

Abstract Submitted
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Scientific Understanding: Issues of Fact and of Method in Undergraduate Physics Education - A Critical-Thinking Approach to Analyzing some of the Science while Teaching the Scientific Method LAURENCE I. GOULD, University of Hartford — Undergraduates tend to learn and enjoy physics through its well-established corpus (mechanics, electricity and magnetism, quantum theory, etc.). However, there is a relatively new opportunity to enhance the learning of physics through critical thinking in a non-traditional area. Such thinking can be fostered through an analysis of both the science and methodology involved in the area commonly known as “global warming/climate change” (AGW). This opportunity arises because of an increasing number of scientists from around the world who have been examining and challenging [1] what is said to be the “consensus” claim that dangerous AGW is caused primarily by human-produced carbon dioxide. This talk will include how such critical thinking works through: (1) two independent-study courses I have done with some physics majors, and (2) a college-wide freshman seminar about AGW (which may encourage students to consider taking more physics courses or even take physics as a Minor or Major). Audience participation will be encouraged if there is time.

[1] The 2011 Interim Report from the Nongovernmental International Panel on Climate Change <http://www.nipccreport.org/reports/2011/2011report.html> (most of the research reported here appears in peer-reviewed science journals)

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