



## **Statement of Core Policy Principles**

### **2024**

The central mission of the STEM Education Coalition is to inform federal and state policymakers on the critical role that science, technology, engineering and mathematics (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 our 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 critically linked with our nation’s economic prosperity and technological leadership in the modern global economy. Strong STEM skills are a central element of a well-rounded education and essential to effective citizenship. The STEM fields provide learners at all levels with a strong foundation in critical thinking, informed decision-making, and collaboration, leading to increased opportunities to understand the world and to address societal challenges.
- 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. We must also ensure that STEM educators are effectively recruited, retained, and supported in the classroom and across informal learning settings.
- 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**

*Our Coalition supports:*

- Expanding the capacity and diversity of the STEM education and workforce pipeline from Pre-K to Career, including targeted initiatives to promote the inclusion and success of underrepresented minorities, women, rural and urban populations, and other historically marginalized populations in STEM career fields and to foster private sector efforts that advance these goals.
- Policies that prioritize educational resources for the students, teachers, schools, and learning environments with the greatest needs so that all students have an opportunity for high-quality STEM learning.
- Robust and sustained investments in educating, preparing, recruiting, and retaining educators in classrooms and in informal learning environments to be skilled in both STEM pedagogical content knowledge and effective teaching methods so that they can generate strong student learning and excite students about science and pursuing STEM careers.
- Robust dedicated support for effective professional development for STEM educators, including informal educators and targeted efforts to promote STEM subject master teachers and teacher specialists.
- Inclusion of student performance in science alongside math and reading as a required element of K-12 educational accountability systems.
- A strong emphasis on hands-on, inquiry-based learning and laboratory experiences, such as the engineering design process, working directly with STEM professionals through internships, and participating in field experiences and STEM-related competitions.
- Inclusion of informal education as a core strategy for enhancing and improving STEM education so that informal educators and programs are considered as valuable partners for STEM education improvement efforts.
- An inclusive definition and use of the term “STEM education” by federal and state K-12 programs that is not limited to only math and science, but also embraces engineering and technology and that recognizes and accommodates emerging STEM fields, such as artificial intelligence, data science, aesthetics and design, and technician education.
- Innovation, competitiveness, and industrial-base policies that embody a strong emphasis on development and alignment of national, state, and local education and training systems with current and future workforce needs.
- Public-private partnerships and incentives that promote business and industry engagement in STEM education activities and integration, alignment, and coordination of federal educational and training programs at every level with workforce needs.
- Comprehensive and strategic efforts to organize, evaluate, coordinate and review all existing federal and state STEM programs on a regular basis to ensure that effective programs are scaled up and that underperforming programs are improved or eliminated.
- Efforts by federal and agencies to solicit and include robust STEM education community input in decisions related to funding and policy priorities, program design, and targeted populations.

- A greater focus on STEM education activities at the Department of Education that support broad-based teaching and learning activities as well as out-of-school experiences.
- A balanced approach to the use of both formula-based and competitive funding mechanisms to promote STEM-related educational activities.
- Robust and sustained investments in STEM-related educational research and innovation programs, especially funding of the National Science Foundation's Directorate for STEM Education, and including other agency efforts to develop a rigorous education research base to inform innovations in teaching, learning, and educational materials development.
- The continued and sustained emphasis of the White House and successive Presidential Administrations on the importance of STEM education as reflected in policy initiatives, budget priorities, public statements, visible public events, and the cultivation of sustained public-private partnerships.
- Expansion of the capacity of community colleges to prepare students for further STEM education and for the STEM workforce.
- Targeted initiatives to facilitate the transition of veterans with STEM skills into higher-education programs and into careers in STEM fields.
- Using visa fees paid by U.S. employers seeking to hire foreign workers to support improvements in U.S. education programs.