

SCIENCE EDUCATION & MENTORSHIP IN LATINO LIVES IN ACADEMIA (SEMILLA)

Grant Year 4 | UC Santa Cruz | Hispanic-Serving Institution (HSI) Grant | U.S. Department of Education

Grant Overview

Grant Type: Title III, Part F*

Grant Active Dates October 2016 - September 2021

Grant Year 4: October 2019 - September 2020

Grant Funding Amount: \$5,700,000

Focus Areas: College Math Academy, STEM Hub, STEM Counselors, STEM Transfer Program, Faculty and Teaching Assistant Professional Development

Grant Components

- **EOP STEM Counselors:** Utilizing a holistic advising model and early alert outreach system, four STEM- specialized counselors serve students with academic and personal matters.
- **STEM Scholars Collaborative:** Comprised of existing programs on campus, the collaborative's goal is to unify efforts and move away from working in silos.
- **Redesigning College Pre-Calculus (Math 3):** Math 3 course delivery has been redesigned to disrupt patterns of failure by building on the colleges living learning community to address social justice obstacles through mathematics (2- Unit Lab).
- **Faculty Professional Development and Teaching Assistant Training:** Support STEM Faculty and TAs by providing support with pedagogy and course redesign with the goal to increase student achievement and educational equity.
- **Transfer Pathways:** Programming intended to support incoming transfer students with curricular and co-curricular activities. Activities include Academic Jumpstart (workshops to support incoming transfer students) and EOP Transfer Program (multi-platform campus orientation).

Abstract

The purpose of the UC Santa Cruz SEMILLA Project (Science Education & Mentorship in Latino Lives in Academia) is to cultivate equity-minded reforms designed to challenge and overcome institutional barriers so that STEM-intended Latino and low-income students increase their rates of STEM Transfer, persistence and degree attainment. STEM fields are among the most popular majors for all UCSC students, including Latino and low-income students, who arrive at UCSC as STEM-intended. As these students begin their STEM foundational course work in mathematics, chemistry, biology, computer programming we begin to see disparities in achievement for Latino and low-income students, which results in STEM attrition and fewer students declaring STEM Majors. The SEMILLA Project is designed to interrupt STEM attrition patterns and social reproduction rooted in both the lack of opportunity for students and the under preparation of UCSC to serve Latino and low-income STEM students. The SEMILLA Project will serve as focal point and catalyst for a comprehensive set of interventions guided by analysis of student outcomes and inquiring teams to address barriers both in and outside the classroom.

Identifying Student Needs

- There are high rates of attrition in STEM courses for Hispanic and low-income students
- Identified courses represent a significant barrier to Hispanic and low-income student access

Addressing Campus Needs

- Holistic STEM counselors/ Early Alert
- STEM Scholars group
- SEMILLA Scholars
- STEM Transfer Programs
- STEM Sense of Belonging
- Faculty and Teaching Assistant Professional Development
- Articulation Agreements

*Title III Part F Funding: Assist HSIs to increase the number of Latino and other low-income students attaining degrees in STEM and to develop a model for transfer and articulation agreements between two-year and four-year institutions in STEM.

SEMILLA INITIATIVES



SEMILLA Scholars

Students Served: 95*

A cohort model supporting incoming STEM-intended first-year underrepresented students who engage in academic/career, social, and community activities for their successful transition towards STEM major declaration and degree completion.

Transfer Programs

Students Served: 256*

STEM Transfer Program:

A 4-day virtual summer orientation designed to connect students with campus resources and academic workshops.

Academic Jumpstart:

An intensive academy implemented by the Academic Excellence (ACE) Program supporting students with foundational STEM concepts and theories.

College Math Academy

Students Served: 213*

A redesigned precalculus course incorporating an active learning lecture model, collaborative learning-based discussion sections, embedded advising, and a comprehensive teaching team (instructor, TAs, tutors, and adviser).

Academic Support & Tutoring

Students Served: 5,226*

Academic support programs and tutoring services expand to serve more STEM courses through a facilitative and collaborative learning structure.

Advising



EOP STEM Counselors provide holistic STEM advising through early alerts (in partnership with instructors, TAs, and tutors), intentional outreach campaigns, and campus referrals. Counselors are located at Science Hill and throughout the campus colleges (Merrill/Crown, Oakes/Rachel Carson) and continued to provide remote advising starting in March due to the COVID-19 pandemic.

SEMILLA Scholars Peer Mentors serve as a support system for the SEMILLA Scholars participants, providing one-on-one peer advising/mentoring, and hosting STEM focused workshops and events.

STEM Hub Peer Advisers support the SEMILLA STEM Hub (located in the Science and Engineering Library), connect STEM students to academic and social resources, provide onsite peer-advising, and host workshops focused on STEM student success.



Faculty & Teaching Assistant Support

Teaching and Learning for STEM Gateway Courses (TLC-STEM): The TLC-STEM group provides support to faculty teaching large-enrollment STEM courses through engaging dialogue addressing pedagogy and best teaching/assessment practices working with a diverse student population.

Participants Served: 107*

Teaching Assistant (TA) Training: Teaching assistants for Physical & Biological Science gateway courses participate in an online two-day training designed to promote inclusive teaching practices and provide practical skills and resources to help assess students' needs amidst the COVID-19 pandemic/remote learning environment.

Contact Information:

Lydia Iyeczohua Zendejas | Project Director, HSI Grants | (831) 502 - 7033 | zendejas@ucsc.edu | hsi.ucsc.edu

*Denotes cumulative numbers from years 1-4 of the grant