



STEM Education, Good Jobs and American Prosperity – Part Two
Recommendations to the 47th President-Elect Donald J. Trump
and the Transition Team

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The future prosperity and well-being of the United States depends on our nation having the best educated and most innovative workforce, especially in the science, technology, engineering, and mathematics (STEM) fields. Advancing excellence in STEM must be a central element of a broad-based agenda to promote American greatness in an increasingly competitive, technology-driven world.

Excellence in STEM should be viewed as a bedrock element in conquering the challenges of today and tomorrow, whether modernizing our infrastructure, renewing American manufacturing, defending the homeland, exploring space, or fostering emerging industries of the future in a competitive global economy.

Furthermore, the vast majority of the best, highest-paying jobs of today require STEM skills – whether acquired in high school, career and technical education programs, community colleges, universities, graduate programs or other learning environments. This is in large measure because these fields demand problem-solving, teamwork, creativity, innovation, and out of the box thinking – all skills that are best cultivated through high quality learning in STEM. Importantly, the STEM fields also give American students tangible and satisfying opportunities to improve their communities, address societal and technological challenges, and explore their world. STEM is the human infrastructure of the 21st Century and American greatness demands having a world-class education system and the best workforce in the world.

As a broad alliance of education, business, and professional organizations, the central mission of the STEM Education Coalition is to inform federal and state policymakers on the critical role of STEM education. We greatly appreciated the efforts of the first Trump Administration to engage and listen to the inputs and recommendations of the STEM community and we sincerely appreciate the opportunity to share our views with the transition team as you prepare for your second Administration.

Big Picture Elements of a Bold, Effective STEM Agenda

- **Prioritize Excellence in Science, Technology, Engineering, and Mathematics in Federal Education Funding Streams:** In September of 2017, the first Trump White House issued guidance to the Department of Education (ED) to prioritize STEM education and computer science within the Department's various funding programsⁱ. We would support widening this action to encompass not just ED but other federal agencies also providing significant funding for educational activities.
- **Expand CHIPS-style Educational Partnerships to A Wider Range of Federal Contractors and Grantees:** The historical level of national investments in semiconductor manufacturing capacity ushered in by the CHIPS and Science Act – the concept of which was originally envisioned in the 1st Trump Administration – has also created an unprecedented level of focus by industry in bolstering their efforts to cultivate a future skilled workforce. We would like to see this same rubric of education and workforce public-private partnerships extended to other major federal contracts – such as contracts within the Department of Defense that require similar STEM workforce talent – and funding streams that support industrial manufacturing capacity building in the United States.
- **Focus on Recruiting and Rewarding High-Performing STEM Educators:** The United States cannot rebuild our industrial manufacturing base at any meaningful scale without a parallel effort to bring talent into the STEM teaching profession. We should recruit talented American students into teaching careers in the STEM fields and offer compensation and support that reflect their critical role in society reward the best STEM teachers in ways that help retain them in this important strategic workforce.
- **Support Local Capacity Building and Community-based STEM Strategies:** State and local governments lead the way in running America's schools, with the federal government ideally in the position of playing a strong, SUPPORTIVE role in those efforts. One significant way in which the federal government can foster widespread excellence in STEM education is by orienting federal agencies to expand their efforts to foster capacity building amongst state and local community-based STEM organizations – which the 2018 STEM strategic plan termed “STEM ecosystems.” We should employ an all-hands-on-deck strategy in STEM education that encompasses not just schools and classrooms, but also afterschool, summer, and informal learning programs. STEM learning in afterschool programs is now widespread with 82% of parents reporting that their child participates in a STEM program at least once a week. We also know that 72% of parents select programs based on STEM program availability and a large majority of parents are satisfied with the program offering. This highlights how STEM ecosystems, networks, coalitions, and other community-based organizations all contribute to STEM uptake and success in their unique ways.
- **Elevate Science Alongside Math and Reading as an Educational Priority:** A wide range of federal policies have established math and reading as the two main priority subjects, as

enshrined in legislation, agency priorities, rules and regulations, and reporting requirements. It is imperative that you elevate science to a similar priority as math and reading to ensure young people are not left behind in the modern world. Such a priority will expand the focus of schools on problem-solving, critical thinking, and rational decision making – all skills essential to a world class workforce.

- **Revitalize at the National Defense Education Act:** The National Science Board and a growing chorus of other august advisory bodies have suggested a fresh look at the policies embodied in the 1958 National Defense Education Act. This landmark law paved the way for millions of Americans to embark on science and math teaching careers and enter into science and technology careers. The White House should convene a working group to explore a refreshed proposal for NDEA.
- **Promote Apprenticeships, Mentorships, and Early Career Opportunities for STEM Professionals:** Expanding mentorships, apprenticeships and other early career opportunities in STEM fields would involve partnerships between schools, industries, and community organizations to create opportunities for students to gain hands-on experience, develop critical skills, and explore career pathways.

Immediate Executive Actions the Administration Can Take to Advance STEM Education

- Appoint a highly qualified Assistant Director for STEM Education in the White House Office of Science and Technology Policy
- Ensure that each federal agency operating federal STEM education programs is adequately staffed with STEM policy professionals.
- Operate the National Science and Technology Council Committee on STEM Education (CoSTEM) and the Federal Coordination Committee in STEM Education (FC-STEM) in a transparent manner that included ample and frequent opportunities for input and feedback from STEM community stakeholders.
- Utilize the White House as a host site for major events honoring and recognizing STEM professionals and STEM educators. Examples of this include the White House Science Fair and the Presidential Award for Excellence in Mathematics and Science Teaching (which has not been held at the White House since 2019).
- Prioritize federal funding for STEM education in your Administration's Budget Requests to Congress.
- Issue guidance to federal agencies directing them to prioritize STEM education within their competitive grant priorities.

- Ensure the prompt appointment of high-qualified STEM professionals to appropriate federal advisory committees.
- Utilize the communication tools of federal agencies and the White House to recognize successful examples of state, local, and community-based programs focused on STEM education.
- Work with Congress and the STEM community to review and improve the process of generating the periodically developed Federal STEM Strategic Plan.
- Leverage the momentum of CHIPS and Science Act investments, holding regularly scheduled convenings with industry and education/workforce stakeholders to discuss continued implementation and highlight best practices.

Why is STEM Education Important?

- 20 percent of all jobs require a high level of knowledge in any one STEM field and STEM workers earn 24 percent higher wages on average compared with their same-degree counterparts in other jobs.ⁱⁱ
- Among those with some college education, the typical full-time, year-round STEM worker earns \$54,745 while a similarly educated non-STEM worker earns \$40,505, or 26% less.ⁱⁱⁱ
- The U.S. will need to fill about 3.5 million jobs by 2025, but 2 million may be unfilled due to a skills gap.^{iv}
- STEM jobs are projected to grow 10.4% between 2023 and 2033, compared to 3.6% in non-STEM jobs.^v .^{vi}
- The top 3 highest paying college majors in the US are STEM fields: electrical engineering, computer science, and mechanical engineering.^{vii}
- The US placed 34th of 80 countries in math, and 16th in science on the Programme for International Student Assessment (PISA)^{viii}.
- 60% of public high schools offer at least one foundational computer science course, however, the percentage of high school graduates meeting the ACT readiness benchmark dropped from 19% to 16% in STEM (combined mathematics and science performance) in 2021-2022.^{vi}
- Only 20% of high school graduates are prepared for college-level coursework in STEM majors.^{ix}
- Roughly 50% of students in a STEM bachelor's degree program fail to earn these degrees 4 to 6 years after their initial enrollment.^x

In conclusion, as the second Trump Administration looks to engage a new generation in the economy, it is critical to recognize that young people think differently and may have different motivations compared to prior generations. It will be important to leverage and build on ongoing efforts to engage more young people to ensure that youth perspectives are invited and included so that young people are excited and drawn to these fields and professions.

It is noteworthy that members of Gen Z who have more hands-on and contextualized opportunities for learning and adults encouraging them to pursue their goals and dreams are more than twice as likely as those without to strongly agree they have a great future ahead (51% versus 23%) and will reach their goals (49% versus 23%).

The Federal Government has an important role to play in setting up the conditions for local innovations in education that will support all young people to have high-quality STEM learning opportunities both in and out of school. We look forward to working with you to make this vision a reality.

ⁱ <https://trumpwhitehouse.archives.gov/presidential-actions/presidential-memorandum-secretary-education/>

ⁱⁱ [7 facts about the STEM workforce. 17.3 million Americans work in the... | by Pew Research Center | Medium](#)

ⁱⁱⁱ <https://www.pewsocialtrends.org/2018/01/09/diversity-in-the-stem-workforce-varies-widely-across-jobs/>

^{iv} <https://www.emerson.com/en-us/news/corporate/2018-stem-survey>

^v [New report reveals state of afterschool STEM learning opportunities](#)

^{vi} Change the Equation. STEM Help Wanted. Retrieved from <http://changetheequation.org/stemdemand>

^{vii} <https://www.census.gov/newsroom/press-releases/2023/field-of-degree-earnings.html#:~:text=People%20with%20degrees%20in%20computer,earnings%20of%20less%20than%20%2460%2C000.>

^{viii} [The Ultimate List of STEM Statistics 2025 | 75+ STEM Education Stats](#)

^{ix} [Increasing access and opportunity in STEM crucial, say experts — Harvard Gazette](#)

^x <https://nap.nationalacademies.org/catalog/21739/barriers-and-opportunities-for-2-year-and-4-year-stem-degrees>