

Diversity and STEM

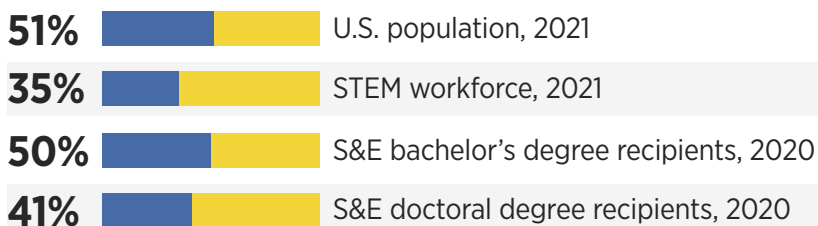
Women, Minorities, and Persons with Disabilities

2023

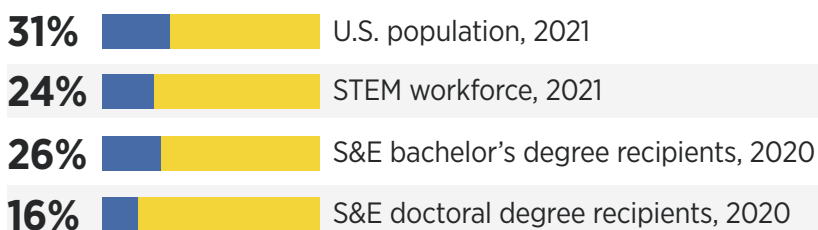
Diversity and STEM: Women, Minorities, and Persons with Disabilities 2023 is the federal government's most comprehensive collection of data on diversity trends in science, technology, engineering, and mathematics (STEM). This document presents key findings from *Diversity and STEM* on STEM employment and science and engineering (S&E) education in the United States.

The report in its entirety is available at <https://nces.nsf.gov/wmpd>.

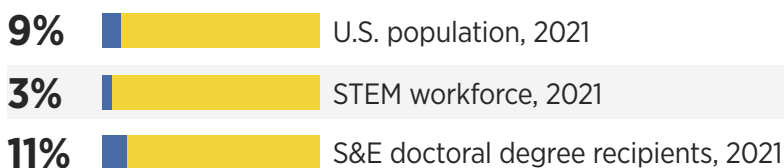
Women



Underrepresented minorities



Persons with disabilities



Sources: Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2021; National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey, 2020; and National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2021.



- Nearly a quarter (**24%**) of the U.S. workforce—34.9 million people ages 18 to 74—was employed in STEM occupations in 2021.
- The STEM workforce grew by **20%** between 2011 and 2021.
- STEM workers have higher median earnings and lower unemployment rates than non-STEM workers.
- The number of S&E degrees awarded is growing over time, as is the number of students enrolled in S&E graduate programs.



National Center for Science and Engineering Statistics

Measuring America's Progress in Science, Technology, and Innovation

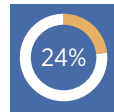
NCSES 23-205

Diversity and the STEM workforce

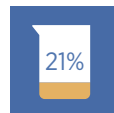
While men and Whites make up the largest share, the STEM workforce has been gradually diversifying, with increasing representation of women and underrepresented minorities.



Fewer women than men work in STEM occupations, but their employment in these jobs grew at a faster rate. Between 2011 and 2021, the number of women in the STEM workforce increased **31%**, relative to a **15%** increase in the number of men.



Underrepresented minorities made up nearly a quarter (**24%**) of the STEM workforce in 2021, up from **18%** in 2011.



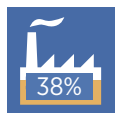
Among workers with at least one disability, **21%** worked in STEM occupations in 2021, and **3%** of the STEM workforce were persons with disabilities.



Underrepresented minorities: Persons from racial or ethnic groups whose representation in STEM employment and S&E education is smaller than their representation in the U.S. population. This includes Hispanics or Latinos, Blacks or African Americans, and American Indians or Alaska Natives.

Types of STEM work

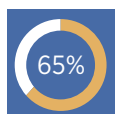
The STEM workforce is made up of individuals at all education levels who work in S&E, S&E-related, and middle-skill occupations.



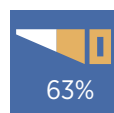
In 2021, **38%** of the STEM workforce worked in middle-skill occupations, **37%** in S&E-related occupations, and **25%** in S&E occupations.



Collectively, Hispanic, Black, and American Indian or Alaska Native STEM workers represented about **16%** of S&E occupations, **20%** of S&E-related occupations, and **33%** of middle-skill occupations in 2021.



Women dominated S&E-related occupations: nearly two-thirds (**65%**) of workers in S&E-related occupations in 2021 were women, accounting for **68%** of women in STEM.



Nearly two-thirds (**63%**) of Hispanics with STEM jobs worked in middle-skill occupations in 2021, and Hispanics made up **24%** of all U.S. middle-skill workers.



S&E occupations: Typically require a bachelor's degree for entry and employ workers in five broad occupation categories—computer and mathematical scientists; biological, agricultural, and environmental life scientists; physical scientists; social scientists; and engineers.



S&E-related occupations: Require STEM skills and expertise but do not fall into the five primary S&E occupational categories. They primarily include health-related occupations, S&E managers, S&E precollege teachers, and technologists and technicians.



Middle-skill occupations: Require significant STEM skills and expertise but do not typically require a bachelor's degree. These positions are primarily in the areas of construction; installation, maintenance, and repair; and production.

Diversity and S&E higher education

The gap between men and women in S&E graduate enrollment is shrinking; however, representation of women varies greatly among the S&E fields of study. The number and share of S&E degrees earned by underrepresented minorities increased at all degree levels over the past decade, although this trend is more pronounced at lower degree levels than at the graduate degree levels.



The number of S&E degrees earned by women increased at all degree levels between 2011 and 2020, with greatest proportional growth at the associate's degree level, where S&E degrees earned by women increased by **63%**.



In 2020, women earned half of S&E associate's (**49%**) and S&E bachelor's (**50%**) degrees and lower shares of advanced S&E degrees (**46%** of S&E master's degrees and **41%** of S&E doctoral degrees).



Among bachelor's degree recipients, women had the highest representation in social and behavior sciences (**66%**) and the lowest representation in mathematics and computer sciences (**26%**) and engineering (**24%**) in 2020.



The proportion of S&E degrees earned by underrepresented minorities increased at all degree levels between 2011 and 2020.



S&E associate's degrees earned by Hispanic students more than tripled, from 10,000 in 2011 to 33,000 in 2020, accounting for virtually all of the increase in S&E associate's degrees earned by underrepresented minorities.



In 2021, Hispanic and Black students were underrepresented to a greater extent among S&E doctoral students than among S&E master's students.



During the COVID-19 pandemic, S&E graduate enrollment of women and underrepresented minorities increased each year from 2019 to 2021.



Among S&E doctorate recipients in 2021, individuals earning degrees in psychology and social sciences had the highest disability rate (**13%**), whereas those in engineering had the lowest rate (**8%**).



Among S&E doctorate recipients in 2021, **11%** reported having at least one disability.

About this report

Every 2 years, the National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation (NSF) publishes *Diversity and STEM* to assess the current standing of women, minorities, and persons with disabilities in STEM employment and S&E education. The analyses presented are relevant to policymakers, program managers, and researchers interested in diversity and the representation of these groups in the U.S. science and engineering enterprise. NSF reporting on this topic is mandated by the Science and Engineering Equal Opportunities Act (Public Law 96-516).

Data sources

Diversity and STEM highlights key statistics drawn from surveys conducted by NCSES, the Census Bureau, and the National Center for Education Statistics. For more information on these data sources, see <https://nces.nsf.gov/pubs/nsf23315/technical-notes>.

For more information

To access the entire *Diversity and STEM* report, see <https://nces.nsf.gov/wmpd>.



National Center for Science and Engineering Statistics

For more information about NCSES's products and data collection process, visit <https://nces.nsf.gov>.
NCSES is on Twitter! Join the conversation and connect with us at [@NCSESGov](https://twitter.com/NCSESGov).