

MUREP Aerospace Academy (MAA)

Institution: University Auxiliary and Research Services Corporation (California State University – San Marcos)

Title: CSUSM NASA MUREP Aerospace Academy

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California State University San Marcos (CSUSM) seeks to address the national and regional need to increase the number and diversity of students studying STEM in high school and college and pursuing STEM careers through the CSUSM NASA MUREP Aerospace Academy. CSUSM is a Hispanic Serving Institution with a student body reflective of the local diversity (47% Hispanic/Latino/a). CSUSM is dedicated to social mobility, with 53% of graduates the first in their family to earn a bachelor's degree. The CSUSM NASA MAA program will be operated by CSUSM's Center for Research and Engagement in STEM Education (CRESE), which is dedicated to enriching, enhancing, and supporting STEM education, and is engaged with K-12, higher education, and the local community. The Center has a track record of successful projects utilizing undergraduate near-peer mentors to effectively engage underserved audiences.

The CSUSM NASA MAA program builds on CSUSM's experience conducting afterschool STEM programs for local underserved K-12 students. During afterschool, weekend, and summer capstone events, local high school students will engage in authentic experiential STEM activities, engage with STEM professionals, and increase their college and career readiness. Participating high school students will be recruited from four local high schools with student populations ranging from 38% to 89% Hispanic/Latino and 24% to 89% low income. Undergraduate students serving as facilitators and near-peer mentors will promote educational attainment and STEM career paths. The proposed project includes partnerships with local K12 districts; a nearby two-year college; local STEM industry; ICE FIVE-O (a NASA-funded research collaboration); and the CSUSM National Latino Research Center.

The goal of the CSUSM NASA MAA program is for local high school students, that reflect the diversity of our region, to deepen their interest in STEM and prepare for STEM degree programs and careers by engaging in authentic experiential STEM activities, building relationships with near-peer mentors and STEM professionals, and learning about STEM degree programs and careers. Participation will result in increased motivation and skills for success in STEM majors and careers. Outcomes of the CSUSM NASA MAA program will include (1) engaging a diverse group of over 100 high school students in 60 hours of programming; (2) expanding students' knowledge of STEM content, proficiency in science and engineering practices, and 21st century skills; (3) increasing students' knowledge of, interest in, and readiness for STEM degree programs and STEM degrees; and (4) family engagement in student research presentations and learning about college pathways and STEM degree options, college and scholarship application processes, and financial aid options.