Course Description: This course is a one semester course offered every other year in which telescopes, astronomical imaging, spectroscopic and photoelectric observations and reductions are taught. The prerequisites for this course are: A221-A222, calculus, Physics P201-P202 or P221-P222, or consent of the instructor.

Course Goals:
- Learn to solve problems and to plan and carry out observations in an astronomical context.
- Learn to use telescopes and associated instrumentation to acquire usable data on astronomical objects.
- Learn to perform basic data reduction tasks to remove the instrumental signature from observational data.
- Learn to extract quantitative information from astronomical data and interpret this information to understand astronomical sources.
- Learn to apply error analysis to understand the limitations of astronomical data.

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Office Hours: by appointment

Our offices are located on the third floor of Swain Hall West, near the elevator. The Astronomy Department office is located in Swain West 319.


Course Requirements
- Class attendance
- Completion of reading assignments and "preps." Reading from the text will be assigned for each week (see schedule). Short preps based on the assigned reading must be completed and handed in each week.
- Completion of lab assignments. Six lab assignments will be due during the semester, approximately every two weeks (see the lab assignment sheet).
- Final exam at 7:15-9:15 p.m., Thurs., December 13 in SW219. You are responsible for knowing the time and place of the exam and for being present to take the exam. The exam will cover material in the text and material covered in class.
**Safety**

This class requires working with telescopes on the roof of Swain West. You must follow all safety rules and procedures. Students who fail to follow safety procedures or who endanger themselves, other students, or the equipment will no longer be allowed to use the telescopes.

- Never work alone. At least two students or students and faculty must be present when telescopes are used by undergraduate students.
- The door to the roof must be locked when observing is completed.
- Use telescopes only according to approved procedures for use.

In the event of a serious accident or injury, immediately call IUPD emergency response at 911 from any campus phone. A campus phone is available in Rm 311.

**If you are walking on campus for evening activities**, be sure to walk with a friend, or contact the IUSA Safety Escort Department for a ride ([http://www.indiana.edu/~cps/escort.html](http://www.indiana.edu/~cps/escort.html) or 855-SAFE).

**Facilities**

As part of this class, you will have access to and use the roof-top telescopes at Swain West and to the Undergraduate Computing Lab in Swain West 246.

Laptop computers will be needed to operate the rooftop telescopes, and can be checked out from the Lab Instructor.

Computer accounts have been set up on the SW246 undergraduate computer cluster using your UITS account name and passphrase. Telescope, computer, and lab documentation are available in Rm 246.

**Expectations**

You are expected to attend class, complete assigned reading and the prep assignment before class, and participate in class discussions. If you are unable to attend class, complete work, or participate for reasons of health, family responsibilities, or religious holidays, please contact one of the lab instructors well in advance to make arrangements.

If you are having difficulty in this class and need extra help, please contact one of the instructors before you fall behind. We can help, and it is much easier to keep up than to catch up.

**Plagiarism**

*Plagiarism* is the use of other people’s words and ideas as your own. Plagiarism will not be accepted in students’ work in this class. Give credit by citing the sources you use. This includes noting where you paraphrase others’ work. *If you paraphrase, you must do more than just change a few words or reorder phrases.* To paraphrase correctly, use your own words, and give credit for ideas. *You must use your own words in all written assignments, and on the project.* Cutting and pasting text from the Web, the textbook, or other sources is not acceptable.