PHYS 304 Course Description

This course presents a calculus-based introduction to key concepts in the science of astronomy and astrophysics. The course is designed for physics majors and other science majors with strong interest in astronomy, physics and mathematics. The course details some of the primary physical concepts relevant to astronomy and astrophysics and also lays the foundation for more advanced coursework in astrophysics.

Spring 2017 Instructor Prof T. J. Turner MWF 9-9:50am PHYS 221

Prerequisite: PHYS 122
Corequisite: None

Course Objectives

The main objectives of the course are for students to become familiar with the basic concepts underlying modern astrophysics and cosmology.
By the end of the course, successful students will have a working knowledge of :

1. Celestial Coordinate systems & Celestial Mechanics
2. Observational Techniques and the Magnitude system
3. The main Radiation Mechanisms
4. The Objects in the Solar System
5. Stellar Systems & Evolution
6. The Interstellar Medium
7. The Milky Way and other Galaxies
8. The latest Cosmological Models & Ideas
9. The search for Exoplanets

Instructor contact information:
Prof T.J.Turner tjturner@umbc.edu
Office hours M,W,F 10amp- 2pm BY APPOINTMENT
Room 412 Physics 410-455-1978

Please email for appointments so I can set aside an appropriate amount of time to meet your needs. I do not answer specific physics questions through email. Physics questions may be discussed during an office appointment or posted on discussion boards within Blackboard. For other questions, email is the best way to contact me. However, please look at the syllabus and the lecture notes before emailing me.

STRATEGY FOR SUCCESS

Attend the lectures, Expect to work - set aside ~8 hours per week understanding the material and attending to homework. Read material ahead of or following the lecture. Concentrate on understanding more than memorization.

GRADING

Mid Term Exam 1 20%
Mid Term Exam 2 20%
Final Exam 25%
Homework 25%
Attendance at telescope session 10%

There are no make-up exams. If you miss an exam due to circumstances beyond your control then contact me as soon as possible so we can make an appropriate arrangement.

The exam schedule will be announced in class as soon as the dates have been set.

CLASSROOM COURTESY: Please show respect for me and for your fellow students by:
Arriving and leaving on time
Refraining from talking during class
Refraining from emailing, texting, tweeting, etc during class

Textbook (optional)

Fundamental Astronomy, 5th edition
Author: Karttunen
Publisher: Springer; 5th edition (August 17, 2007)
ISBN-13: 978-3540341437
ISBN-10: 3540341439