



Fall 2024

PHILOSOPHY 160-01

Philosophy of Science

MW 3:00 – 4:15 PM in BBC 222

Instructor: Harlan McGhan

Area R: Earth & Environment

Prerequisites:

Passage of writing skills test

Completion of core GE courses

Upper division standing

In the 21st Century, it is far too late to turn away from science, but it is never too late to understand it better.

Although its roots date back to ancient Greece, Modern Science has exploded onto the world scene only in the last 300 years, empowering a whole new geological epoch: the *Anthropocene*. During this period, not only has Modern Science transformed human life beyond all recognition, it also has made human activity the dominant force reshaping the earth's surface and its surrounding environment.

The philosophy of science seeks to answer the most basic questions about science: What are its foundations? What does it reveal about the nature of reality? What is its role in society? Questions explored in this course include: How do we know if a scientific hypothesis or theory is true? What is the nature of scientific progress? What is the difference between science and pseudoscience? Does science enforce values or does it destroy them? Can science coexist with faith?

PHIL 160: Philosophy of Science is a 15-week course exploring the most important questions about the most important activity ever undertaken by humans.

Weeks 1 - 5

The Lessons of History

A survey of the origins and development of science, highlighting significant changes wrought by science in understanding the nature of the material world, the nature of life, and human nature itself.

Weeks 6 - 10

The Lessons of Logic

A survey of the development of the Philosophy of Science in the 20th Century, from attempts to create a logical reconstruction of scientific truth, explanation, and prediction, to the claim that logic must be abandoned as useless.

Weeks 11 - 15

Contemporary Issues

A survey of issues attracting attention as the most significant for the 21st Century: e.g., the challenges posed by robotics and AI, by genetic manipulation, by population growth, pollution, and the quest for clean energy.