

PHIL 1400-880: Philosophy & the Sciences

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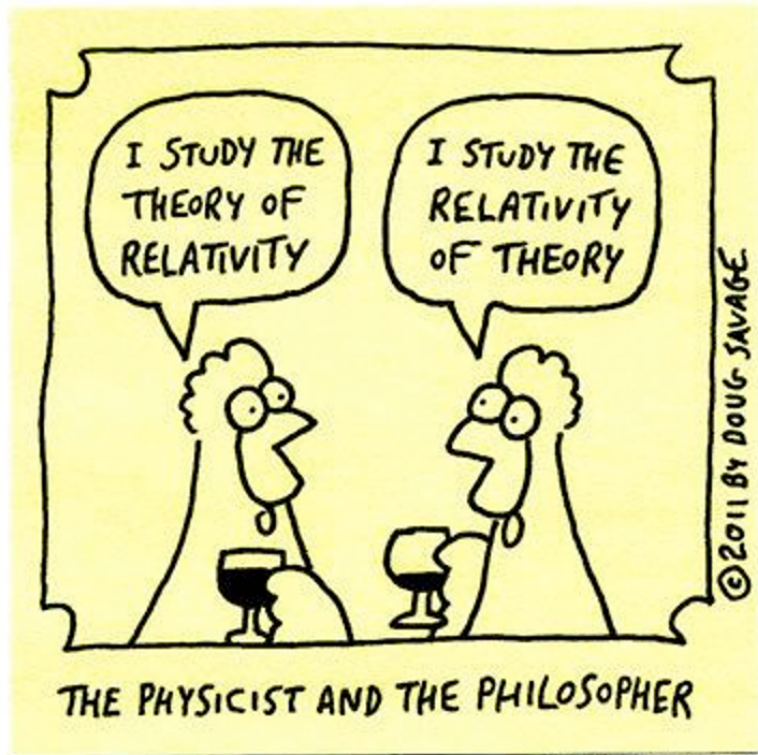
The subject of this course is science.

Its purpose is to introduce students to philosophical thought about the nature of science.

We begin with questions such as the following:

Savage Chickens

by Doug Savage



What is the scientific method? How does it differ from other methods for obtaining knowledge? What does the objectivity (unbiased observation?) and rationality (logic?) of science consist of? In what sense can science be said to make progress? Is historical science (paleontology, etc.) inferior to experimental science? Do theoretical entities such as electrons and DNA really exist or are they merely useful fictions for organizing observations into powerful theoretical systems for purposes of prediction and explanation? To bring these difficult philosophical issues to life, we will discuss a number of exciting scientific discoveries, puzzles, and debates including the nature of space and time in Einstein's general theory of relativity, the problem of making good sense of quantum mechanics within the framework of classical physics, the empirical status of string theory (which supposedly provides the long awaited "unified field theory" in physics), the debate over the cause of the end-Cretaceous mass extinction (66 million years ago) and end-Permian mass extinction (250 million years ago), and contemporary thought about the origin and evolution of life on Earth. We will end with a critical discussion of the history and current status of scientific thinking about climate change (aka global warming).