reports), 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 labs 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 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. You must turn in late work to the Astronomy Departmental Office in 211 Bryant and hand it directly to one of the office staff. This means you have to turn it in while the office is open—between 8 am and 4 pm on weekdays. Reports left on my desk while I am out of the office or slid under my office door will not be graded.

**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 a lab, you will not receive credit for that lab. Please contact me about making up a lab as soon as you know you will miss it.

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 be assigned by the following scale (%):

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 or above</td>
</tr>
<tr>
<td>B-</td>
<td>77 – 79</td>
</tr>
<tr>
<td>D+</td>
<td>64 – 66</td>
</tr>
<tr>
<td>A-</td>
<td>87 – 89</td>
</tr>
<tr>
<td>C+</td>
<td>74 – 76</td>
</tr>
<tr>
<td>D</td>
<td>60 – 63</td>
</tr>
<tr>
<td>B+</td>
<td>84 – 86</td>
</tr>
<tr>
<td>C</td>
<td>70 – 73*</td>
</tr>
<tr>
<td>D-</td>
<td>57 – 59</td>
</tr>
<tr>
<td>B</td>
<td>80 – 83</td>
</tr>
<tr>
<td>C-</td>
<td>67 – 69</td>
</tr>
<tr>
<td>E</td>
<td>56 or below</td>
</tr>
</tbody>
</table>

*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
Your total grade will be weighted as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal lab reports (4)</td>
<td>32%</td>
</tr>
<tr>
<td>Double formal lab reports (2)</td>
<td>24%</td>
</tr>
<tr>
<td>Worksheets [&amp; answers to questions] (5)</td>
<td>20%</td>
</tr>
<tr>
<td>Night lab reports (3)</td>
<td>12%</td>
</tr>
<tr>
<td>Quizzes (discretionary)</td>
<td>6%</td>
</tr>
<tr>
<td>Participation (discretionary)</td>
<td>4%</td>
</tr>
<tr>
<td>Answers to problems in Appendix A (1)</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**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 own data, complete their lab reports 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](http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code). Any violation of the student code will result in a zero for the experiment, and it may be reported to Student Conduct and Conflict Resolution.

*Cheating will not be tolerated in this course!* That includes: 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.

**Accommodations:**
If you are a student with disability and would like to request disability-related accommodations, you must first register with the Dean of Students Office. The Dean of Students Office will provide you with documentation which you must then give to me to request accommodation. I will then gladly work with you in providing those accommodations. The Disability Resource Center (DRC) is located at 001 Building 0020 (Reid Hall). To call the DRC, dial 352-392-8565.

**Online course evaluations:**
Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at [https://evaluations.ufl.edu/evals/](https://evaluations.ufl.edu/evals/). Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at [https://evaluations.ufl.edu/results/](https://evaluations.ufl.edu/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](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.