

Engaging and inspiring students to discover career pathways in STEM!



Classrooms are not the only places that kids learn, and academic learning is only part of the whole child development needed to help youth discover the interests and talents that lead to success in the classroom, career, and beyond. More than 80% of Texas students' time is spent learning outside of school. High-quality out of school time (OST), which includes afterschool, summer, and enrichment programs, provides hands-on learning opportunities that help kids develop critical life skills as well as nurturing mentor and peer relationships that accelerate academic learning and prepare youth for their futures.

OST is a critical component of the functioning ecosystem of support necessary for whole child development and whole communities. Community-based providers are essential, offering in-person care and learning, while also connecting families to critical services and resources, such as food, technology, and healthcare. Strong partnerships between schools and these community-based organizations are vital to our state's successful recovery and future.

[Women in STEM](#) (WiSTEM) provides hands-on, culturally relevant science, technology, engineering, and math (STEM) experiences to diverse groups of students, encouraging the pursuit of STEM majors and careers. Part of the University of Texas at Austin's Division of Diversity and Community Engagement, WiSTEM leads programs that strive to inspire, connect, and support students.

WiSTEM's mission and programming share the goals of the [Million Girls Moonshot](#)—to transform the pathways into engineering, the sciences, and advanced manufacturing and empower girls to envision themselves as future innovators. The Moonshot prioritizes four transformative practices including encouraging girls and marginalized youth to engage in STEM; promoting the development of an engineering mindset; exposing young people and their families to STEM professionals, mentors, and role models; and collaborating across organizations to create continuous STEM learning transitions and pathways.

Created in 2021 and building on existing programs and partnerships, WiSTEM became the home of their pre-college outreach and recruitment programs such as [STEM Girl Day at UT Austin](#) and a series of [high school summer camps and academies](#), which are designed to increase STEM identity, self-efficacy, and a sense of belonging. While camp participants are 80–90% high school-age girls, programming is open to everyone.



MILLION GIRLS MOONSHOT

Million Girls Moonshot Transformative Practices

Engineering Mindset

An engineering mindset refers to the attitudes and thinking skills associated with engineering—using a systematic engineering design process, considering real-world problems, applying math and science, and working in teams. The Moonshot focuses on 10 engineering practices.

[Learn more.](#)





"I think our camps are a good example of how to incorporate the Million Girls Moonshot practices," said Tricia Berry, Executive Director of WiSTEM. Summer camps and academies weave each of these practices together by providing the opportunity to explore STEM college majors and career paths, gain hands-on STEM experiences and career skills, connect with STEM role models, and learn about university resources and the admissions process.

WiSTEM's Consider Every Option (CEO) Day Camps are all day, in-person, and on-campus. Nine separate camps run over four weeks, with two or three camps each week. Programming is designed for participants to explore cross-sections of STEM disciplines and consider college majors with similar or overlapping career paths. Each day has a unique STEM focus, including Art and Fashion, Medical Technology, Robotics, High Tech and Computing, Electronics, Energy, Environmental Sustainability, Landmarks and Structures, and Air and Space. Camps include theme-specific tours, hands-on design challenges, and STEM role model panels and presentations, all designed to connect students to STEM majors and careers and inspire them to see themselves in and discover the many facets of STEM.

WiSTEM also offers two asynchronous Virtual Academies, the Summer Engineering Experience (SEE) and Summer STEM Learning Academy (SLA). The Academies began in 2020 as a response to COVID-19 restrictions and have since become an integral part of their summer programs. SEE and SLA are nine-week virtual camps, and each week presents different information. Campers receive weekly newsletters that pertain directly to that week's programming and participate in weekly FabFems Fridays role model webinars featuring alumni, current students, corporate partners, and community members sharing their STEM experiences and stories.



MILLION GIRLS MOONSHOT

Million Girls Moonshot Transformative Practices

Access to STEM


To improve the overall quality of out of school time STEM programs, it is essential to design and implement programming in a way that intentionally increases access to STEM for youth who have been underrepresented in the STEM fields. The Access to STEM Framework is a guide for supporting program providers in this transformation.

[Learn more.](#)

SEE immerses students in hands-on engineering design challenges, engaging role model sessions, and informative video content featuring engineering majors and career paths. Participants spend 1-3 hours per week on asynchronous camp activities and take part in two engineering design challenges—one per month. The camp culminates in a celebration where participants, along with their family members and teachers, showcase their design challenge projects through 2-3 minute videos.


SLA is designed for participants to explore STEM professional skills including mindfulness in design, design thinking, and presentation skills. Asynchronous camp activities generally take 2-4 hours per week and focus on developing key skills students need to transition successfully from high school to a STEM major in college and then into a STEM career. Campers earn four digital badges that advance STEM skills and can be added to a college resume. The first four weeks are focused on earning badges in Mindfulness, Design Thinking, and either Data Science or Emerging Tech. The last five weeks are dedicated to earning a Professional Skills badge, which focuses on key workforce skills and mindsets necessary for professional success like creating and delivering presentations; effective collaboration; communicating with impact; dealing with challenges; and problem-solving.

Central to the program's success is the integration of STEM role models into all the camps and academies. Participants meet, learn from, and often work with a variety of STEM professionals, academics, and students. These interactions expose campers to the variety of pathways that exist and give them real examples of how to achieve their goals. Additionally, collaboration with local businesses, community organizations like the Girl Scouts, and direct coordination with different departments and schools at UT Austin are fundamental to ensuring effective outreach to diverse communities, funding assistance, high-quality program development, and creating a community of support to help young people navigate the transition from high school to college to career.



**Million Girls Moonshot
Transformative Practices**

Role Models, Mentors, and Families
Engagement of role models, mentors, and families in a young person's STEM education leads to increased interest, greater self-confidence, and ultimately a stronger STEM identity. Exposure to women working and succeeding in STEM fosters the development of a science-related identity and increases the likelihood that students will work toward developing science literacy or even pursue a career in a science or STEM-related field.
[Learn more.](#)



Youth Demographics

Youth Served: 5–40 students per cam
179 unique participants
247 total participants

Demographics: 39% Asian
29% White
28% Hispanic
3% Black
1% Pacific Islander

88% She/Her
8% He/Him
2% They/Them
2% Other

85% Public school
9% Private school
4% Charter school
2% Home school/other





Million Girls Moonshot Transformative Practices

STEM Pathways and Transitions

Effective and impactful transitions and handoffs between educational and community partners must remove barriers for youth by connecting STEM learning across ages and settings, ensuring youth interest and motivation persists, especially for underrepresented groups like girls, youth of color, and youth from low-income families.

[Learn more.](#)

WiSTEM camps are an exploration, an opportunity to discover a career path that many young people don't see as an option or even know about. Embracing and integrating the transformative practices promoted by the Million Girls Moonshot, they provide hands-on STEM experiences, helping young people develop the skills and mindsets necessary to succeed and introducing them to engaging STEM role models who demonstrate and educate about pathways to a career. Each element of the programming works in conjunction with the others to create a vision and an understanding of the viability and importance of having women in STEM. For many, it is the first time they see themselves in STEM. In doing so, they begin to perceive new possibilities, different career paths, and a future as someone who truly belongs in STEM.

Berry is proud of the camps and in particular, the transformative opportunity to help young girls find their future. "One of the things we hear a lot from students is that kind of aha moment of 'I had no idea that with a degree in this, I could do this', or 'I didn't even know that this was a career possibility'."



Million Girls Moonshot in Action

STEM Girl Day at UT Austin is an award-winning program that provides K-8th graders an opportunity to explore STEM through grade-appropriate, hands-on activities hosted by scientists, engineers, astronomers, mathematicians, and other STEM enthusiasts from student organizations, research centers, corporate partners, and community organizations. It incorporates Introduce a Girl to Engineering Day, which is celebrated during Engineers Week each year.

Girl Day at UT Austin

“Day camp exposed me to the breadth of options for me in college and beyond, and the STEM role models helped me see myself in STEM fields.”

– CEO Robotics Camp Student



The Texas Partnership for Out of School Time (TXPOST) is a statewide intermediary whose mission is to convene, educate, and advocate to improve the quality and increase the availability of out of school time (OST) opportunities, like those offered by Women in STEM, for Texas youth. TXPOST works in partnership with vital local and regional organizations, which invest deeply in their own communities to offer professional development opportunities, engage in system-building work, advocate for the OST field, and support local programs.



The University of Texas at Austin
Women in STEM

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