NSC 110

Dean's Scholars Seminar

Unique No. 46402; T 3.30-5 PM; BAT 104

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In this class we will examine aspects of the foundations of science. In particular, we will study certain historical and philosophical dimensions of "scientific revolutions", with a special focus on some of the major developments in physics. Along the way, we will attempt to define what a scientific theory is, i.e., what makes a theory "scientific", and identify a basis for how a scientific theory may be valued. We will try to understand what is meant by the words such as "fact", "proof" and "truth" in natural sciences and examine some key features of how these notions transform when a new theory replaces the old. Fun stuff!!

Your suggestions for the topics of discussion along these themes are most welcome.

Preliminary list of reading includes selections from

[1] Thomas Kuhn, *The Structure of Scientific Revolutions*

[2] Henri Poincaré, *Science and Hypothesis*

[3] Karl Popper, *Conjectures and Refutations*

[4] Ernst Mach, *The Science of Mechanics*