ASTR 1010: Astronomy of the Solar System
Lab Syllabus
Spring 2019, 715 Langdale Hall

Course Description: This course consists of 10 activities and two projects which are designed to help students understand the key concepts discussed in the ASTR 1010: Astronomy of the Solar System lecture.

Student Materials: Bring the following to class every lab period:
- Printed lab activity (PDF files on the lab website)
- Pencils & Eraser

Lab Grades (120 points total):
1) Lab Activities: 10 points each. 90 points total.
   - Laboratory work is to be completed in class and turned in at the end of each lab period. LATE LABS OR LAB WORK DONE OUTSIDE OF CLASS WILL NOT BE ACCEPTED.
   - A pre-lab activity will be provided in the first 5 minutes of the lab. These will help you think about the key concepts of the lab. The pre-lab will also be used to grade your attendance of the lab (1 point).
   - Each completed lab will be scored on a scale of 0-10 points. Your lowest lab score will be dropped. If you miss lab for any reason, that lab will be dropped.
   - Your average lab score will count as 25% of your overall ASTR 1010 grade. Failure to attend at least half of the lab classes will result in an F for the entire course because this is a lab science and lab attendance is required. So, regardless of your lecture grade, if you do not regularly attend lab you will fail the course.

2) Term Project: 10 points. Select one of the projects listed below. You will present your project at the end of the semester.
   - The Phases of the Moon
   - The Azimuth of the Sun (Sunset or Sunrise)
   - Star trails / Constellations of the Night Sky

3) Visiting an Observatory: 10 points. You are expected to submit a report after attending one of On-Campus Observations or any public observatories.

4) Lab Evaluation: 10 points. You will do the lab evaluation in the last day of the lab.

Attendance: Students must attend the lab section for which they have enrolled. It is expected that you arrive on time to lab. Because many labs are full, students cannot attend another section to make up a missed lab class. However, your lowest score will be dropped.

Honesty Policies: Students are expected to follow the honesty policies of the university. Any work that does not represent your own efforts will receive a score of zero. When group work is done, it is expected that each student in the group will reply to questions using their own words. Do not copy other student’s lab work or observation report.

Lab Website: More information about labs, observing sessions, teaching schedules, etc. can be found at http://www.astro.gsu.edu/lab.
# Tentative Weekly Schedule

<table>
<thead>
<tr>
<th>Dates</th>
<th>Description</th>
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<tr>
<td>Jan. 14, Jan 21</td>
<td><strong>NO LABS MEET!</strong></td>
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| Jan. 28     | Lab 1: The Celestial Sphere and Planispheres  
              **Final reports:**  
              - Term project: Project Presentation (10 pts)  
              - Visiting an Observatory (10 pts)  
              Both are **required** and cannot be dropped. |
| Feb. 4      | Lab 2: Phases of the Moon                                                                                                                  |
| Feb. 11     | **Handout:** Eclipses                                                                                                                      |
| Feb. 18     | Lab 3: Planetary Orbits                                                                                                                    |
| Feb. 25     | Lab 4: Mass of Jupiter                                                                                                                     |
| Mar. 4      | **Handout:** Scale Sizes of the Solar System                                                                                               |
| Mar. 11     | **Handout:** Simple Lenses and Telescope Design                                                                                             |
| Mar. 18     | Spring Break. **NO LABS MEET!**                                                                                                             |
| Mar. 25     | Lab 7: Lunar Features                                                                                                                      |
| Apr. 1      | Lab 9: Impacts and Craters                                                                                                                  |
| Apr. 8      | Lab 8: Landscapes of Mars                                                                                                                   |
| Apr. 15     | **Term project due:** Project Presentation. Attendance is **required.**                                                                    |
| Apr. 22     | Lab Evaluation. **Observatory report due.** Attendance is **required.**  
              To receive credit for this lab, you must turn in the completed and signed Observatory report. Your lab instructor will announce, in lab, evening observations to be held on campus to complete this requirement, OR you can attend any public night at a local observatory such as **Fernbank Science Center**, or **Hard Labor Creek Observatory**. |

Lab Instructor Information:  
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If you encounter problems that your lab instructor cannot handle, please contact your lecture class instructor and/or the Astronomy Lab Manager, Dr. John Wilson (wilson@astro.gsu.edu).