STEM Education Consortium

The STEM Education Consortium 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.

Established with funding from the Department of Education First in the World program, the regional Consortium is supporting curricular strategies that are more successful in increasing student academic achievement as compared to traditional science curricula. Specifically

- At Cal State LA, students in flipped classrooms had higher GPAs and persisted in their education at higher rates than students in the same courses that had a traditional curriculum.
- At Pasadena City College, students learning through problem-based classrooms in introductory biology earned higher GPAs than students in other sections of the course using a traditional curriculum.
- At West LA College, students who participated in growth mindset study groups as part of their science courses had higher overall GPAs and higher STEM GPAs than their peers in the same courses who did not participate in the study groups.

So far, 5,621 students have been impacted by the curricular strategies being supported by the project.
About the Los Angeles Urban Teacher Residency Transformation Initiative

Research tells us that good teaching, along with effective leadership, is the strongest correlate to high student achievement. Based on the medical model of residencies in preparing doctors, the Los Angeles Urban Teacher Residency Transformation Initiative (LAUTR-TI) program recruits highly talented people from diverse backgrounds who are committed to becoming transformative teachers, and places them in a program in which they earn a credential in 12 months and a Master’s degree after an additional 30 semester units.

Working closely with a mentor teacher, residents learn, on the job, what it means to be a teacher. Blending the theories of teaching with practical applications, residents learn the essential skills, habits, and knowledge that will best position them to be excellent teachers in high-need urban schools.

LAUTR-TI Cohorts

There are currently two cohorts, 7 and 8, serving in our local communities.

- Cohort 7 has 85% retention as they start their second year as teachers of record
  - 7 teachers are serving in Los Angeles District schools, 2 in Pasadena District, and 3 in other districts
- Cohort 8 has started their first year as teachers of record
  - 14 teachers are serving in Los Angeles District schools, and 2 in Pasadena District

Vanessa Solomon, Cal State LA adjunct faculty, is strengthening LAUTR mentor recruitment and training practices, as well as aligning student teacher fieldwork expectations with coursework requirements, to support continuous program improvement and sustainability. Vanessa also serves as a university field supervisor and is a doctoral student in the Organizational Change and Leadership Ed.D. program at USC. Vanessa is currently integrating mixed reality simulations in teacher training via the TeachLivE platform and, in collaboration with Cal State Northridge, is developing simulation-based training sessions for LAUTR mentor teachers. She would love for you to come observe a session!

Cal State LA Spotlight

Initiative excellence at Cal State LA

Cal State LA received a $1 million grant from the Howard Hughes Medical Institute (HHMI) to train faculty to better engage with students from all backgrounds who study science. The grant will establish the Science Faculty for Inclusive Excellence and Transformation project at Cal State LA to support students from historically underrepresented communities.

“We anticipate that at the end of five years of implementing this project, we will have a community of transformed faculty and transformed students who work collaboratively to achieve academic excellence for all students in the sciences,” said Andre Ellis, the grant’s principal investigator and Cal State LA professor of geosciences and environment.

The project will train 74 faculty who have the capacity and leadership to change pedagogy, curriculum and programs, and influence academic policy. “This project will foster a transformative and innovative educational experience for Cal State LA students and promote an equity-minded approach to pedagogy based on an appreciation of our students’ diverse backgrounds,” said Pamela Scott-Johnson, dean of the College of Natural and Social Sciences.

To learn more about the Inclusive Excellence Initiative visit: https://www.hhmi.org/developing-scientists/inclusive-excellence

Source: HHMI—Cal State LA

Source: LAUTR-TI—Cal State LA
About the SCOPE Project

To become a credentialed teacher in a California high school, an individual must obtain a bachelor's degree with subject matter competency, and requisite professional education. Students very often take more than five years to fulfill these requirements. In 2017, the California Commission on Teacher Credentialing awarded Cal State LA a nearly $250,000 curriculum planning grant (SCOPE) to create a fast track for students preparing to become math teachers.

Headed by Cal State LA Mathematics Professor Dr. Debasree Raychaudhuri, SCOPE program admits calculus-ready undergraduates at Cal State LA into the Integrated Math BS degree program - that includes all credentialing requirements within a four-year undergraduate course of study. The pathway features innovative curriculum redesign, sequenced early field experiences, and intensive summer course work. In Fall 2018, SCOPE admitted 15 freshmen to be part of its very first cohort.

As a part of the grant, Cal State LA partnered with Los Angeles Trade Tech College (LATTC) to enroll transfer students into the SCOPE program. As the SCOPE program takes off, Fall 2019 and onwards, it has plan to recruit cohorts from other feeder community colleges.

Cal State LA and U.S. Army Corps of Engineers to boost opportunities in STEM fields

Cal State LA and the United States Army Corps of Engineers Los Angeles District have signed an agreement to work together to enhance educational and career opportunities for students in STEM.

As part of the agreement, Cal State LA will inform students about the Army Corps of Engineers and the professional opportunities offered through its Pathways Program. The Army Corps of Engineers will establish a list of volunteer professionals who are available to serve as mentors, participate in training workshops for students, offer guest lectures on STEM subjects and conduct site visits to USACE facilities.

The University and the Army Corps of Engineers recognize the increasing need for a diverse workforce that possesses STEM skills.

Promoting Active Learning Strategies

This joint project among San José State University, Cal State LA, and Cal Poly Pomona aims at improving the retention rates of students in gateway STEM courses with funding from the Department of Education First in the World program. The project incorporates a flipped classroom approach to determine if the teaching style is effective at decreasing failure rates of students in the “gateway” STEM courses at these three CSUs. Through the project, a multi-campus faculty learning community will be developed to drive the curricular and instructional innovation to increasing student learning, academic success, and retention in seven critical gateway STEM classes.

About FYrE@ECST

FYrE@ECST engages first-time freshmen in the ECST community through (1) STEP, a pre-freshman summer bridge program to prepare them to start the Calculus sequence in their first year; (2) Introduction to Engineering and Technology, a 3-unit first-year engineering and technology course with hands-on design projects; (3) Mathemagics, a discovery-based learning workshop designed to improve critical thinking skills by conducting experiments; and (4) Supplemental Instruction workshops, which are peer-facilitated and designed to enhance students’ critical thinking in math and physics. All of these components are integrated through a new comprehensive developmental advisement plan.

www.calstatela.edu/programs/scope
STEM Education funding opportunities

Improving Undergraduate STEM Education: Education and Human Resources (IUSE: HER)
PIVOT Opp ID: 147909
Type: Program or Curriculum Development or Provision
Deadline: October 1, 2018, December 11, 2018, and September 30, 2019

Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (RISE)
PIVOT Opp ID: 80735
Type: Program or Curriculum Development or Provision
Deadline: December 7, 2018 and February 14, 2019

Women and Minorities in STEM Fields
PIVOT Opp ID: 128897
Type: Collaboration and Cooperative Agreement
Deadline: March 28, 2019

Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25)
PIVOT Opp ID: 172995
Type: Research
Deadline: April 24, 2019 and May 24, 2019

Accelerating Discovery: Educating the Future STEM Workforce
PIVOT Opp ID: 181654
Type: Program or Curriculum Development or Provision
Deadline: July 2, 2019

Upcoming seminars and events at Cal State LA and other locations

- Seminar dates (biweekly): August 15, 2018 to November 28, 2018 at 12:00 PM in Biological Sciences, Room 245, Biological Sciences
- Seminar dates (weekly): August 16, 2018 to November 29, 2018 at 3:15 PM in Biological Sciences, Room 335, Physics and Astronomy
- Seminar dates (weekly): August 21, 2018 to December 4, 2018 at 3:15 PM, Biological Sciences, Room 334, Chemistry and Biochemistry
- Seminar dates: September 15, 2018 to May 3, 2019 at King Hall (KH) Lecture Hall 1, KH D4053 and the GE Ballrooms, NASA Direct STEM—contact office for times
- Distinguished Educators Award Dinner: November 2, 2018 between 5:00 PM and 7:00 PM in the Golden Eagle Ballrooms
- Annual Student Symposium on Research, Scholarship and Creative Activities, February 22, 2019, in the Fine Arts Gallery, Office of Research, Scholarship, and Creative Activities, The Gamma Epsilon Chapter of The Honor Society of Phi Kappa Phi, and UAS – Office of Research and Sponsored Programs
- Annual Undergraduate Exhibition Reception, March 7, 2019, between 4:00 PM and 7:00 PM in the Fine Arts Gallery
- Direct STEM Annual Symposium, April 19, 2019, between 11:00 AM and 2:00 PM in GE Ballroom #3, NASA Direct STEM
- Graduate Theses Exhibition Reception, April 25, 2019, between 4:00 PM and 7:00 PM in the Fine Arts Gallery

Contact
Please contact us for more information about our services.

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