

# COAST SCHOLARS IN TRAINING PROGRAM

*Help make a difference!*



## Background

There is a significant need for more college graduates in science, technology, engineering, and mathematics (STEM) if the U.S. is to be a world leader in science and math again and meet the nation's growing demand for STEM workers. However, STEM disciplines have substantially lower rates of retention and graduation (the metrics for “student success”) than other fields such as social sciences and humanities. Less than 40% of students who enter college with the intent to major in a STEM field actually complete a STEM degree, which means that more than 60% do not. The results are more pronounced for women and racial, and ethnic minorities. The Higher Education Research Institute at UCLA found that over 25% of white and Asian American students who started as STEM majors finished STEM degrees in four years. For Latino, Black and Native American students who began college as STEM majors, less than 16% in each category had completed a STEM degree in four years.

The first two years of college when students are meeting general education (GE) requirements and taking large, introductory courses are the critical period of attrition in STEM majors. If students can persist in STEM programs past the first two years and graduate, they can expect to earn an average of **\$1,340,000 more** over the course of their lifetime than those who have only a high school diploma. One demonstrated strategy for improving student retention and graduation rates in STEM disciplines is involvement in a high-impact practice (HIP) such as an internship, undergraduate research, or peer-to-peer mentoring, particularly during the first two years of college.

## Program Description

CSU COAST has funding through the U.S. Department of Education (FY2016 Award P031C160221 to University Corporation at Monterey Bay) to pilot the COAST Scholars In Training program, a high-impact, hands-on research program for **first and second year undergraduate students**. These students will be paired with graduate students for two semesters and will assist them with their marine, coastal or coastal watershed related research. In many cases this will be the undergraduate students' first opportunity to engage in hands-on research and it will prepare them to conduct their own independent research the following year\*. The objective of the program is to facilitate and promote participation in undergraduate research, particularly among historically underrepresented minority, low-income and first-generation undergraduate STEM students with the ultimate goal of increasing student success.



\*Undergraduate students who complete in the program will be eligible for a reserved pool of COAST funding to conduct their own independent research in subsequent years.

### Engaged, Committed Graduate Student Mentors

The success of this effort will depend significantly on the participation of engaged graduate students who are committed to the goal of increasing CSU student success. Graduate student mentors will receive specialized training and support as well as a **financial incentive up to \$1,500**. However, mentors need to recognize that they will be working with first and second year undergraduate students who, though they have expressed strong interest in pursuing marine science and participating in research, may have no prior experience in the laboratory or field and may not have taken upper division courses yet. **Mentors will be expected to work on their**



**thesis projects alongside their undergraduate assistants** and in doing so to explain the scientific merit of the project, elucidate the scientific process in general, and engage the student intellectually and creatively. Patient, thoughtful mentoring will be required in order to achieve the desired outcome: engagement of the undergraduate student in a transformative experience that shapes his/her educational and career pathway.

### Timeline

Spring 2017: Graduate students apply to be mentors during AY 2017-18

Fall 2017: First and second year undergraduates apply and are matched with a mentor

Late Fall 2017: Undergraduates begin reading mentor's proposal and background literature

Spring 2018: Undergraduates assist graduate student mentors with research

### How to Apply

If this sounds like the right opportunity for you, complete the MLML-UROC Undergraduate Research Opportunity Graduate Student Mentor Approval Form and check the box in Section X for COAST 2017-18 Academic Year Scholars In Training Program.

### Contact

For more information please contact

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