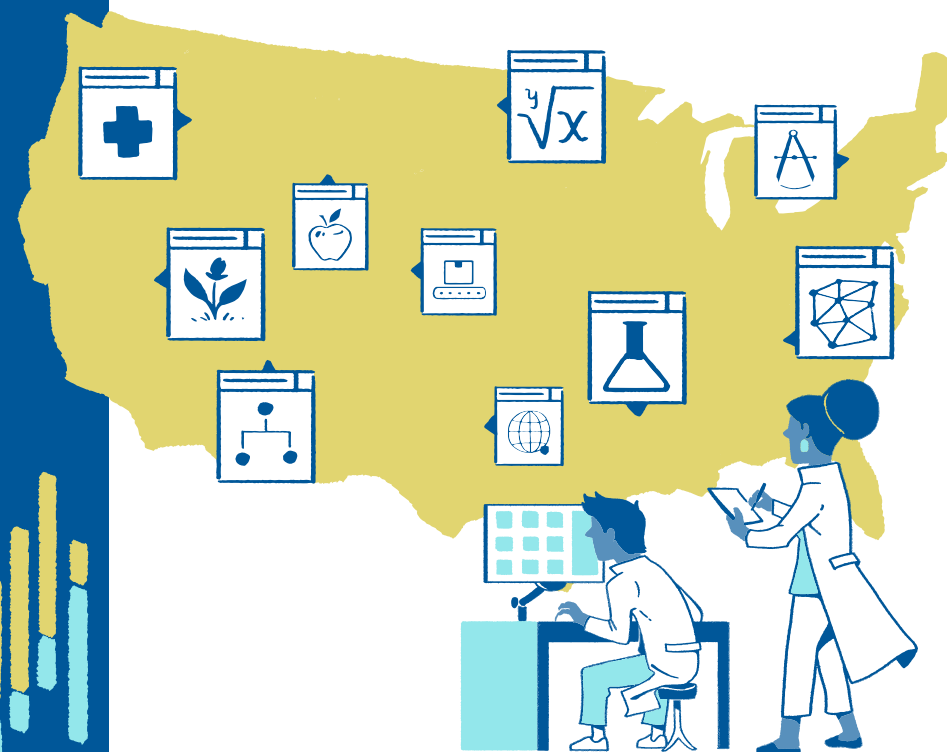


WORKFORCE STATISTICS



The STEM Workforce of the United States

The U.S. science, technology, engineering, and mathematics (STEM) workforce fuels innovation and provides important contributions to the nation. This workforce is comprised of a robust and widely diverse group of individuals that is constantly growing and evolving. The National Center for Science and Engineering Statistics (NCSES) has a rigorous process for tracking and interpreting workforce data, and the Center publishes findings several times throughout the year.

To provide the most accurate depiction of this group, NCSES in partnership with the National Science Board, has updated its traditional STEM workforce definition to include individuals in STEM occupations with less than a bachelor's degree. The types of STEM occupations have also expanded to include those that historically did not require STEM skills and expertise, owing to technological advancements in many areas of our economy.



NEW

STEM Workforce Definition

The STEM workforce is made up of individuals at all education levels who work in science and engineering (S&E), S&E-related, and middle-skill occupations.


S&E Occupations

As a subset of STEM occupations, S&E occupations typically **require a bachelor's degree** for entry and are broadly comprised of workers who are

-  Computer and mathematical scientists
-  Life scientists
-  Physical scientists
-  Social scientists
-  Engineers





S&E-Related Occupations

S&E-related occupations **require STEM skills and expertise, but they do not fall into the five main S&E categories.** The main occupational categories and positions that make up this group include

-  Health
-  S&E managers
-  S&E precollege teachers
-  Technologists and technicians

Middle-Skill Occupations

Middle-skill occupations **require significant STEM skills and expertise but do not typically require a bachelor's degree** for entry. These positions are primarily in the areas of

-  Construction trades
-  Installation
-  Maintenance
-  Production



National Center for Science and Engineering Statistics (NCSES)

For more information about NCSES's products and data collection process, visit <https://ncses.nsf.gov> or explore the full STEM workforce report at <https://ncses.nsf.gov/pubs/nsb20212> for additional statistics and data. Join the conversation and connect with us on Twitter at [@NCSESGov](https://twitter.com/NCSESGov) or post a question and collaborate about STEM data at the Inter-university Consortium for Political and Social Research's Partnership for Expanding Education Research in STEM NCSES forum <https://peersforum.icpsr.umich.edu/forums/forum/ncses-forum/>.

The Skilled Technical Workforce

The skilled technical workforce (STW) is comprised of workers in S&E, S&E-related, and middle-skill occupations that require a high-level of knowledge in a technical domain but do not require a bachelor's degree. Popular occupations include



S&E Occupations

- Computer support specialists
- Industrial engineers, including health and safety

S&E-Related Occupations

- Licensed nurses
- Pharmacy technicians

Middle-Skill Occupations

- Carpenters
- Electricians

Within this expanded STEM workforce framework, 55% of STEM workers do not have a bachelor's degree and most of these workers work in middle-skill and S&E-related occupations.

STEM Workforce with at Least a Bachelor's Degree

The STEM workforce includes individuals who have attained a bachelor's degree or higher and who work in an S&E, S&E-related, or middle-skill occupation. Among these individuals, the most popular occupations include



S&E Occupations

- Engineers
- Software developers

S&E-Related Occupations

- Physicians
- Registered nurses

Middle-Skill Occupations

- Industrial production managers
- Farmers, ranchers, and other agricultural managers

Among those in the STEM workforce with a bachelor's degree or higher, most work in S&E-related occupations (48%) and S&E occupations (40%), with the remaining working in middle-skill occupations (12%).

Fast Facts



In 2019, there were approximately **36 million** STEM workers, including the STW, representing **23%** of the total U.S. workforce.



STEM workers had higher median earnings (**\$55,000**) than non-STEM workers (**\$33,000**) in 2019.



At all education levels, the STEM labor force experienced lower unemployment rates compared with their non-STEM counterparts. Unemployment rates declined for all broadly defined occupational groups by 2019, but they were the lowest for the STEM labor force, at **2.2%**.

These fast facts are representative of the latest data on the STEM workforce, as reported by NCSES in the National Science Board's report *The STEM Labor Force of Today: Scientists, Engineers, and Skilled Technical Workers*. This report provides information on workers with a bachelor's degree or higher in S&E and S&E-related occupations, while also offering insight on middle-skill occupations and the STW when possible.

Anticipated STW Data

Forecasted for winter 2023, supplementary data on the STW will be made available through the new National Training, Education, and Workforce Survey (NTEWS). The NTEWS seeks to gather insights on the education, training, and career pathways of the STW while exploring how education, work credentials, and work experience programs serve U.S. workers.

Learn more about NCSES's additional efforts to describe, understand, and measure the STW by visiting <https://www.nsf.gov/statistics/stw/skilled-technical-workforce.cfm>.



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