

STEM Education and Research: Why Funding Matters

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The current federal administration has proposed a budget for the 2026 fiscal year that would be utterly detrimental to scientific research. This proposal includes, but is not limited to, cutting the Centers for Disease Control and Prevention (CDC) budget by \$4.3 billion, slashing the National Institute of Health (NIH) budget by about \$18 billion, and cutting global health programs by about \$6.2 billion (Cohen et al. 2025). Furthermore, as of May 7 of this year, the National Science Foundation (NSF) grants for STEM education have been cut by about \$773 million (Miller 2025). Beyond the obvious ramifications for individuals in STEM fields, these budget cuts will likely create a significant ripple effect worldwide. STEM education and research are key components to a flourishing society, and therefore, any cuts in these areas will certainly hinder societal advancement and risk global health.

It is undeniable that society would not be where it is today without the work of STEM researchers. Every piece of technology we own and every medical advancement we have ever seen can be attributed to STEM research. As shown in Figure 1 (National Science Board & NCSES 2024), there is a wide distribution of occupations and specific concentrations within the STEM workforce. STEM careers are way more extensive than simply observing chemical reactions or looking at cells under a microscope. These jobs are consistently evolving to meet the demands of our growing society. For instance, the prevalence of artificial intelligence (AI) has hit an all time high. AI research is a rapidly growing field at this time, and has already begun to transform schools and workplaces. While it is important to be wary of the potential ramifications of AI technology, no doubt, continued AI research could transform society beyond our wildest imaginations.

Another example of crucial STEM research at this time is climate change research. 2024 was the warmest year on record so far, with Earth's temperature having risen about 2 degrees Fahrenheit since 1850 (Lindsey & Dahlman 2025). Undoubtedly, research in this field is crucial to the survival of our planet. Climate change and AI research, along with countless other fields, will determine what the future holds for humankind. To minimize the significance of this research would be downright foolish and detrimental to our planet.

Of course, there would be no scientists, technologists, engineers, or mathematicians without the process of being inspired, learning STEM fundamentals, and training to succeed in their work. STEM education as a whole offers students the opportunity to develop a unique set of skills, with each discipline offering its own benefits. For example, "The ideas of physics incorporate experiments, mathematics, logic, and philosophy," says Dr. Michael Kash, an esteemed physics professor here at Lake Forest College. In general, critical thinking skills needed in every aspect of our lives are primarily developed through STEM education. There is also an interdependency between STEM education and digital literacy, a crucial skill given that children interact with 21st-century technology every day (Govender 2025).

While all of these skills are valuable, the most important thing a STEM education can offer is a deeper understanding of the world around us. To understand things as simple as why little condensation droplets form on our cups, how connecting two wires can create electricity, or why we need food and water to survive allows us to connect and engage with the world around us. Without this knowledge, we would be walking around confused, with little understanding as to how we even exist. Our understanding of these concepts stems from math and science classes as children and allows us to grow into functioning, knowledgeable adults, whether we are in the STEM field or not.

For many individuals, however, this increased understanding of the world does more than that. It ignites a spark, and inspires them

to pursue a career in STEM. This is the primary reason why societal development would come to a complete halt without the continuation of STEM education. Sure, no one would have the foundation of knowledge required to develop new technology or medication. However, more importantly, no one would have the passion to do so. "Teaching science early and helping young minds understand its fundamental and critical value is the responsibility of all cultures and nations since our future is in their hands," says Dr. Shubhik DebBurman, a well-respected professor of biology, neuroscience, and biochemistry and molecular biology here at Lake Forest College. "Disregarding, minimizing, or misusing it can cause serious harm to the progress of humankind and hamper our efforts to keep our fragile physical environment and our living world safe."

So, why aren't STEM research and education being prioritized? There are many misconceptions about the absolutely vital role of STEM in our everyday lives. We see headlines related to science in the news every day, such as that vaccines cause autism, or that federal funding is being spent on "making mice transgender." Clearly, there is a lack of understanding of scientific research. This lack of understanding, however, could put the world in immense danger. "We may be in an era where people who study a subject deeply enough to become experts ignore experts," says Kash. Efforts to combat climate change, mental health research, future medical developments such as a cure for cancer, and so much more are all being jeopardized by recent and future funding cuts. To combat this issue, it is crucial to continue advocating for STEM funding in every possible way. Furthermore, particularly in a democratic nation, we need to focus on electing leaders who will support, emphasize, and adequately fund scientific efforts. "Favoring shorter-term political advantage or economic greed over longer-term safety of human society and our fragile planet is something we all need to be wary of," says DebBurman. At the end of the day, without proper funding for STEM education and research, the world as we know it will change for the worse.

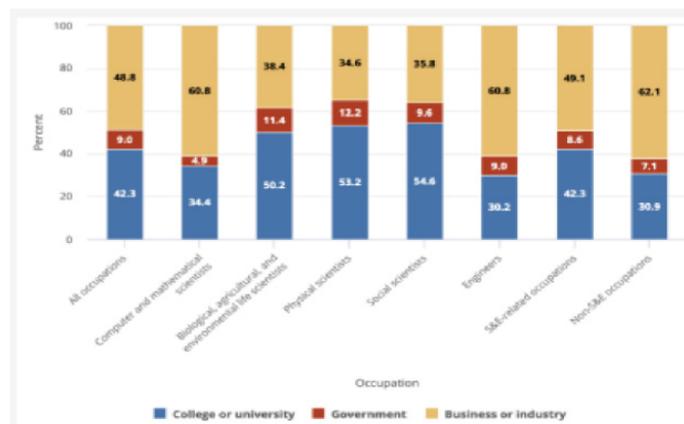


Figure 1. Fields of employment for doctoral recipients are distributed across various STEM fields—source: NCSES, Science and Engineering Indicators 2024.

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