Astronomy 311 - Solar System Astronomy

- CRN: 91417 , 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, 9.10am-10.05am , in Piez 328.
- Book: " The Cosmic Perspective", by Bennett et al, fourth edition.
- Brief Introduction to the Course: A general algebra based introduction to solar system astronomy. We will cover such topics as
  - Planetary Astronomy: review of Jovian and Terrestrial Planets.
  - The Sun.
  - Formation of the Solar System.
  - Solar System dynamics?
  - Planetary Geology?
  - Astro-biology?
  - Search for Extra-Solar Planets.

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

  - Traditional lectures, some class discussion, some computer demonstrations.
  - Algebra based.
  - 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 assigmnets: 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 assigmnent.
- There will be a project which will be a literature review of current research in astronomy. Examples include but not limited to:
  * Discussion of a number of space missions designed to study planets/asteroids/meteorites.
  * Astro-biology.
  * A review of recent extra-solar planet discoveries.
  * Planetary atmospheres.
  * The Anthropic principle.
  * Early Astronomy.
  * Solar connections to Earth's weather.
  * Solar missions eg. YohKoh, SOHO, GONG.
  * Solar oscillations.

  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, particpate in class.
  * Do NOT be afraid to ask questions.
  * Do the homeoworks, reading assignments and understand the solutions.
  * Do the reading assignments.

* Stay current, hand homeowrks in on time.
* Think about the material, remain open to be moved, inspired by the material.