

Highlights of Astronomy

Instructor: Prof. Norbert Bartel, PSE 331, bartel@yorku.ca www.yorku.ca/bartel
Course Number: PHYS 1470 3.0 W
Time/Location: TR 11:30 – 13:00 Lectures , W 14:30 – 15:30 Tutorials
Textbooks: *Discovering the Essential Universe, 6th or latest edition, N. F. Comins, Freeman,*
(buy and rent options available)
<https://www.macmillanlearning.com/college/ca/product/Discovering-the-Essential-Universe/p/1464181705>

- Course Contents:
1. Understanding astronomy
 - 1.1 Discovering the night sky
 - 1.2 Gravitation and the motion of planets
 - 1.3 Light and telescopes
 - 1.4 Blackbody radiation, atomic physics and spectra
 2. The solar system
 - 2.1 Formation of the solar system
 - 2.2 Planets outside our solar system
 - 2.3 The terrestrial planets and their moons
 - 2.4 The outer planets and their moons
 - 2.5 Dwarf planets and smaller solar system bodies
 - 2.6 Our sun
 3. The stars
 - 3.1 Characterizing stars
 - 3.2 The lives of stars
 - 3.3 The deaths of stars
 - 3.4 Neutron stars, gamma-ray bursts and black holes
 4. The universe
 - 4.1 Our milky way galaxy
 - 4.2 Galaxies and dark matter in the universe
 - 4.3 Quasars, active galactic nuclei, relativistic jets and supermassive black holes
 - 4.4 Cosmology, the big bang and the fate of the universe
 - 4.5 Search for extraterrestrial life

Evaluation:

In-class quizzes:	10% of final mark
Homework:	15% of final mark
Laboratory exercises:	15% of final mark
Midterm exam:	25% of final mark
Final exam:	35% of final mark

Office hours: P331, Tuesdays 13:00-14:00 (please send me an email)