



### TEXAS REGIONAL STEM DEGREE ACCELERATOR



The Texas Regional STEM Degree Accelerator initiative is developed in alignment with priorities for education and workforce outlined by the Texas Higher Education Coordinating Board and the Texas Workforce Commission. This initiative is funded through the generosity of The Leona M. and Harry B. Helmsley Charitable Trust, The W.W. Caruth, Jr. Foundation, Council for Regional Economic Expansion and Educational Development, Greater Texas Foundation, JPMorgan Chase, and The Kresge Foundation.

### BACKGROUND & OVERVIEW

Texas is projected to have approximately 9% of the nation's future STEM opportunities, the second highest in the country.<sup>1</sup> At the same time, the state's rapidly changing demographic mix will pose challenges as Texas's growing, economically disadvantaged, minority students have less than a 10% postsecondary completion rate.<sup>2</sup> Therefore, the urgency to identify policy and programmatic strategies to meet this need is critical.

The Texas Regional STEM Degree Accelerator (STEM Accelerator) initiative is focused on supporting regional teams of education and workforce partners to increase the number of students who will earn a STEM credential.

### PROJECT GOAL AND STRATEGY

The goal of STEM Accelerator is to assemble regional teams who will ensure that up to 100,000 students earn STEM degrees and certificates (both two-year and four-year) that meet regionally-identified workforce needs. Regional teams will accomplish this by examining data, identifying the STEM pathway(s) in which they plan to work, and engaging faculty and workforce to:

- Redesign gateway courses in STEM pathways (re)aligned to workforce and/or
- Provide professional development for faculty to support improved and innovative methods of teaching and learning (such as active learning or project-based learning)

### EXPECTED IMPLEMENTATION OUTCOMES AND DELIVERABLES

The two major outcomes of this project are to:

1. Increase retention in STEM pathways by ensuring that STEM teaching practices are engaging and supportive.
2. Ensure that institutional policies and systems support retention and completion of STEM pathways, particularly among underrepresented students.

<sup>1</sup>Schleicher, A. (2012). Education At a Glance: OECD Indicators.

<sup>2</sup>National Center for Higher Education Management Systems (2012). A new measure of educational success in Texas.

The Texas Tribune (2014). Higher Ed Outcomes. Austin, TX.



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## REGIONAL STEM PATHWAYS

## DALLAS/NORTH TEXAS: COMPUTER SCIENCE / INFORMATION TECHNOLOGY

By 2018, 71% of STEM jobs in **Dallas/North Texas** will be in computing.<sup>1</sup> The Dallas regional team will partner with National Math and Science Initiative and the National Academy Foundation to enhance classroom instruction, develop faculty teams, and expand an online STEM career portal.

## EL PASO: ENGINEERING

The goal of the **El Paso** project is to increase female enrollment and graduation in engineering and to train more female engineering faculty. To accomplish this, the team will focus on creating more engaging classrooms, increasing student success, and conducting strategic student outreach.

## HOUSTON/GULF COAST: PETROCHEMICAL

The **Houston/Gulf Coast** regional team will expand on the Community College Petrochemical Initiative (CCPI), a partnership between industry and nine regional community colleges, led by Lee College. The team is partnering with the New Mathways Project developed by the Charles A. Dana Center at UT Austin to strengthen math curriculum, teaching, and student support.

## SOUTH TEXAS: HEALTHCARE AND INFORMATION TECHNOLOGY

The **South Texas** regional team's two pathways – Healthcare and Information Technology – will be strengthened through interventions designed to support students by: aligning classroom practices, fostering engagement and learning among faculty, sharing best practices among institutions, and integrating workforce data.

## WEST TEXAS: ENERGY

Rural schools face significant challenges as they attempt to prepare students for college and careers. The goal of the **West Texas** regional team is to increase student success and persistence in the math courses required to pursue STEM careers. The team will use AVID training and the New Mathways Project to redesign and align gateway courses, provide professional development for faculty, and provide critical interventions and support for STEM students.

<sup>1</sup> MyCollegeOptions and STEMconnector/ASTRA. (2013). Where Are the STEM Students? What Are Their Career Interests? Where Are the STEM Jobs?

