

Astronomy 310

- CRN: 93886 , Topics in Modern Astronomy, Credits: 3.00
- Instructor: Dr. Shashi Kanbur, Rm 124A, Snygg Hall, SUNY Oswego.
- Email: kanbur@oswego.edu, Tel: 412 2679.
- Office Hours: Monday 4-5pm, Thursdays: 9.30-10.30am, 1-3pm or make an appointment by phone or email.
- Lectures: MWF, 10.20am-11.15am , in Piez 328.
- Book: "The Cosmic Perspective" fifth edition by Bennett et al.
- Brief Introduction to the Course: An in depth algebra based in depth look at certain topics in stellar astronomy and cosmology. We will cover basic astronomical observations such as the distances to stars, brightness and colors of stars, stellar structure and evolution and an introduction to cosmology. The course assumes knowledge of Astronomy 100. What you should know is given at www.oswego.edu/~kanbur/a100.
- Topics: Hubble's law: (distance scale, spectroscopy, Doppler effect, Cepheids, PL relation).
- Topics: Observational Astronomy (CCD Astronomy).
- Topics: Cosmology: Big Bang Theory.
- Topics: Stellar Evolution.
- Topics: Stellar/Solar Oscillations.
- Topics: Extra-Solar Planets.
- Layout of the Course:
 - Traditional lectures, more class discussion and group working, some computer demonstrations.
 - Algebra based.
 - Group based work, including peer assesement.
 - * Knowledge is constructed not received.
 - * Split up into groups of 3/2 according to experience, math ability etc.
 - * Work in these groups for the group work.
 - * Do the worksheets in class and at home together.

- * Bring book to class, maybe a laptop for internet access?
 - * Group work is marked - everyone in a group gets the same mark.
 - * Grade other people's performance and contribution to your group.
- 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.
 - Grading: There will be two in class exams and a comprehensive final exam. 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 will be a literature review of current research in astronomy. Examples include but not limited to:
 - * The WMAP mission - current results.
 - * The search for extra-solar planets.
 - * Recent results from Chandra.
 - * Results from the HST.
 - * The construction of the extra-galactic distance scale.
 - * The Big Bang theory.

- * The evidence for the existence of black holes.
- * The search for extra-terrestrial life.
- * A history of Astronomy.

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.