

# Financial Resources and Programs for Women in STEM



The STEM world is shifting fast, and women are playing an increasingly vital role, even though they remain underrepresented in many fields. Access to education, scholarships, mentorship, and leadership opportunities still lags behind, creating significant barriers to entry and advancement. However, understanding the scope of the problems and learning about the resources that can help to break down these barriers can be key steps in working toward a more inclusive and innovative future.

## Degree Trends for Women in STEM

Women's representation in STEM fields has improved over the past decade, but there's still a long way to go. Of the women who do choose to pursue a degree in a STEM-related field, the most popular choices are the biological sciences, engineering, computer science, and math. Bioscience degrees are by far the most common: Women actually earn nearly 60% of all degrees awarded in this field. Meanwhile, the number of women pursuing a computer science degree has been falling precipitously, dropping nearly 80% in the first decade of this century. And of those who do complete their degree and get a job in technology, more than half end up leaving the field; not only is computer science not attracting women, but it can't keep them, either.

Mathematics and engineering have similar problems. More than 40% of math majors are women, but few of them go into high-paying STEM jobs; most end up teaching math instead. And women only make up around 20% of engineering majors, but that's still higher than the 11% who actually get jobs as engineers. Surveys have shown that while some women just lose interest in engineering as a career, many cite issues with the workplace culture in this field as a factor in their departure.

- How Women in STEM Have Changed the World: A lack of role models in STEM careers can keep girls and women from seeing themselves in these jobs, but trailblazing women have helped to

pave the way.

- **Cracking the Code: Girls' and Women's Education in STEM:** This UNESCO publication takes a deep look at the inequalities in STEM, why they exist, and how these factors can be addressed.
- **The Importance of Mentorship and Community:** Mentoring can help to address the so-called "leaky pipeline" issue, in which obstacles to advancement lead women to abandon STEM careers.
- **STEM Statistics in Higher Education:** While women frequently major in social or biological sciences, far fewer choose to pursue degrees in engineering and technology.
- **Why Women Are Essential in STEM:** Having contributions from diverse viewpoints and experiences is crucial to innovation.
- **Repairing the Broken Rung on the Career Ladder for Women in Technical Roles:** Women with careers in technical fields get promoted more slowly than men, but having more women in leadership roles improves companies' performance.
- **The Hidden STEM Gender Gap: Why Progress at Top Universities Masks a Growing Crisis:** While colleges with the highest-achieving students have made great strides toward closing the STEM gender gap, the same isn't true of other schools.
- **STEM Jobs See Uneven Progress in Increasing Gender, Racial, and Ethnic Diversity:** Women who go into STEM fields are more likely to pursue health-related careers than jobs in engineering

or computer science.

- **Most Female STEM Graduate Students Experience Imposter Syndrome:** Research has found that almost all women in STEM programs have experienced feeling like a fraud, an experience likely to be exacerbated by gender-based stereotypes and a lack of female role models.
- **Integrating STEM Majors Won't End Gender Segregation at Work:** A Cornell study found that while encouraging more women to earn STEM degrees can shrink the gender gap, many of the factors that drive women out of these fields arise after college.

## Top 10 Emerging STEM Fields for Women

As technology advances, new STEM fields constantly emerge and grow, presenting exciting opportunities for women to thrive. Some of the fastest-growing areas are particularly well-positioned to attract more women, including interdisciplinary fields that combine STEM skills with human-focused applications. Examples include:

- **Bioinformatics:** Combining biology, computer science, and statistics to analyze biological data
- **Renewable Energy Engineering:** Designing and implementing sustainable energy solutions
- **Data Science and Analytics:** Extracting insights from large datasets to inform decisions

- **Robotics and Artificial Intelligence (AI):** Developing intelligent machines and systems
- **Cybersecurity:** Protecting digital systems and networks from threats
- **Materials Science:** Creating new materials with unique properties
- **Environmental Science and Sustainability:** Addressing environmental challenges through scientific research and policy
- **Biomedical Engineering:** Applying engineering principles to health care and medicine
- **Geospatial Technology:** Analyzing geographic data for various applications
- **Human-Computer Interaction (HCI):** Designing user-friendly technology interfaces

## Organizations and Programs for Women in STEM

- **IEEE Women in Engineering:** IEEE was founded to bring together electrical engineers, and today, it connects engineers of all kinds, including women worldwide.
- **AnitaB.org:** Women in computing can find support from this nonprofit.
- **Girl Develop It:** This organization focuses on providing low-cost software development training for women and nonbinary people.

- Ada Developers Academy: Free training in computer programming is available from this organization named for Ada Lovelace, the world's first programmer.
- Million Women Mentors: Mentorship is key to helping women advance in STEM careers.
- Rewriting the Code: This nonprofit provides a supportive community for women in tech.
- Society of Women Engineers: For more than 70 years, the SWE has been advocating for and supporting women in engineering.
- AAUW: Advocacy and education are at the core of the mission for this group working toward equity for women at universities and beyond.
- Tech Ladies: More than 140,000 women are part of this organization aimed at supporting women in tech and helping them find job opportunities.
- Women in STEM: Created for high school students, WiSTEM aims to help teens engage with the sciences and bridge the gender gap.
- Women in Tech Global: This organization aims to empower women worldwide to gain tech skills and become leaders in STEM careers.
- WEPAN: Increasing women's success in engineering is among the primary goals of this nonprofit.

- Women Tech Council: Focused on mentoring and networking, this organization is working to encourage more inclusive work environments.

## Scholarships for Women in STEM

- MPOWER Women in STEM Scholarship
- Virginia Heinlein Memorial Scholarship
- BHW Scholarship
- Gertrude M. Cox Scholarship
- Association for Women Geoscientists Scholarships
- Alpha Omega Epsilon National Foundation Scholarships
- Zonta Women in STEM Award
- Learner Women in STEM Scholarship
- ISC2 Women's Cybersecurity Scholarships

## Additional Resources for Getting Girls and Women Involved in STEM

- STEM Like a Girl
- Girlstart After School Programs
- Science Club for Girls
- Girls Who Code

- Technovation

#### ABOUT THE AUTHOR



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