STEM Education Consortium: project methodology
The project brings together Cal State LA, Pasadena City College, and West LA College as partner institutions in a regional STEM Education Consortium supporting the development, implementation, and assessment of low-cost, high impact curricular strategies in first-year science courses and supporting comprehensive student advisement for STEM majors across institutions.

Curriculum Strategies
- Flipped classroom at Cal State LA
- Problem/project-based learning at PCC
- Metacognitive strategies at West LA

Data Collection
- Retention and graduation of STEM majors
- Transfer numbers to a 4-year university
- Grades in STEM courses

Data Analysis
Quasi-Experimental Design (QED) research model expected to meet Department of Education WWC standards.

Math and Science Teacher Initiative: How the CSU's math and science teacher graduates excel
California is projected to need more than 33,000 new math and science teachers in the next 10 years. The demand for credentialed teachers in these fields is significantly greater than the supply of fully qualified candidates, and large numbers of students in California are taught math and science by teachers who are not credentialed in those fields.

The California State University (CSU), the state's largest producer of math and science teachers, responded to this challenge with a commitment to double its annual production of credentialed teachers in STEM fields. The CSU committed to increasing the number of qualified teachers in these fields from a baseline of 750 to approximately 1,500 annually. The 23-campus system achieved and exceeded this goal and is now preparing more than 1,500 teachers in math and science every year.

It’s especially noteworthy that the math and science teachers prepared by CSU campuses very often teach in the state’s high-need schools and regions: 84.5% of recent CSU graduates taught in schools with one-quarter or more students coming from families in poverty, and 63% taught in schools in which half or more come from families living in poverty. 57% taught in schools who had not had teachers credentialed in subjects. Approximately 56% taught in urban schools, and 10% taught in rural schools. Many of the schools in which graduates choose to teach have math achievement rates significantly below statewide averages.

These new math and science teachers are contributing markedly to reducing the disparities in access to qualified math and science teachers that have been found in the state for the past three decades and that have contributed to continued achievement gaps in these fields.

To learn more about MSTI at Cal State LA, click here to access the homepage.
In face of shortage, California colleges to shrink time to become a math teacher

To entice more students to become math teachers—and ease a chronic shortage in California classrooms—Cal State LA, San Jose State, San Diego State and Fresno State will offer preparation programs considerably shortening the time it takes to get a teaching credential.

Currently to get a teaching credential, most teachers must first earn a four-year undergraduate degree, and then enroll in a post-graduate program that can take an additional one to two years. The new programs will eliminate the post-graduate portion, and integrate it into a student’s undergraduate course of study.

At Cal State LA, the new program, called SCOPE, will cover all the required courses for math majors, and include teaching courses instead of electives. It will also include some online and summer classes, allowing students to complete all the requirements for both the math major and teaching credential in four years.

Organizers hope it’ll spark something more important: a passion for teaching math.

To learn more about SCOPE at Cal State LA, click here to access the homepage.

How immersive technology is changing the way CSU students learn

Students in education, nursing, astronomy, geology and journalism—to name just a few fields—are using augmented/virtual reality technologies to learn at campuses across the CSU.

Just as augmented reality (AR) and virtual reality (VR) have made their way into our everyday lives, changing the way we play, shop, watch videos and use social media, these technologies are having a similarly profound impact in academia. And, more specifically, leaders at the CSU are now working to add more pilot projects and courses on campuses to leverage the power of AR/VR.

Peter Young, professor of new media technologies at San José State University, has high hopes for what’s to come in higher education with immersive technology.

“This larger field is new and exciting and encourages exploration and discussion in new areas of discovery,” says Young, adding that he sees potential for students and faculty in fields as diverse as healthcare, theater, engineering, and social science.

“[They] can explore new, ground-breaking devices and [test], without harmful side effects, the implementation and eventual use of these new devices.”

Cal State LA student receives U.S. Navy STEM Scholarship

Cal State LA student Moises Aldape was selected by GREAT Minds in STEM™ to receive a $10,000 U.S. Navy STEM Scholarship. The scholarship is awarded to outstanding incoming college freshmen who plan to pursue a degree in STEM.

Each U.S. Navy STEM Scholarship recipient receives support for tuition and books and is given an opportunity to sign up for the Naval Sea Systems Command (NAVSEA) Student Employment Program. This program allows students to blend academic study and work experience to better prepare for their future. Aldape was also given a stipend to cover the cost of travel and registration to attend the 29th annual HENAAC Conference to be honored during a pinning reception and leadership event.

To learn more about Great Minds in STEM™, click here to access the homepage.
Los Angeles County taps talent of Cal State LA technology students

Los Angeles County will expand a pilot program with California State University, Los Angeles that enlists students to solve real-world problems with information technology.

Through the partnership, teams of students have been working on projects to digitally track the Parks and Recreation Department’s fleet of vehicles, create an interactive directory to help the public navigate services in the Hall of Administration, and develop an online library card application system.

Supervisor Hilda L. Solis, who shepherded the program in October, made the motion to expand the pilot. Solis, whose First District includes Cal State LA, applauded the university and its students for their work.

The Los Angeles County Board of Supervisors unanimously voted March 6 to expand the program to include other local universities, trade schools and technical institutions.

“I was eager to see what they were up to and to invite them to work with us to get out of the classroom and gain some real-life work experience,” Solis said. “There are multiple departments that we know are desperate to find new and innovative solutions to old problems.”

“This targeted partnership will help us to infuse the county with diverse, well-trained and cutting-edge IT talent,” County Director of Personnel Lisa M. Garrett said to the board in a report about the pilot program.

The pilot program was inspired by senior design projects, yearlong assignments that help prepare Cal State LA’s computer science and engineering students for the workforce. Teams of four to five students in the College of Engineering, Computer Science, and Technology work with the guidance of a faculty member and technical liaison on projects for private and public clients. Past clients have included the NASA Jet Propulsion Laboratory, Lockheed Martin and the city of Los Angeles.

“Our partnership is an important example of leveraging public resources,” Cal State LA President William A. Covino said. “Cal State LA students have benefitted from our collective investment in public education, and now our students are using their education for the public good.”

Emily Allen, dean of Cal State LA’s College of ECST, thanked Solis and the county for their support of the innovative partnership. Allen underscored the tremendous value for students and the wider Los Angeles region.

Graduation initiative 2025 update highlights achievements

Graduation Initiative 2025 is the university-wide effort to improve student achievement by identifying and improving key areas that may serve as barriers to student success, ensuring that all students have the opportunity to graduate in a timely manner.

In the 2016-17 academic year, the CSU graduated 7,000 additional students above the previous year, resulting in nearly 99,000 undergraduate degrees conferred.

The CSU also reported that 4- and 6-year graduation rates for freshmen and 2- and 4-year graduation rates for transfer students are at all-time highs and that first-time freshmen are on track to earn their degrees an average of one term earlier, allowing them to collect a salary sooner and avoid paying for an additional term of college.

To learn more about the Graduation Initiative at Cal State LA, click here to access the homepage.
STEM Education
funding opportunities

Innovative Technology Experiences for Students and Teachers (ITEST)
PIVOT Opp ID: 88511
Type: Research, Program or Curriculum Development or Provision
Deadline: August 8, 2018

Improving Undergraduate STEM Education: Pathways into Geoscience (IUSE: GEOPATHS)
PIVOT Opp ID: 156797
Type: Program or Curriculum Development or Provision
Deadline: August 18, 2018 and October 10, 2018

Robert Noyce Teacher Scholarship Program
PIVOT Opp ID: 77148
Type: Program or Curriculum Development or Provision
Deadline: August 29, 2018

National Science Foundation Research Traineeship Program (NRT)
PIVOT Opp ID: 150940
Type: Research Program or Curriculum Development or Provision
Deadline: December 6, 2018

Women and Minorities in Science, Technology, Engineering and Mathematics Fields Grant Program Funding Opportunity (WAMS)
PIVOT Opp ID: 128897
Type: Collaboration or Cooperative Agreement
Deadline: March 28, 2019

To view the full listing, click anywhere on the opportunity area.

Upcoming seminars and events at Cal State LA and other locations

- Seminar dates (biweekly): January 24, 2018 to May 2, 2018 in Biological Sciences, Room 245, Biological Sciences
- Seminar dates (weekly): January 30, 2018 to May 8, 2018 at 3:15 PM, Biological Sciences, Room 334, Chemistry and Biochemistry
- Seminar dates: March 9, 2018 to May 11, 2018 at King Hall (KH) Lecture Hall 1, KH D4053 and the GE Ballrooms, NASA Direct STEM—contact office for times
- American Communities Program: Faculty Fellows Symposium: April 5, 2018 at 1:30 PM in the Alhambra Room, 3rd Floor, University-Student Union
- Annual Spring Faculty Happy Hour: Thursday, April 12, 2018, between 4:00pm and 7:00pm in the Fine Arts Gallery
- Make the Career Fair Work for You: April 18, 2018, between 2:00pm and 3:00pm in the Career Development Center
- Direct STEM Annual Symposium, April 27, 2018, between 11:00am and 2:00pm in GE Ballrooms, 3rd Floor, NASA Direct STEM
- Cal State LA Spring Career Fair: May 2, 2018, between 10:00am and 2:00pm in GE Ballrooms, 3rd Floor, Golden Eagle Building
- Undergraduate Senior Projects Exhibition: May 7, 2018, 8:00am to May 23, 2018, 8:00pm in the Fine Arts Gallery

Contact
Please contact us for more information about our services.

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Email: STEMEC@calstatela.edu