AST 1022L—Astronomy Laboratory

Fall 2013  Course Website: astro.ufl.edu/~rlpitts/ast1022L.html

Rm 7, Ground Floor, Bryant Space Science Center (downstairs from main entry level)

Section 0466: Tues., 10:40 am – 12:35 pm  Section 0469: Wed., 10:40 am – 12:35 pm

Instructor: Rebecca Pitts  Email: rlpitts@ufl.edu
Office: 311 Bryant Space Science Center  Office Phone: (352) 294-1853
Office Hrs: Mon & Thurs 11:00 am – 12:30 pm, or by appointment

Lab Director: Dr. Francisco Reyes  Email: freyes@ufl.edu
Office: 12 Bryant Space Science Center  Office Phone: (352) 294-1885

Course Objective:

AST-1022L Astronomy Laboratory counts for one (1) 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 these observations; extracting information about astronomical bodies such as the Sun, Moon, planets, stars, nebulae, and galaxies; and understanding the basic physical processes that take place in these bodies. The students will also be introduced to the process of writing a report on the experiment, communicating the details, results, and conclusions to a reader not necessarily familiar with the experiment.

Meeting Times and Locations:

AST 1022L Astronomy Laboratory consists of 13 daytime labs and 3 night labs. All are mandatory. The location and scheduled times for the daytime labs are listed at the top of this page. Night labs take place at the Campus Teaching Observatory (CTO) on specific nights to be scheduled during the first few weeks of class. Inability to find the CTO does not excuse absence. Please look to your campus maps or visit http://www.astro.ufl.edu/cto.html and make sure you know how to get there ahead of time. If you get lost on the way, call the observatory at (352) 392-1016.

Night labs are weather-dependent, but do not assume stormy weather during the day means the night lab is cancelled. If I have not sent out a cancellation email by 7:00 pm and there are no reports of severe weather in the area, you must come to the CTO at the scheduled time. I recommend checking http://www.wunderground.com/weather-forecast/US/FL/Gainesville.html or http://www.weather.com/weather/today/USFL0163 periodically for thunderstorm or tornado watches/warnings. If any of these is in effect, stay inside; do not come to the CTO!
**Required Course Materials:**

Students must bring the following to all labs:

- **Hands-On Astronomy Laboratory Manual**—available for $18.19 at Target Copy Center (1412 W. University Ave. or 3422 SW Archer Rd)
- Loose leaf paper and writing utensils
- Scientific calculator (graphing calculators are also permitted)
- Metric ruler (cm/mm)

The following supplies are recommended for night labs:

- Insect repellent
- Flashlight (with a red filter, if you can find one)
- Extra layers of clothing in winter (the CTO provides little shelter or climate control)

The following are **banned** from the teaching laboratory:

- × Cell phone use—by UF policy, cell phones and other devices with internet and texting capabilities must be off and stowed for the duration of the lab.
- × Food and drink—by UF policy, you may only bring water in a spill-proof container.

**Assignments:**

**Quizzes:** For each of the 13 daytime lab experiments conducted in this course, you will be expected to **read the corresponding section in the manual before coming to class.** There will be a short quiz at the beginning of every class (except the first) taken directly from the lab’s objective, introduction, and procedure sections. You will have about 5 minutes to complete it. If you are late, you will not receive any extra time on the quiz. If you arrive after time is called, you will receive a zero on that quiz automatically.

**Labs and Worksheets:** After the quiz and the introduction, you will perform the day’s experiment and collect your data. For most experiments, you will work with a partner or in a small group, but each student must record their own data. **Your data sheet must be initialed by me before you leave.** You will not receive credit for any lab in which you did not show up to take your own data. Likewise, you will not receive credit for collecting data unless you turn in the corresponding report. For labs that include a worksheet, you will have one week to complete the worksheet. It will be due at the beginning of the next class, before the quiz.

**Formal Lab Reports:** You will be asked to write a formal lab report for about half of the 13 labs performed in class. Each will be **due at the beginning of the next class period,** before the quiz. All formal lab reports and any tables therein must be typed, but you may include hand-drawn diagrams and graphs as necessary. Lengthy equation-solving processes may also be hand-written—just make sure they are legible and logically organized. If you finish collecting data early, I strongly urge you to begin your
analysis in class so you have the opportunity to spot and replace bad data before they wreak havoc your lab report. But don’t panic if you do make mistakes in your lab report—even if your numbers are wrong, you will get partial credit if you show your work and follow a valid procedure. The heading of your lab must include your name, the names of any collaborators, your section number, and the date on which the lab was performed. Additionally, you must attach your original data sheet, initialed by me, to the back of your report. Lastly, please don’t make me hunt for lost pages. Staple or binder-clip your lab report together and, just in case, put your name on every page. The proper format of a formal lab report will be covered in class in more detail.

Night Labs: There will be no formal lab reports or quizzes for the 3 night labs, but you must complete accompanying worksheets on-site. Again, attendance is mandatory. The dates will be tentatively scheduled in the next couple of weeks, but are subject to change depending on the weather. Most likely they will be scheduled for 8 – 10 pm on Mondays and/or Thursdays. If these nights conflict with your schedule, contact me beforehand and I can arrange for you to attend another section’s observing session.

Additional Homework Assignment: In place of a quiz before the first lab, you will be asked to read Appendix A in your lab manual and complete the 10 problems within. This assignment will be collected at the beginning of the following class period.

Grading:

Here is the breakdown of your final grade:

Daytime Labs: 60%

Night Labs: 15%

Quizzes: 15%

Participation: 10%

Letter grades are assigned by the following scale (%):

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>≥ 90</td>
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<tr>
<td>B</td>
<td>80 – 83</td>
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<tr>
<td>C</td>
<td>70 – 73</td>
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<tr>
<td>D</td>
<td>60 – 63</td>
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<tr>
<td>A-</td>
<td>87 – 89</td>
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<tr>
<td>B-</td>
<td>77 – 79</td>
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<tr>
<td>C-</td>
<td>67 – 69</td>
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<tr>
<td>D-</td>
<td>57 – 59</td>
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<tr>
<td>B+</td>
<td>84 – 86</td>
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<tr>
<td>C+</td>
<td>74 – 76</td>
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<tr>
<td>D+</td>
<td>64 – 66</td>
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<td>F</td>
<td>≤ 56</td>
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Incompletes: The College of Liberal Arts and Sciences has a strict policy regarding incomplete grades. No incomplete grades will be assigned for this course. If for any reason you feel you will not be able to complete this course or cannot attend the lab sessions on a regular basis, please discuss it with me as soon as possible. If you think you may need to withdraw from the course, you must also speak with your academic advisor.

Attendance and Participation:

Attendance of all labs is mandatory and will be recorded at every session. If you are not present to collect data, you will not get credit for that lab. Tardiness will also count...
against you. Not only is it disruptive and disrespectful to your classmates, it makes the lab harder on you as you may miss the introductory explanation of the day’s experiment. My policy is “5-10-don’t-come-in.” If you are:

- 5 minutes late: you will miss the quiz.
- 10 minutes late: you will miss the quiz and lose your participation points for that day.
- 15+ minutes late: don’t come in. We can talk outside when I have finished the introduction, but unless you have a really good excuse, you’ll be turned away at the door and receive a failing grade for that lab.

If you believe you will be late or absent, please let me know before class. Make-up labs are offered only if your absence is determined to be excusable. The following circumstances will be accepted with proper documentation:

- Personal illness (you will likely need a doctor’s note)
- Military obligations
- Jury duty
- Religious holidays
- University-sponsored events* (e.g. performing arts, varsity sporting events, debates, etc.)

*For university-sponsored events, you must provide documentation from the university listing the dates you will be absent ahead of time. Club activities independent of your degree program or scholarship obligations will not be accepted.

Be aware, you are liable to lose participation points if I have to loan you supplies more than once or you goof off while your lab partner(s) do(es) all the work.

**Late and Make-Up Work:**

If you know in advance that you will miss a class, you may turn in the previous week’s lab to Janet Rose during regular office hours in the Astronomy Departmental Office, Bryant 211. She will ensure it reaches me. I will not grade late reports left on my desk or slid under my office door.

**Make-Up Labs:** If you miss class unexpectedly, please contact me as soon as possible to discuss turning in the previous week’s report and potentially making up the missed lab. Bear in mind, make-up labs are only an option if your absence is excused (see list in Attendance and Participation section), i.e. you must provide appropriate documentation. You generally cannot make up a lab without having made arrangements with me before the beginning of class that day.

**Late Work Policy:** Lab reports and worksheets will be marked down by 10% if handed in before 5:00 pm on the due date but after the start of class. If they are turned in the day after the deadline, they will be marked down by 50%. Barring make-up work, I will not accept any assignment turned in more than one day past its deadline.
Accommodations:

If you have a disability and would like to request accommodations, please contact me and the Disability Resource Center as early in the semester as possible. You can visit the Disability Resource Center in Reid Hall (001 Building 0020), or call them at (352) 392-8565. Please bring documentation from them to me as soon as you can get it. If you have any disability/disorder, I encourage you to talk to them even if you do not believe you qualify for accommodations. They may be able to help you in other ways.

Academic Integrity:

From the Student Conduct and Conflict Resolution website, [http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/](http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/):

> On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

> “On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

As previously stated, while collaboration in the lab is both necessary and encouraged, **each student must record their own data and complete their own lab report or worksheet.** Copying data from your classmates is considered cheating, as are copying and paraphrasing from websites without proper citations. By UF policy, cheating is a violation of the student honor code. The first instance of cheating results in the loss of all credit on the given assignment. Any subsequent violations will be reported to Student Conduct and Conflict Resolution and may incur a failing grade for the course. If you are unsure whether or not your work violates the honor code, please discuss it with me.