

## Making connections between Geoscience and Sustainability

My approach to teaching sustainability in an interdisciplinary context has evolved out of years of teaching about the Earth and the Environment. Initially, my introductory level courses were like many others in that they covered a large survey of topics. Recently, however, these courses have converged on a common format, which instead focuses on a handful of the most relevant topics. This format allows for students to spend more time and to dig deeper into the material and interdisciplinary connections, rather than just scratching the surface. As a geologist, I ensure that each of the topics begins with a foundation in science and geology. But, after the foundation is laid, coverage in each of the topics branches out to include economic and social connections.

Assignments in my courses that integrate sustainability and the geosciences are designed to lead students to an understanding of how their individual choices and decisions impact the Earth. These assignments consist primarily of analyses of individual behaviors and lead to comparisons both locally and globally. For example, I often employ “fingerprint” activities (water, carbon, energy, etc.) in which students are led through the calculations of how their decisions impact a particular resource. In addition, I use back of the envelope calculations as a means of building quantitative skills, but also as a launching point for discussion. These types of activities help students to think quantitatively without increasing their math anxiety, as students are not required to have any math by the time they enroll in these courses.

The biggest challenge I face is that the vast majority of students in the introductory level courses I teach that center on sustainability are not Earth or Environmental Science majors. Therefore, the connections to student’s every day lives and between the environmental, economic, and society are essential for success. In general, students are receptive to these strategies, and they often comment about the great impact these courses have on their every day lives, specifically, the links between their behaviors and decisions and their broader impacts, in course evaluations