The University of Texas at Austin National Center for STEM Education

Developing a modernized and career-connected U.S. STEM teacher workforce that will transform how students learn STEM and prepare them for the STEM careers of today and the future.

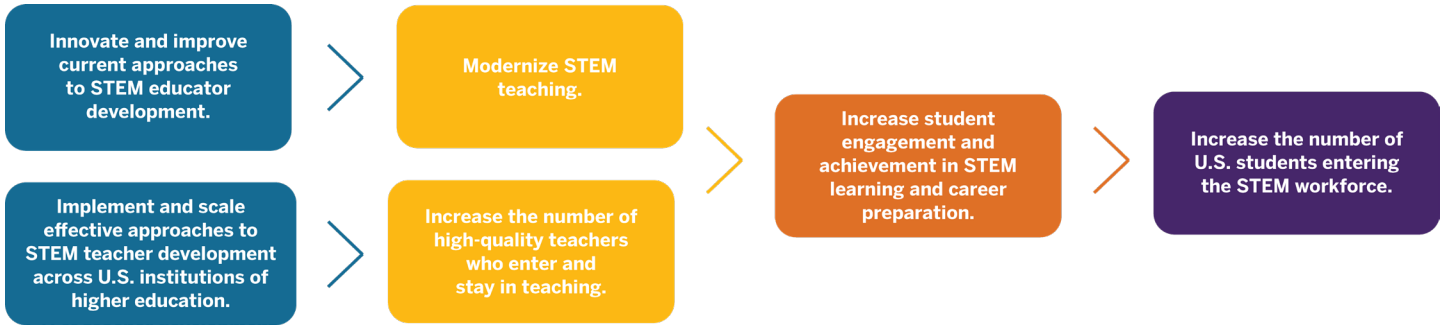
Building on two decades of work strengthening STEM teacher preparation across the U.S., the UTeach Institute at The University of Texas at Austin is launching an expanded scope of work as the National Center for STEM Education.

While opportunities across the U.S. STEM workforce continue to grow, the number of STEM-ready high school graduates has been dropping. A historical reliance on workers born abroad has buffered the worst impacts of declining preparedness. But with international pipelines at risk, restoring and then expanding the STEM talent pool has never been more critical.

Quality educators are key to remaking STEM learning and strengthening the future STEM workforce. This Center is dedicated to transforming STEM teaching and learning so that all students are ready to participate in the expanding and rapidly evolving STEM workforce.

We will solve the STEM teacher shortage, increasing the number of new, high-quality STEM teachers produced by U.S. institutions of higher education and transforming how STEM teachers are prepared. We will equip STEM teachers with skills to implement integrative, research-based STEM instructional approaches and leverage advanced technology tools, including AI, within the larger context of STEM career-connected learning. We will accomplish this work in close collaboration with a broad range of STEM education organizations, industry, and workforce partners and will focus on systemic approaches to transform STEM teaching and learning across the PK–20 education pipeline.

A Vision to Strengthen U.S. STEM Education and Workforce Development



A Modern Framework for Transforming STEM Teacher Preparation

This work is guided by a vision of STEM education that is academically rigorous, future-focused, and responsive to the changing landscape of STEM teaching and learning.

Pillar 1
Teaching and Learning Principles

- Experiential STEM Teaching
- Science of Engagement
- Integrated STEM Teaching
- Career-Connected STEM Learning
- AI-Enabled STEM Learning

Pillar 2
Program Design Principles

- STEM Teacher Talent Development
- STEM Education & Workforce Partnerships
- Data-Informed Continuous Improvement

We will accomplish this work through a targeted and sustained focus on translating research, policy, and best practices to field-ready tools, programs, and technical assistance tailored to solving real-world problems of practice and enabled by

1. a backbone organization with deep content expertise and a proven ability to develop and scale solutions;
2. cross-sector collaboration and ongoing collective action and advocacy;
3. systemic approaches to identifying and supporting implementation of emerging innovations and proven approaches; and
4. strategic collection, development, and dissemination of data, evidence, and research to advance STEM education to workforce outcomes.

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