

ASTA02 Spring 2014

Introduction to Astronomy and Astrophysics II: Beyond the Sun and Planets

Tuesday and Thursday at 10-11 am (SW 309)

Description

This course is an overview of modern astrophysics beyond our Solar System and planets. We will learn about the **stars, galaxies and the Universe**, their origin, structure, evolution and fate. The questions to be addressed include: What are stars? How do stars evolve? What will happen to the Sun? What are galaxies? How do they organize themselves? What is the Big Bang model of the Universe? The course is suitable for both science and non-science students.

Instructor: Professor Diana Valencia UTSC Office SW504B

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Office hours: Tuesdays 11:00am-12:00pm and by appointment

Schedule: This class will meet on Tuesdays and Thursdays from 10-11am for lectures. In addition there is one hour of tutorial per week that you are expected to attend. The goal of the tutorial is to address any questions regarding the lectures, and go into more depth in some of the topics. There are five slots for tutorials (2 simultaneous tutorials on Thursdays from 12-1pm and from 1-2pm and a fifth one to be determined).

Teaching Assistants:

Brice DALmeida - brice.dalmeida@mail.utoronto.ca

Rajeewgandhi Jeyaraj - rajeewgandhi.jeyaraj@mail.utoronto.ca

Bob Tian - ytian@physics.utoronto.ca

Prerequisites: none

Assignments: There will be four assignments distributed throughout the course. In addition, there will be assigned readings and multiple-choice homework through webassign for you to complete. The intent behind these assignments is to help you understand the material.

Quizzes: Through out the course there will be 4/5 quizzes given in the tutorials.

Marking Scheme:

Assignments	20% (5% each)
Quizzes	10%
Multiple-choice Readings	5%
Midterm	20%
Final Exam	45%

Term work or test missed because of illness requires a signed medical note. Please show me the original and provide me with a photocopy for my records. Also please inform me as soon as possible regarding the fact that you missed a PS deadline or test due to illness.

Info on academic integrity policies can be found here:
<http://www.artsci.utoronto.ca/osai/students>

Books:

ASTRO 1st Canadian Edition by Backman, Seeds, Ghose

Make sure you have access to the online webassign resources this book comes with. We will cover chapters: part of 5, 6, 7, 8, 9, 10 and part of 11.

For further reading: *Universe*, by Roger A. Freedman & William J. Kaufmann III

Syllabus: (tentative schedule, we'll try to cover all topics listed time permitting)

- Light, matter and gravity
- Observed properties of Stars: motion, brightness, masses, radii, spectra, H-R diagram
- Star's structure and evolution
- Star's death: Supernova, Neutron Stars and Black Holes
- The Milky Way, galaxy classification
- Groups and clusters of galaxies
- Large scale structure of the universe
- Expanding universe, the Hubble Constant, The Big Bang Theory