

Astronomy 350 - Observational Astronomy

- CRN: 92534, Observational Astronomy, Credits: 3.00
- Instructor: Dr. Shashi Kanbur, Rm 124A, Snygg Hall, SUNY Oswego.
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- Office Hours: Monday 9.30-10.30am, Tuesdays: 10-11am, Thursdays: 2-3pm or make an appointment by phone or email.
- Lectures: MW, 7-10.00am, in Picz 327.
- Books: "Introductory Astronomy Exercises", by Dale C. Ferguson, second edition.
- Books: "Astronomy Methods", by H. Bradt.
- Brief Introduction to the Course: A laboratory course which introduces the techniques and principles used in making astronomical observations. A100 is a prerequisite for this course. The aim is to enable you to make astronomical observations on your own as an amateur with sufficient knowledge that you could probably take things further to the professional level. We will cover such topics as
 - Positional Astronomy: constellations etc.
 - Light
 - Telescopes
 - Atmospheric effects?
 - Light detectors and CCD's
 - Astronomical data reduction
 - Astronomical Spectroscopy

Basic astronomical knowledge you should know can be found either in the textbook or www.oswego.edu/~kanbur/a100. Layout of the Course:

- Some lectures, some class discussion, some computer demonstrations, laboratory exercises, observing sessions.
- Some labs, either here at SUNY Oswego or sometimes at Southern Cayuga High School observatory.
- Reading Assignments, homeworks, in class exams and a comprehensive final.

- Classroom Attendance: Roll call will be taken. Attending lectures is highly recommended. Participating in class room activities will increase your understanding of the material.
 - Other requirements include warm clothing: we will be going out on the roof of Piez sometimes, consider wind chill etc. Some lab notebooks and a clipboard. One of the lab notebooks will be what you hand in after completing your lab writeups.
 - Some labs may require a protractor, compass and millimeter ruler.
 - There will be a sign up sheet to come in earlier and set up telescopes.
 - Sometimes we may go to SOuthern Cayuga School (about 30-40 miles) from here to do some observing. This will be at the weekends. If so, we wont have one of the MW sessions.
- Web sites to know
 - www.oswego.edu/~kanbur/ast350
 - www.skymaps.com
 - Doing Lab Projects
 - * Some observing lab projects will be done in small teams due to the limited number of telescopes. Observations and measurements will also be done in these teams. However, the analysis of the observations and written answers to questions should be done individually.
 - * Make sure you read and understand what a lab project is before you start one.
 - * In a lab activity, all observations and measurements must be written down in the worksheets provided by the Ferguson book or other handouts.
 - * Grading: Midterm 15%, Final 15%, 8 labs, each of 8% and attendance is 6%. During the class time we will frequently discuss problems similar to what will be on the exams. These exams will be a mixture of multiple choice and other types of questions but make up exams for the two in class exams will be essays. We will follow SUNY Oswego guidelines regarding makeup for the final exams. No textbooks will be allowed in these exams. All equations that you may need will be given.
 - * The exams will not test your memory of equations but your understanding of them.
 - * The first in class exam will be around the end of September, depending on what progress we make. I will give you plenty of

warning and also schedule a review session before such in class exams.

- * There will be four-six homework assignments. You are strongly advised to make concerted efforts to try these and understand the solutions. They will be similar to the type of questions you will get in the exams. You may discuss these with friends but the final submitted solution must be your own work. Some of these homeworks will be "computer lab simulation" exercises.
- * There will be reading assignments: these are so that you become somewhat familiar with the concepts and ideas you will encounter that day in class. You are not expected to understand the material after a reading assignment.
- * There will be a project which could be a literature review of current research in observational astronomy, analysing real CCD data or analyzing some archival data. We may also work on writing an observing proposal.

Please discuss your choice of project with me. There will be a 5-10 page report plus a classroom presentation at the end of the semester. You should decide the topic/title of your project by the end of September.

- Thus the exams will count to 50% of your grade, homeworks, 25%, project 25%.
- How do I succeed in this class?
 - * Come to class, get the book, participate in class.
 - * Do NOT be afraid to ask questions.
 - * Do the homeworks, reading assignments and understand the solutions.
 - * Do the reading assignments.
 - * Stay current, hand homeworks in on time.
 - * Think about the material, remain open to be moved, inspired by the material.