

Course Outline

ASTA01H3

Introduction to Astronomy and Astrophysics I: The Sun and Planets

University of Toronto at Scarborough
Fall 2017

Instructor:

Dr. Parandis Tajbakhsh

Email Address: parandis.tajbakhsh@utoronto.ca

Lectures:

Tuesdays and Thursdays, 10am - 11am

Location: Lecture Room SY 110

Office Hours:

Thursdays from 11:00 am - 12:00 pm, by Appointment

Office Location: SW506G

Course Description:

This course is an introduction to the field of astronomy with a focus on the solar system. We will start with a few basic but essential topics in astronomy including the celestial sphere and the appearance of the night sky the electromagnetic spectrum, and the dual nature of light. We will then focus on the solar system and will examine the Sun closely. This will be followed by a study of the terrestrial planets as well as the Jovian planets and their moons. Finally, we will briefly review other stellar systems and contrast them with our solar system.

Website:

This course will use Blackboard Learn learning management system as well as CNOW. The latter can be purchased as a stand alone or is provided for free with the purchase of the textbook. All the material, including the quizzes, as well as important dates and announcements will be posted on Blackboard. Any questions of a non-personal nature should be posted on the Discussion Board, which will be available on Blackboard. The aim is to prevent the repetition of questions that might be lingering around the minds of a number of students. The quizzes will be handled through blackboard and will be announced approximately one week before they are due. To prepare for the quizzes, you might want to review the questions available on CNOW. Please ensure that you visit Blackboard frequently.

Tutorials:

Students registered in the course are **expected** to enrol in one of the seven tutorial sessions for this course. Tutorials are 50 minutes in duration, and are held every Thursday between the hours of 9:00 am to 5:00 pm starting in the second week of classes. The material covered in tutorials

are complementary to the material taught in lectures and thus you are expected to attend the tutorials regularly.

Tutorial Room	Tutorial Hour	Teaching Assistant	TA's Email Address
AC334	9-10 am	Shreya Mistry	shreya.mistry@mail.utoronto.ca
BV355	11 am - Noon	Shreya Mistry	shreya.mistry@mail.utoronto.ca
BV355	12 - 1 pm	Shreya Mistry	shreya.mistry@mail.utoronto.ca
BV355	1 - 2 pm	Nathan Winsor	winsor@astro.utoronto.ca
BV355	2 -3 pm	Nathan Winsor	winsor@astro.utoronto.ca
BV355	3 - 4 pm	Nathan Winsor	winsor@astro.utoronto.ca
BV355	4 - 5 pm	Gary Sethi	gs.sethi@mail.utoronto.ca

Textbook:

The textbook for this course is *Astro (2nd Canadian Edition)* by Shohini Ghose, Vesna Milosevic-Zdjelar and L. Arthur Read (ISBN 978-0-17-665018-0). Copies are available at the UTSC bookstore. Another helpful study aid is the “*Schaum’s Outline of Astronomy*” by Stacey Palen (ISBN 978-0071364362) but this is not a required book.

Evaluation:

- 35% Midterm: Tuesday, October 17th, 2017
- 25% Five Online Quizzes (each 5%)
- 40% Final Exam

*It is the student’s responsibility to be available for all the evaluation elements of this course. If for any reason you cannot attend the midterm or final, you will need to inform me **before** the test and by no means I can guarantee that I accommodate you but I will make every effort to do so. If you happen to miss a test or an assignment due to illness, you will need to provide a completed Verification of Student Illness or Injury form. This document can only be completed by a doctor, surgeon, registered nurse, dentist or psychologist. Please note that I **cannot** accept “ ‘Patient was ill’ or “Off school” scribbled on little prescription pads”. Further, please heed the fact that “the Verification of Student Illness or Injury form must indicate that the doctor diagnosed and treated you **when** you were ill; it cannot just report that you told the doctor after-the-fact that you were ill previously. See the Petition section in the Calendar.” For more information, please see the following website:
http://www.uts.utoronto.ca/~registrar/current_students/petitions*

Outline of Lecture Course (only an approximate guide):

- *Preliminaries*: Scientific Notation, Units of Measurements, Distances in Astronomy, Copernican Revolution, The Celestial Sphere
- *The Solar System*: A General Overview, The Origin of the Solar System, Terrestrial Planets and Gas Giants, Kepler Laws of Planetary Motion
- *The Sun*: The Atmosphere of the Sun, The Sun's Chemical Composition, Origin of the Energy of the Sun, Solar Activity
- *Terrestrial Worlds*: Mercury, Venus, Earth and Mars
- *The Jovian Planets*: Jupiter, Saturn, Uranus and Neptune and their Moons
- *Outer-most Areas of the Solar System*: Dwarf Planets, The Kuiper Belt
- *Other Stellar Systems*: A Scholarly Discussion of Some of the Most Recently-Found Stellar Systems

Miscellaneous:

- Midterm covers the material taught from the beginning of the course up to (*and including*) the material taught on October 5th.
- The final exam will cover *all of the material* taught in this course.
- You will want to bring a non-programmable calculator to the midterm and the final exam session. No other aids are allowed. Any necessary equations will be provided.
- Any material discussed in class, during the tutorial, or found in the relevant chapters of the textbook, may appear on the midterm and final exams, unless otherwise stated.

Although I have made every effort to insure the accuracy of this course outline, errors may still exist. If you notice an error, please inform me. If any changes to this outline is made, it will be announced.