



Effective STEM Teaching and Learning Act

Purpose of the Effective STEM Teaching and Learning Act

Graduating from high school prepared for postsecondary education and careers in the new economy means having a solid grounding in science, technology, engineering and mathematics (STEM). But these subjects are not just for future scientists and engineers. A STEM education is essential preparation for all students – in order to help them succeed and to keep our nation competitive.

Despite an increase in U.S. college enrollment over the past decade, the percentage of STEM graduates has actually declined. From among America's postsecondary institutions, just 16 percent of undergraduate degrees are in STEM-related fields. By comparison, China awards 52 percent of undergraduate degrees in STEM fields, Japan 64 percent, and South Korea 41 percent.

Teacher content knowledge in STEM must improve

This is particularly true in high school, where students with teachers who have subject-specific training in mathematics perform better than students of teachers without such training.

The Education Trust has reported that 70 percent of middle-grade math classes in high-poverty and high-minority schools are taught by a teacher who lacked a college major or minor in a mathematics related field.

The Effective STEM Teaching and Learning Act will make a difference

- ❖ Creates a competitive grant program to help states develop comprehensive STEM strategies.
- ❖ Targets funds to high-need students in high-need districts.
- ❖ Emphasizes innovation and technology by enabling states and districts to apply “outside-the-box” thinking.
- ❖ Supports professional development for STEM teachers.

More details about this legislation

- ❖ Provides competitive grants to state education departments (can be in partnership with outside organizations) to support statewide and local efforts to provide STEM instruction to students from preschool through 12th grade.
- ❖ Requires grantees to focus on mathematics or science, or both, and can also include technology or engineering. In awarding grants, the US. Department of Education would give a priority to states that have adopted and are implementing college- and career-ready standards in, at minimum, mathematics.
- ❖ Permits states to reserve funds for STEM instruction in high-need schools.
- ❖ Does not specify appropriations – the President's FY2012 budget requests \$206 million for the Effective STEM Teaching and Learning Act.