InTeGrate: Using a Systems Approach to Effect Educational Transformation

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Our nation is faced by increasingly complex decisions that must be made surrounding the use, conservation and development of our national resources, and by pressing environmental issues affecting our water, soil, and safety.

InTeGrate seeks to increase the opportunities for students to study the Earth sciences in the context of current resource and environmental issues. By placing the study of Earth sciences in this context, we can increase the number and diversity of students interested in pursuing these studies, while enabling them to enter the workforce prepared to participate in the scientific investigations, interdisciplinary projects and policy decisions that will need to be made in the coming decades.

A Three-pronged Approach to Transformation

1. At the course scale

InTeGrate is currently engaging over 100 faculty in developing teaching materials rigorously designed and tested to meet InTeGrate’s goals and to employ engaged teaching practices demonstrated to improve student learning. Nine introductory and interdisciplinary modules are published and available for use, ten are in post-pilot revision and will be available for use by spring 2016, and an additional 15 are in development and pilot stages. Several of the published modules are being adapted, adopted, and further tested and an additional 15 are in development and pilot stages.

2. At the department and institutional scale

InTeGrate implementation programs have resulted in the development of 16 models of ways to bring Earth science to a diverse range of disciplines, institutions, and networks. These programs span the higher education system geographically and institutionally, and will provide the documentation and resources necessary to help other groups implement similar programs.

3. At the community scale

Traveling and regional workshops, the Earth Educators’ Rendezvous, webinars, and a robust website are expanding the opportunities for educators and administrators to learn about the importance, possibilities, and impacts of learning about the Earth in a societal context.