



Statement of Core Policy Principles

2012

The central mission of the STEM Education Coalition is to inform federal and state policymakers on the critical role that STEM education plays in U.S. competitiveness and future economic prosperity and to advocate for policies that will improve STEM education at every level. This document details a range of “Core Policy Principles” that the Coalition embodies and seeks to implement.

General Principles

- STEM education must be elevated as a national priority as reflected through education reforms, policies to drive innovation, and federal and state spending priorities.
- STEM education is closely linked with our nation’s economic prosperity in the modern global economy; strong STEM skills are a central element of a well-rounded education and essential to effective citizenship.
- Our nation must expand the capacity and diversity of the STEM workforce pipeline to prepare more students for the best jobs of the future that will keep the U.S. innovative, secure and competitive.
- Policymakers at every level must be informed about policy issues related to STEM education and their implications for the economy, national security, and continued American leadership in science and technology.
- Effective policies to promote STEM education as a national priority should be bipartisan and evidence-based and must be backed up by a strong and united community of stakeholders and advocates in the business, professional, research, and education communities.

Core Policy Recommendations

K-12, Higher Education, and Workforce Reforms

The Coalition supports:

- Inclusion of student performance in science alongside math and reading as a required element of K-12 educational accountability systems.
- Robust dedicated support for effective STEM educator professional development and preparation, including targeted efforts to promote STEM subject master teachers and teacher specialists.
- Comprehensive efforts to expand the capacity and diversity of the STEM workforce pipeline, including targeted initiatives to promote the inclusion of underrepresented minorities, women, veterans, and rural populations in STEM fields.
- Initiatives to attract and retain talented and effective STEM educators from all backgrounds and to retain STEM undergraduates generally.
- Ongoing collaborative multi-state efforts to develop high-quality college- and career-ready standards in STEM fields.
- An inclusive definition and use of the term “STEM education” by federal and state programs that is not limited to only math and science, but also embraces engineering and technology, and broadly encompasses related STEM fields and their unique needs.
- A balanced approach to the use of both competitive and formula-based funding mechanisms to promote STEM-related educational innovation activities.
- Establishing a high-priority for STEM-focused projects, programs, and curricula in education programs that support classroom teaching and learning and out-of-school experiences such as afterschool, co-curricular, and summer programs.
- Inclusion of informal education as a strategy for enhancing and improving STEM education.
- Development of a rigorous education research base to inform innovations in teaching, learning, and educational materials development.
- Expansion of the capacity of community colleges to prepare students for further STEM education and for the STEM workforce.
- A strong emphasis on hands-on, inquiry-based learning activities, such as learning about the engineering design process, working directly with STEM professionals through internships, and participating in field experiences and STEM-related competitions.
- Integration and alignment of K-12 and higher-education programs and initiatives with workforce needs.
- Public-private partnerships and incentives that promote business and industry engagement in STEM education activities at every level.

Investments in Federal STEM Education Programs

The Coalition supports:

- Comprehensive and strategic efforts to coordinate, evaluate, and review all federal STEM programs on a regular basis to ensure that effective programs are scaled up and that underperforming programs are improved or eliminated.
- Higher prioritization for funding of STEM-focused programs at the U.S. Department of Education.
- Robust and sustained investments in STEM-related educational research and innovation programs, including full funding of the National Science Foundation's Education and Human Resources Directorate.
- High-quality programs conducted by other science and technology federal mission agencies that have positive impact on student achievement in STEM subjects and other educational outcomes.
- Integration of STEM-focused activities in federal programs directed at learning environments outside the K-12 classroom, such as afterschool and summer community-based programs through universities and other higher education entities.