InTeGrate is an NSF-funded STEP (STEM Talent Enhancement Program) Center, a 5-year community effort to improve geoscience literacy and build a workforce prepared to tackle grand challenges in environmental and resource issues. Our mission is to transform the what, how, and where of undergraduate geoscience teaching.

The Grand Challenges

By the time current undergraduates send their children to college, Earth’s population will have increased to more than 9 billion. One or more major metropolitan areas in our increasingly crowded world will have experienced a devastating earthquake or volcanic eruption; sea level rise will be inundating low-lying coastal cities along with small island nations; energy resources will be less available and more expensive; our climate will be warmer and characterized by more frequent extreme weather events. How we choose to plan for and attempt to mitigate these grand challenges will have consequences for individuals, nations, and our global socioeconomic and political systems. The geosciences (marine, Earth, and atmospheric sciences) that explain the workings of the Earth system provide critical insight into all of these challenges and, consequently, must be firmly integrated into educational pathways for all students. InTeGrate will promote that integration through engaging the geoscience community and their colleagues in allied disciplines in the development of high-quality educational materials and mechanisms by which they can be effectively brought to a base for development of needed educational pathways.

Project website (http://serc.carleton.edu/integrate)

What is InTeGrate?

The grand challenges our society faces today are inherently interdisciplinary issues, requiring knowledge and skills from the natural sciences, social sciences, humanities, business, and engineering. Many undergraduate research programs seek to provide interdisciplinary research experiences that address these challenges. But are our students prepared for rigorous interdisciplinary research and problem solving? In order to develop undergraduates who excel in addressing these complex questions, we need to help them build interdisciplinary skills.

What should students know and be able to do in order to be successful in an interdisciplinary research project?

Which grand challenges are important to you and your students in your research and teaching?

We want your input:

How to get involved

InTeGrate relies on active participation from faculty across the country. It is not just for geoscientists! There are many avenues for participation:

1. Join an inter-institutional, interdisciplinary team to create and test teaching materials and provide examples of their use in the classroom.
2. Apply for a grant to make innovative use of new curricular materials in your program (starting in 2014).
3. Attend a professional development workshop to contribute your knowledge and expertise and to learn about incorporating geoscience and sustainability into your teaching.
4. Join the e-mail list to stay in the loop with project announcements and news.

Interested? Visit the InTeGrate website (http://serc.carleton.edu/integrate/participate) to:

- Submit your own ideas for courses or modules for development
- Find out more information about work already in progress
- Find out more about who is already involved and how to get involved
- Contact CUR Councilor Anne Egger (eggera@cwu.edu)

Sponsoring organizations

http://serc.carleton.edu/integrate