

STEM EDUCATION AND RESEARCH IS THE KEY TO THE FUTURE

Experts agree that education in science, technology, engineering and mathematics — STEM — is the key to the future. According to the George Lucas Educational Foundation, 80 percent of the fastest growing occupations in the United States depend upon mastery of mathematics and scientific knowledge and skills.

The LBJ Institute for STEM Education and Research at Texas State University aims to equip students to satisfy this growing need through improved teaching and learning in the STEM disciplines for students from kindergarten to graduate-level college studies (K–20). Through wide-scale sharing and implementation of effective approaches, the LBJ Institute prepares university students and faculty for STEM education outreach and intellectual research efforts that:

- enhance teacher preparation and faculty professional development
- contribute to the recruitment and production of more scientifically and technologically literate professionals
- support Texas students with innovative approaches to excel as science, technology, engineering and mathematics majors

Texas State University is an equal opportunity educational institution. This information is available in alternate format upon request from the Office of Disability Services. Texas State University is a tobacco-free campus.

SUPPORT STEM EDUCATION

Workers who hold STEM degrees earn 26 percent more than non-STEM workers and are less likely to become unemployed.

To collaborate on STEM projects at the LBJ Institute, or to investigate other opportunities for involvement, contact Dr. Araceli Martinez Ortiz, director, in San Marcos, or Dr. Leslie Huling, senior advisor, in Round Rock.

Araceli Martinez Ortiz, Ph.D.,

Director of the LBJ Institute for STEM Education and Research and assistant professor of engineering education in the College of Education at Texas State University. She has bachelor's and master's degrees in engineering and a master's and Ph.D. in education. She teaches and conducts research with teachers and students in engineering education as a learning context and instructional strategy. She works with traditionally underserved populations to understand challenges and solutions for improving motivation and academic readiness for students' college and career success.

Leslie Huling, Ed.D

Senior advisor of the LBJ Institute for STEM Education and Research and director of the Education Policy Implementation Center (EPIC), a research and development partnership of the universities within The Texas State University System and a variety of other education and funding entities committed to education improvement. She received her bachelor's degree at Angelo State University, her master's degree at University of North Texas and her doctorate at Texas Tech University. She works with colleagues to conduct research on teacher preparation, induction and development.

TEXAS  STATE

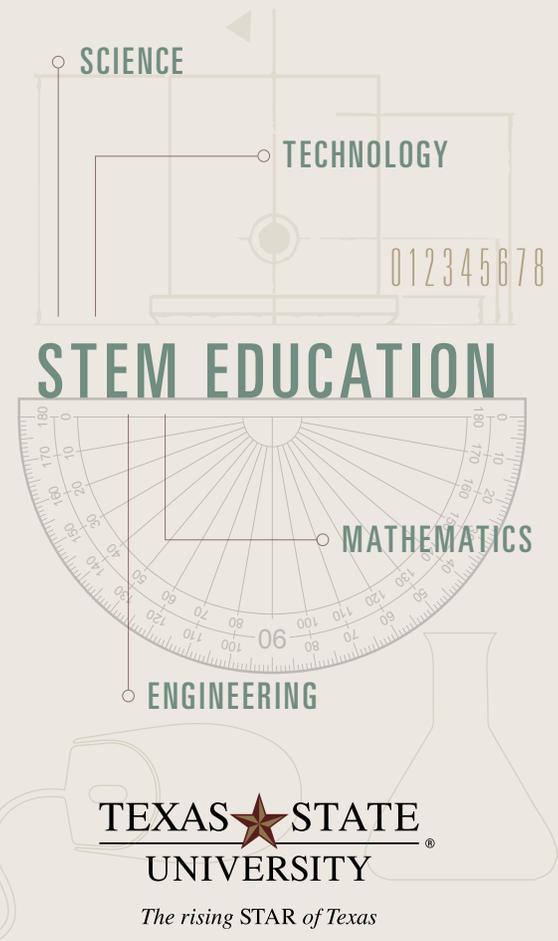
LBJ INSTITUTE FOR
STEM EDUCATION AND RESEARCH

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LBJ Institute for STEM Education and Research



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EDUCATION GOALS

Over the past 10 years, growth in STEM jobs has been three times greater than that of non-STEM jobs. The LBJ Institute for STEM Education and Research has established the following goals for enhancing STEM education in Texas:

- provide professional development to better prepare K–12 teachers and university faculty in the crucial STEM areas of inquiry, active learning, project-based and problem-based learning, integrated technology and integrated subjects
- organize and share STEM resources for teachers and faculty via a website
- develop innovative new curriculum materials, use of technology, and professional development approaches to improve STEM education efforts
- increase student, community and teacher excitement for learning STEM
- secure external funding to support K–20 outreach and teacher/faculty professional development

STEM JOBS = 3X GREATER GROWTH/10 YEARS

RESEARCH GOALS

To achieve its research goals, the institute will:

- *support* faculty interdisciplinary and collaborative teaching, research and service activities, bringing together professionals from the sciences, technology, engineering, mathematics and education to share expertise and knowledge from their fields
- *investigate* the effectiveness of innovations in the fields of STEM education
- *inform* researchers, teachers, scientists and policymakers by publishing research and other materials to support continued improvement in both understanding and outcomes in the field
- *publish* STEM education whitepapers commissioned by the LBJ Institute and guide interested faculty to contribute to peer-reviewed STEM education journals and present their research findings at state and national STEM education conferences
- *seek* external funding and support other university grant writers in efforts aimed at conducting K–20 STEM education research



RESEARCH IS A PRIORITY OF THE LBJ INSTITUTE



STEM EDUCATION AT TEXAS STATE

The LBJ Institute for STEM Education and Research has locations at both the San Marcos Campus and the Round Rock Campus of Texas State. Faculty from across the university are encouraged to collaborate on STEM research efforts and invited to support a variety of STEM education programs directed at faculty, teachers and students.

San Marcos
ASBN, Room 211
Araceli Martinez Ortiz: amo56@txstate.edu

Round Rock
Avery Building, Room 462
Leslie Huling: la03@txstate.edu

STEM DEGREES = 26% MORE INCOME