

ASTRONOMY & ASTROPHYSICS LAB

Physics 3806 – Spring 2023

Instructor: J. R. Sowell

Time: 3:30 to 7:20pm Tuesday S105A Howey

Office: W102 Physics Building (404) 385-1294

Office Hours: Anytime but especially MWF 10:30 – 11:00

Email: jim.sowell@physics.gatech.edu

Web Page: <http://www.astronomy.gatech.edu>

Text: None

COURSE POLICY

Objectives: The objective of this Lab course is for the student to acquire a working knowledge of astronomical and astrophysical data reduction and analysis, especially regarding (a) CCD photometry and spectroscopy, (b) coordinate systems, (c) time keeping, and (d) relevant topics such as light curves of eclipsing binaries and of exoplanet transits, stellar types and galactic structure, dark matter and rotation curves, and the Hubble Law. There is also an emphasis on operating telescopes, performing astrophotography, and acquiring data with the Observatory's campus and Maui telescopes.

Attendance: 100% attendance is expected for all Lab meetings. Due to the often poor and unpredictable Atlanta weather, it is hoped all students will be amenable to attending additional, non-scheduled observing times. When such extra meetings occurs, a reduction of scheduled Lab meetings will be correspondingly reduced.

Materials: The student will need a **laptop computer** calculator for all of the exercises.

Exercises: Each Lab exercise will have either a report written and/or images obtained/improved. These are due at the start of the following week's Lab meeting time.

Grading: Each Lab exercise will have its own unique number of assigned points. At the end of the semester, all of these points will be added. Then an "average" lab score will be computed (total possible points / total number of exercises). The "final" adjusted number of possible points will be the original Total points – one Average number of points (= ~ 90%).

Tests: There are no tests or a Final Exam planned.

Grading Scale: 90 – 100 = A; 80 – 89 = B; 70 – 79 = C; 60 – 69 = D; 0 – 59 = F

Academic Integrity: Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Regulations regarding cheating and general classroom dishonesty will be strictly enforced.

Accommodations for Students with Disabilities: If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404) 894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Statement of Intent for Inclusivity: As a member of the Georgia Tech community, I am committed to creating a learning environment in which all of my students feel safe and included. Because we are individuals with varying needs, I am reliant on your feedback to achieve this goal. To that end, I invite you to enter into dialogue with me about the things I can stop, start, and continue doing to make my classroom an environment in which every student feels valued and can engage actively in our learning community.

Student-Faculty Expectations Agreement: At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Campus Resources for Students

In your time at Georgia Tech, you may find yourself in need of support. Below you will find some resources to support you both as a student and as a person.

Academic Support

- Center for Academic Success <http://success.gatech.edu>
 - 1-to-1 tutoring <http://success.gatech.edu/1-1-tutoring>
 - Peer-Led Undergraduate Study (PLUS) <http://success.gatech.edu/tutoring/plus>
 - Academic coaching <http://success.gatech.edu/coaching>
- Residence Life's Learning Assistance Program
<https://housing.gatech.edu/learning-assistance-program>
 - Drop-in tutoring for many 1000 level courses
- OMED: Educational Services (<http://omed.gatech.edu/programs/academic-support>)
 - Group study sessions and tutoring programs
- Communication Center (<http://www.communicationcenter.gatech.edu>)
 - Individualized help with writing and multimedia projects
- Academic advisors for your major
<http://advising.gatech.edu/>

Personal Support

Georgia Tech Resources

- The Office of the Dean of Students: <http://studentlife.gatech.edu/content/services>; **404-894-6367**; Smithgall Student Services Building 2nd floor
 - You also may request assistance at https://gatech-advocate.symplicity.com/care_report/index.php/pid383662?
- Counseling Center: <http://counseling.gatech.edu>; **404-894-2575**; Smithgall Student Services Building 2nd floor
- Students' Temporary Assistance and Resources (STAR):
<http://studentlife.gatech.edu/content/need-help>
 - Can assist with interview clothing, food, and housing needs.
- Stamps Health Services: <https://health.gatech.edu>; **404-894-1420**
 - Primary care, pharmacy, women's health, psychiatry, immunization and allergy, health promotion, and nutrition
- OMED: Educational Services: <http://www.omed.gatech.edu>
- Women's Resource Center: <http://www.womenscenter.gatech.edu>; 404-385-0230
- LGBTQIA Resource Center: <http://lgbtqia.gatech.edu/>; 404-385-2679
- Veteran's Resource Center: <http://veterans.gatech.edu/>; 404-385-2067
- Georgia Tech Police: 404-894-2500