

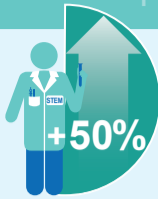
Building a 21st Century Workforce

To Develop Tomorrow's New Treatments and Cures

STEM Jobs of Value to U.S. Economy

...while only about five percent of the U.S. workforce is employed in STEM fields, the STEM workforce accounts for more than fifty percent of the nation's sustained economic growth.

—U.S. Department of Labor

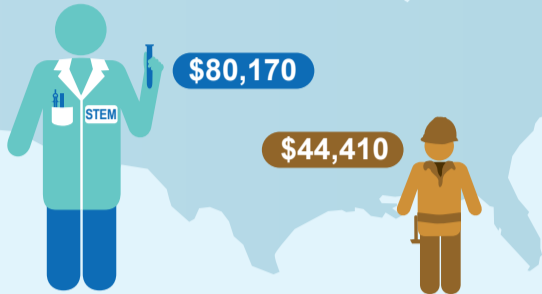


U.S. Biopharmaceutical Industry Key Generator of STEM Jobs

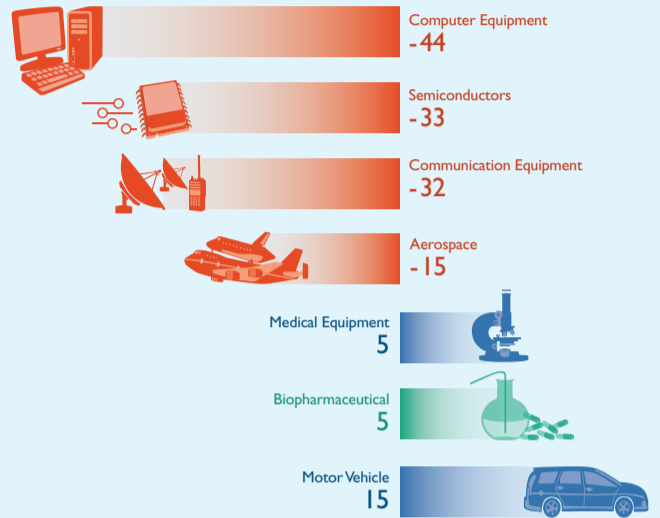
The biopharmaceutical industry directly employs 650,000 employees and supports a total of 4 million jobs across the U.S. economy.

STEM Jobs Offer High Wages

The average earnings for science and engineering (S&E) workers is nearly twice as high as that of all U.S. workers.



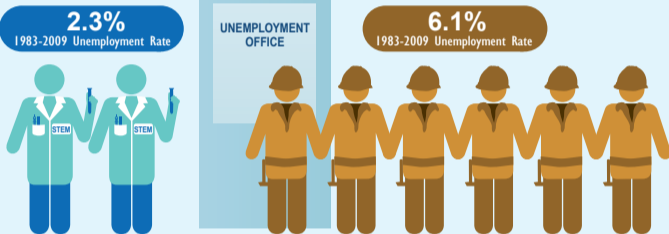
U.S. Biopharmaceuticals Rare Source of High-tech Job Growth by 2020 in STEM-Related Manufacturing



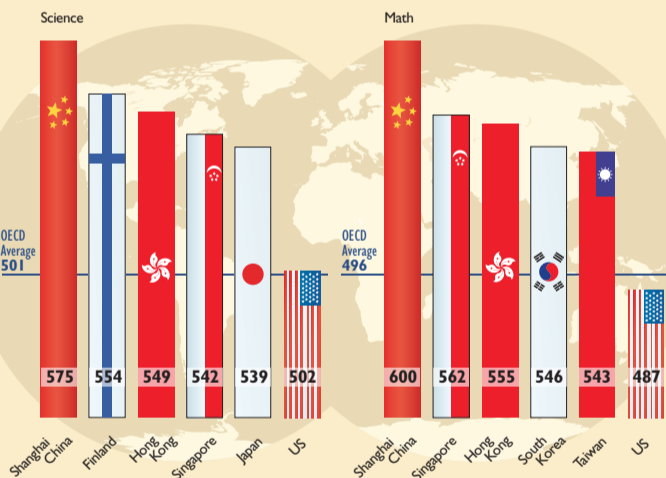
Projected Change in Employment in Select High-tech Manufacturing Sectors from 2010-2020 (Thousands)

STEM Jobs Provide Stable Employment, Less Joblessness

Science and engineering workers experience less joblessness than all U.S. workers.



U.S. High School Students Not Globally Competitive in Science and Math



U.S. students achieve average science scores & below average math scores on 2009 Program for International Student Assessment (PISA).

"STEM education will determine whether the United States will remain a leader among nations and whether we will be able to solve immense challenges..."

—President's Council of Advisors on Science and Technology

U.S. STEM Education Pipeline in State of Crisis

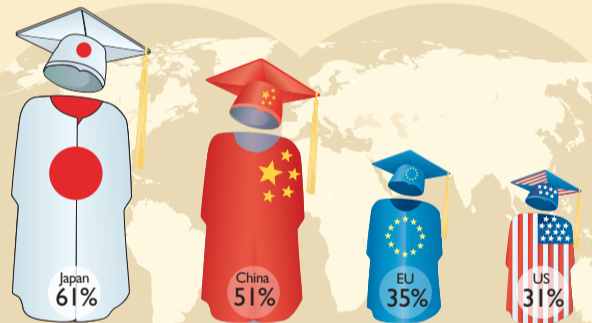
U.S. economic future depends upon improving pipeline into STEM fields

—U.S. Department of Labor

Lack of coordination and substantial overlap in federally funded STEM education programs

—Government Accountability Office Study

Japan, China Lead in STEM Degrees



Japan & China have nearly twice the U.S. rate of bachelors degrees in science and engineering. Once a leader in STEM education, the U.S. now ranks 20th among all nations in proportion of 24-year-olds who earn degrees in science or engineering.

—Congressional Research Service

STEM Education Critical for U.S. Economic Growth

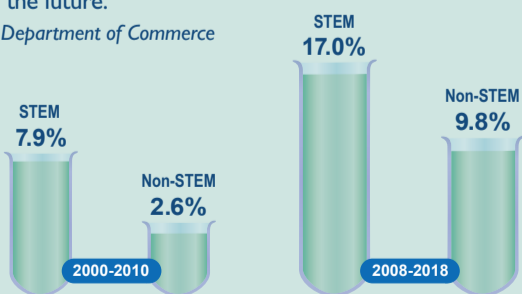
"The U.S. is now putting its future at risk by forfeiting its historical strengths in STEM education. The proportion of STEM degrees among all college graduates has been falling in the past decade. Without action, it is likely that this proportion will continue to drop."

—President's Council of Advisors on Science and Technology

STEM Jobs to Grow at Higher Rates than Non-STEM Jobs

[STEM] workers play a key role in the sustained growth and stability of the U.S. economy, and are a critical component to helping the U.S. win the future.

—U.S. Department of Commerce



Shortage of STEM Workers Key Concern for U.S. Industries

- U.S. needs to produce 1 million additional STEM graduates over the next decade to maintain its position as the world's leader in science and technology innovation.
- 55% of company executives already experiencing shortage of STEM workers.
- 95% of surveyed Fortune 1000 executives concerned U.S. is losing global leadership position due to lack of STEM talent.

1 • U.S. Department of Labor, "The STEM Workforce Challenge: The Role of the Public Workforce System in a National Solution for a Competitive Science, Technology, Engineering, and Mathematics (STEM) Workforce," April 2007. 2 • Battelle Technology Partnership Practice, "The U.S. Biopharmaceuticals Sector: Economic Contribution to the Nation," July 2011. 3 • National Science Board, "Science and Engineering Indicators 2012," National Science Foundation, 2012. 4 • PhRMA analysis of Bureau of Labor Statistics, Employment and Output by Industry (2012). 5 • National Science Board, "Science and Engineering Indicators 2012," National Science Foundation, 2012. 6 • U.S. Department of Labor, "The STEM Workforce Challenge: The Role of the Public Workforce System in a National Solution for a Competitive Science, Technology, Engineering, and Mathematics (STEM) Workforce," April 2007. • Government Accountability Office, 2012 Annual Report, "Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue," GAO-12-342SP, Feb 28, 2012. 7 • Organisation for Economic Cooperation and Development, "Programme for International Student Assessment," 2009. • President's Council of Advisors on Science and Technology, "Prepare and Inspire: K-12 Education in Science, Technology, Education, and Math (STEM) for America's Future," 2010. 8 • National Science Board, "Science and Engineering Indicators 2012," 2012. • J. J. Kuenzi, "Science, Technology, Engineering, and Mathematics (STEM) Education: Background, Policy, and Legislative Action," Congressional Research Service, March 2008. 9 • President's Council of Advisors on Science and Technology, "Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics," February 2012. 10 • Economic and Statistics Administration, "STEM: Good Jobs Now and for the Future," U.S. Department of Commerce, July 2011. 11 • President's Council of Advisors on Science and Technology, "Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics," February 2012. (citation for first bullet point) • Bayer Corporation, "Bayer Facts of Science Education Survey XIII," 2008. (citation for second and third bullet points)