



Issue-centered Earth Science undergraduate instruction in U.S. colleges and universities

Joseph Liddicoat

State University of New York - FIT, New York, United States (joseph_liddicoat@fitnyc.edu)

Semester-long introductory courses in Earth Science at U.S. colleges and universities often contain astronomy, meteorology, oceanography, and geology taught as single entities. My experience teaching Earth Science that way and using a typical Earth Science textbook results in cursory knowledge and poor retention of each topic area. This seems to be especially true for liberal arts students who take Earth Science to satisfy a distribution requirement in the sciences. Instead, my method of teaching Earth Science at the State University of New York is to use two books that together explore consequences of global warming caused by the combustion of fossil fuels by humans. In this way, students who do not intend to major in science are given in-depth information about how and why this challenge to the well-being of life on Earth in the 21st century and beyond must be addressed in a thoughtful way. The books, Tyler Volk's CO₂ Rising – The World's Greatest Environmental Challenge and James Edinger's Watching for the Wind, are inexpensive paperbacks that the students read in their entirety. Besides supplemental information I provide in the lectures, students have weekly examinations that are narrative in form, and there are written assignments for exhibits at science and other museums in NYC that complement some of the topics. The benefit of teaching Earth Science in this non-traditional way is that students seem more interested in the subject because it is relevant to everyday experience and news accounts about a serious global science problem for which an informed public must take a positive role to solve.