

SHORT PROJECT 1:

Kepler, Galileo, and the Birth of Modern Astronomy

General: You have studied the background to humankind's awareness of the patterns in the night sky and to the rise of Greek astronomy that culminated in Ptolemy. Next we find shift in perspective with Copernicus' theory of a heliocentric cosmology.

Abstract: Precisely four centuries ago Johannes Kepler published his *Astronomia Nova*, the pioneering book that proposed the radical idea that planets moved in elliptical orbits. But the book was even more revolutionary when it insisted on physical causes to explain motions in the heavens. His book was truly the "new astronomy." But also exactly 400 years ago the astronomical use of the telescope began, with Galileo Galilei in the forefront. His observations of the moon, Jupiter, Venus, and the sun helped credential the new heliocentric cosmology. Although Galileo couldn't prove the motion of the earth, his writings made belief in the Copernican system intellectually respectable. With a little help from his friends, Galileo fanned the flames of the Astronomical Revolution.

Speaker: Dr. Owen Gingerich, Professor Emeritus of Astronomy and the History of Science at Harvard University, will be presenting this special lecture at VU.

Time: Wednesday, September 9, 2009 at 7:30 pm

Location: NSC 234 (classroom)

(Note: Also counts as core 5th hour activity; bring your friends)

Assignment: You are to write a short report (~300-400 words with a word processor) **summarizing the talk.** Discuss the main points of the lecture. Include at least one new thing that you learned, one thing that you found to be particularly interesting, and one question that you had.

This is an assigned part of the course and you are expected to attend the lecture. Note that in light of this extra assignment, we will not have class on Wednesday.

Due: Monday, September 14, 2009.

Short Projects 2 & 3: You are to attend and write a similar report about two other of the special astronomy talks during this semester. These are (usually) held on the following Friday evenings at 7:30 pm in Neils 224. For each, the report will be due the Monday following the talk.

Aug. 28: *Ancient Astronomy*

Oct. 02: *Understanding the Night Sky*

Oct. 09: *Astronomy with the Hubble Space Telescope*

Oct. 23: *New Discoveries in Astronomy*

Nov. 06: *A Decade of Dark Energy*

Dec. 04: *The Christmas Star*

and Sep. 10: (Thurs) *The Divine Handiwork: Evolution and the Wonder of Life* in CCLIR (library)

Honor Code: Do your own work. You can talk with others, but the report should be your own work.