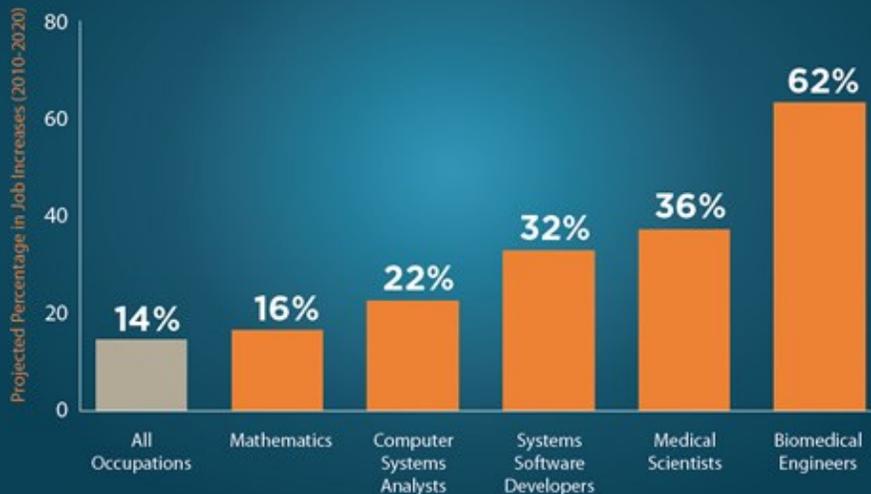


PROJECTED PERCENTAGE INCREASES IN STEM JOBS: 2010-2020



Only 16 percent of American high school seniors are proficient in mathematics and interested in a STEM career. Even among those who do go on to pursue a college major in the STEM fields, only about half choose to work in a related career. The United States is falling behind internationally, ranking 25th in mathematics and 17th in science among industrialized nations. In our competitive global economy, this situation is unacceptable.

STEM Innovation Networks (\$110 million): This program will award grants to school districts in partnership with colleges, and other regional partners to transform STEM teaching and learning by accelerating the adoption of practices in P-12 education that help to increase the number students who seek out and are well-prepared for postsecondary education and careers in STEM fields.

- STEM knowledge and skills are in even greater demand as the United States confronts a fiercely competitive international marketplace where the advantage goes to companies that are the first to invent and produce innovative products. From 2000 to 2010, the growth in STEM jobs was three times greater than that of non-STEM jobs. (Economics and Statistics Administration. (2011). STEM: Good Jobs Now and for the Future. United States Department of Commerce, Washington, D.C.)
- The Department of Commerce estimates that in the coming years STEM occupations will grow 1.7 times faster than non-STEM occupations. (U.S. Department of Commerce (January, 2012). The competitiveness and innovative capacity of the United States. http://www.commerce.gov/sites/default/files/documents/2012/january/competes_010511_0.pdf.)
- Furthermore, Georgetown University's Center on Education and the Workforce projects that America will create 779,000 jobs between 2008 and 2018 that require a graduate degree in a STEM field but, based on current trends, only 550,000 native-born Americans will earn STEM graduate degrees during this period. (<http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/stem-complete.pdf>.)

The Stats:

- Only one in five high school graduates who scores in the top quartile in mathematics goes on to become a STEM professional. (Carnevale, A.P., Smith, Nicole, and Melton, M. STEM. 2011. Georgetown University, Washington, D.C. <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/STEMWEBINAR.pdf>)
- Fewer than 40 percent of students who enter college intending to major in a STEM field complete a STEM degree. (PCAST President's Council of Advisors on Science and Technology. (February 2012). Report to the President: Engage to excel: Producing one-million additional college graduates with degrees in science, technology, engineering, and mathematics. http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_2-25-12.pdf)
- Only 19 percent of U.S. bachelor's degrees are awarded in STEM fields, while in China over 50 percent of first degrees are awarded in STEM fields. (<http://www.nsf.gov/statistics/seind12/pdf/c02.pdf>)
- Underrepresented minorities in STEM now account for almost 40 percent of K-12 students in the U.S.; however, they earn only 27 percent of all associate's degrees from community colleges, 17 percent of the bachelor's degrees in the natural sciences and engineering, and 6.6 percent of the doctorates in those fields. (National Research Council and National Academy of Engineering. Community Colleges in the Evolving STEM Education Landscape: Summary of a Summit. 2012. Washington, DC: The National Academies Press. –and- National Center for Education Statistics. (2011). (Table Illustration Digest of Education Statistics May 3, 2013). Number of persons age 18 and over, by highest level of educational attainment, sex, race/ethnicity, and age:2011. Retrieved from http://nces.ed.gov/programs/digest/d11/tables/dt11_009.asp.)
- Roughly 30 percent of chemistry and physics teachers in public high schools did not major in these fields and have not earned a certificate to teach those subjects. (<http://nces.ed.gov/pubs2011/2011317.pdf>)
- Women make up nearly 50 percent of the U.S. workforce and a majority of college students, but hold less than 25 percent of STEM jobs and earn less than one in five bachelor's degrees in high growth fields like computer science and engineering. (Division of Science Resources Statistics. Women, Minorities, and Persons with Disabilities in Science and Engineering: 2011. Special Report NSF 11-309. Arlington, VA. –and- http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_2-25-12.pdf)



Office of Science and Technology Policy



National Science Foundation
WHERE DISCOVERIES BEGIN



Smithsonian
SERIOUSLY AMAZING®