UNIVERSITY OF LOUISVILLE

PHYS 107
Introduction to Elementary Astronomy
Sample Course Outline
Panama Program

Course Description:
PHYS107 is an introduction to the basic laws of nature as seen in the large-scale structure of the universe: our solar system, stars and galaxies.

Course objectives:
This course examines the entire universe, as observed today with the instruments of modern technology, and as explained with the ideas of physicists and astronomers. Our objective is to show how systematic observation, experimentation, and reason allow us to comprehend the universe. With this goal, we will provide a basis for understanding new developments in astronomy as they arise, how contemporary scientific research is carried out, and how it impacts society.

This course meets the general education distribution requirement for one Natural Science course.

Required Text:

Essential Cosmic Perspective 7/edition eText format with
MasteringAstronomy --- Instant Access
Authors: Bennett, Donahue, Schneider & Voit ISBN-10: 0321928695
• ISBN-13: 9780321928696
©2015 • Electronic Package, 550 pp • Live
Online purchase price: $91.85 To purchase enter:
http://www.pearsonmylabandmastering.com/northamerica/masteringastronomy/ Click on "Student" select US/Canada and proceed to register and purchase.
Request the MasteringPhysics with eText
Registration Code/Enrollment Key: MABARRERA04736
MasteringAstronomy with etext is required, Homework assignments and tutorials will be given only through MasteringAstronomy online Homework/eText/Tutoring system.

Lab:
There is no formal Lab. We intend to use the last hour of every other day to use special tools to study the night sky using computers, later we will do night observations. The first week we will use the classroom and the computer lab and the second week we will venture outside, first with hand tools, and later with telescopes. These sessions are compulsory. You will submit reports of your observations.

Course Topics:
1. Modern View of the Universe
2. Discovering the Universe for Yourself

3. The Science of Astronomy
4. Making Sense of the Universe: Understanding Motion, Energy, and Gravity
5. Light: The Cosmic Messenger
6. Formation of the Solar System
7. Earth and the Terrestrial Worlds
8. Jovian Planet Syatem
9. Asteroids, Comets and Dwarf Planets, their nature, Orbits, and Impacts
10. Other Planetary Systems: The New Science of Distant Worlds
11. Our Star
12. Surveying the Stars
13. Star Stuff
14. The Bizarre Stellar Graveyard
15. Our Galaxy
16. A Universe of Galaxies
17. The Birth of the Universe