

LOCATION Thursday 5-8 pm (SW505B)

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

dvalencia@utsc.utoronto.ca

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

TUTORIALS: Tutorials are in place for your benefit and the Teaching Assistants are here to help you learn and be successful in the course. Use this resource to the fullest extent possible. Tutorials are designed to help you consolidate concepts and practice your skills. Your TA is your main contact person for the course, face-to-face during tutorials and by email outside of tutorials. Tutorials start on Thursday January 18th 2018.

TEACHING ASSISTANTS

Nathan Winsor - winsor@astro.utoronto.ca [Head TA]

Tim Henley - tim.henley@mail.utoronto.ca

Jean Michel Boudreau - @mail.utoronto.ca

ASSIGNMENTS: There will be four assignments distributed throughout the course

LEARNING OUTCOMES

By the end of the course, students will understand

- how light and matter are connected and the principles behind how we study the universe through light
- how we know the properties of stars and the technique we use to measure each of them (distance, motion, mass, radius, brightness, temperature, spectra, etc)
- the importance of measuring distances, and describe how we do this for close stars, and far away objects via the Distance Ladder
- what is the spectra of a star, what it tells us about the star, and why
- what is the HR diagram, how to read it, and what information it contains
- the evolution of a star, from birth to death, including pre-main sequence stars