

STEM @ CSUSM

Education & Outreach

The STEM Center



In response to regional and national needs, and calls from the National Academies and the President's Council of Advisors on Science and Technology, the CSUSM STEM Center has the following goals and objectives:

Goals

Address STEM workforce needs

Broaden participation in STEM

Promote students' development through STEM engagement

Strengthen local K12 STEM education

Objectives

*Facilitating student success through increased retention * Outreach to local K12 students * Recruiting highly qualified STEM teachers*

Facilitating Student Success

Out of class: A drop-in, peer-tutoring program serves over 900 unique students annually, making nearly 12,000 visits averaging 90 minutes in length.

The Center employs 30 highly-qualified undergraduate peer tutors who help fellow students develop the skills and self-confidence they need to succeed.

"In my class of 52 students, nobody scored lower than C- on the first test! That has never, ever happened in my 20 years of teaching {this course}. It is an incredible achievement for {the students} and all of the people who are supporting them."

- CSUSM Chemistry Professor

In class: The CSUSM Learning Assistants (LA) program supports active learning in math and science courses. Undergraduate LAs work help the instructor implement proven, effective instructional practices. In spring 2016, 37 LAs are working with over 1,000 students in 21 introductory STEM courses.

Outreach to local K12 students

Near-peer mentoring and outreach: Highly qualified and ethnically diverse undergraduate science and math majors, called STEM Ambassadors, have reached more than 10,000 students and teachers from nearby school districts during the past five years. Activities include classroom demonstrations, after school Making programs, STEM Cafes, and campus visits. STEM Ambassadors increase K12 students' interest and understanding of STEM, as well as provide a near-peer, college-going role model.

Recruiting Highly Qualified STEM Teachers

Addressing Local and National Needs:

There is an acute shortage of qualified math and science teachers, particularly math, chemistry, and physics at the high school level.

Being a Tutor, LA, or Ambassador is an **early teaching experience** that sparks an interest in STEM teaching for some students.

"The first time I made sense to a student and saw their face light up with understanding... In a small world it made me feel big -like I know something."

- Learning Assistant

Over 15% of LAs pursue careers in teaching, often with support from the CSUSM Noyce Scholars Program.

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