

State Policies to Transform Undergraduate STEM Education

Award Year:

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Associated Program:

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Collaborative Site:

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We will address two urgent problems: (1) designing and delivering undergraduate STEM courses that better engage students and increase their learning; and (2) preparing citizens to address global challenges (e.g., energy, environment, health, food) that are coupled with strong economic development. Research indicates that both problems can be addressed by connecting STEM education with real-world problems in sustainability. This project focuses on state policies and priorities that affect current and future STEM education practices in higher education. We will connect teams from five states that have begun to change content and pedagogy in undergraduate STEM courses in ways that support their long-term objectives. Teams will include representatives from higher education, government, and business/industry who seek to align STEM education with their states' priorities for global sustainability. At the first meeting teams will describe their current efforts and identify what each sees as promising targets of opportunity for progress. Additional data collection will be undertaken to examine more fully the approaches being taken in each state. At the second meeting, the group will synthesize what is known about various effective state-level practices. The results of these meetings will be used to prepare proposals, in cooperation with the five initial states, to recruit and engage additional states and the National Academy of Sciences in this work in years 2 and 3. Two additional meetings are anticipated as the number of states involved expands. Our ultimate objective is to stimulate improvement in undergraduate STEM education and support long-term social and environmental sustainability efforts in all states.

Participants:

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Jane Wolfson, Towson University
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[1] <https://www.sesync.umd.edu/ventures>

[2] <https://community.sesync.org/node/54>

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