



TEXAS REGIONAL STEM DEGREE ACCELERATOR

STEM PATHWAY: COMPUTER SCIENCE/ INFORMATION TECHNOLOGY

Regional Team Members:

Dallas County Community College
District (DCCCD)

Lead Institution

University of North Texas

University of North Texas at Dallas

University of Texas at Arlington

University of Texas at Dallas

Dallas ISD

Region 10 Education Service
Center

Commit!

Fluor

Sharyland Utilities, L.P.

JPMorgan Chase

Dallas Regional Chamber

Workforce Solutions, Greater
Dallas

Workforce Solutions, North
Central Texas

National Math and Science
Initiative

National Academy Foundation
(NAF)

Mary Kay

State Farm Insurance

OVERVIEW

About Dallas/North Texas: The Dallas/North Texas region ranks among the top three U.S. metro areas for employment growth, business expansions, and relocations.

Despite these opportunities, Dallas has one of the nation's highest concentrations of poverty. The Dallas team seeks to address this disparity by increasing educational attainment in a high-demand middle skill pathway – Information Technology.

Why Computer Science and Information Technology: This is one of the fastest-growing career fields in the region. By 2018, 71% of STEM jobs in Dallas are projected to require some proficiency in computing. This includes 27% software engineering (more than a full quarter of all jobs in STEM), 21% computer networking, and 10% systems analysis. Computer Support and Database administration together comprise another 13% of jobs that will be available.¹

STEM PATHWAY PLAN & INTERVENTIONS

In order to address barriers among faculty and students, the Dallas/North Texas regional team will focus on developing effective classroom instruction and expanding an online STEM resource.

The two major activities are detailed as follows:

- 1. Establish Cross Institutional Professional Learning Communities:** Teams are comprised of high school, community college, and university educators with industry professionals and pedagogy experts. The goal of each team is to generate teaching strategies that will result in greater confidence, enthusiasm, and desire to become a CS/IT professional, with emphasis on overcoming barriers in areas such as mathematics.
- 2. Develop Online Career Portal:** This portal, known as STEM INSIGHT, will enable users to track real-time, day-to-day shifts in professions, salaries, and other professional opportunities through the DCCCD Labor Market Intelligence Center by providing readable, student- and faculty-friendly infographics that are available on-demand.

EXPECTED IMPACT:

This project is anticipated to accomplish the following outcomes:²

- **Train** 105 college faculty and 20 high school teachers
- **Serve** over 20,000 college students and 14,000 high school students

¹ MyCollegeOptions, and STEM Connector/ASTRA. Where Are the STEM Students? What Are Their Career Interests? Where Are the STEM Jobs? Jan. 2013, ² Self-Reported Data



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BACKGROUND & OVERVIEW

Texas is projected to have approximately 9% of the nation's future STEM opportunities, the second highest in the country. 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. 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 will be to (1) increase retention in STEM pathways by ensuring that STEM teaching practices are engaging and supportive and (2) to ensure that institutional policies and systems support retention and completion of STEM pathways, particularly among underrepresented students.

Schleicher, A. (2012). Education At a Glance: OECD Indicators 2012.

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.