

Title of Proposal: The [AIMS²](#) (Attract, Inspire, Mentor and Support Students) Program at CSU Northridge

Name of Program: HISPANIC-SERVING INSTITUTIONS STEM PROGRAM (84.031C)

In October 2011 the College of Engineering and Computer Science at California State University, Northridge, was awarded a five-year, \$5.5 million HSI STEM grant by the U.S. Department of Education to implement a program designed to increase the number of low-income, Hispanic and other underrepresented students graduating from CSUN with engineering and computer science majors. This collaborative project entitled [AIMS²](#) (for Attract, Inspire, Mentor and Support Students), is led by CSUN, in partnership with Glendale Community College (GCC) and the College of the Canyons (COC). The mission and goals of the program are:

- To increase the number of Hispanic and low-income students who successfully transfer from Glendale Community College (GCC), and College of the Canyons (COC) to California State University, Northridge, to pursue majors in Engineering and/or Computer Science.
- To increase the number of Hispanic and low-income students who join CSUN as upper division transfer students and graduate with degrees from one of the undergraduate programs in the College of Engineering and Computer Science.
- To develop a model, seamless and sustainable transfer program to assist Hispanic and low-income students to successfully transfer from GCC and COC to California State University, Northridge where they will complete their studies in Engineering and/or Computer Science.

Since January 2012 we have served a total of 187 students in five cohorts (approximately 67 % Latino/a). This includes 100 first-time transfer students at CSUN, 45 students at GCC, and 42 students at COC. The 12 primary project objectives guide the evaluation as an embedded mixed methods case study design where we assess 35 project performance measures with baseline and actual performance data at each campus (CSUN, GCC and COC). The data sources included AIMS2 students, faculty, staff and institutional data. Our data collection procedures employ journal guides, surveys, and interviews. The quantitative measures cover transfer, completion, articulation, advisors, advising, online courses, tutoring, mentoring, supplemental lab, student-faculty interaction, research participation, and cohort participation.

To date, 32 of 49 (65%) cohort measures have met or exceeded targets. Students in the cohort are required to complete a minimum of 24 semester units/year and receive an annual stipend of \$ 2,400. 75 % of the students are selected to participate in paid research projects (\$ 15/hour). Cohorts recorded higher per-term units completed, per-term and cumulative GPAs, and next-term persistence rates compared to their non-participant student counterparts. Specifically, student participants (vs. non-participant students) completed an average of 13.3 units (vs. 10.4) in Fall 2011, 12.43 units (vs. 11.04) in Spring 2012, 12.19 units (vs. 11.52) in Fall 2012, 12.12 units (vs. 11.18) in Spring 2013, and 12.44 units (vs. 11.09) in Spring 2014. Cohort students recorded a slightly higher average GPA 2.83 (vs. 2.78) in Spring 2014 and persisted at higher rates: 96.7% (vs. 83.3%) for Fall 2011-Spring 2012 and 97% (vs. 86.7%) in Fall 2013-Spring 2014. Overall, the research experience facilitated effective cohort interaction with faculty and the application of knowledge relevant to their majors with strong mentoring and academic advisement that extended beyond the research setting.

The project team from the three partner institutions consisting of 17 faculty members and 6 staff members under the leadership of Dean Ramesh from CSUN meets on a [monthly](#) basis to monitor progress on the three primary project objectives of the program. Faculty Mentors meet regularly with their students in the cohort to discuss their academic progress and work with them on research projects. Faculty from the partner institutions have worked collaboratively and developed curricula to address gaps in the existing [articulation agreements](#). The annual budget of this five year grant is approximately \$ 1.1 Million per year. An [External Advisory Committee](#) ensures that the services from the program will continue upon completion of the grant. The improved retention and success of students in the cohort has attracted support from several industry partners who have reaffirmed their [ongoing commitment and support](#).

Students enrolled in the [AIMS²](#) cohorts have access to special mentoring and advisement by faculty, tutoring and peer mentoring, social activities, field trips and opportunities to take part in summer research projects. Outreach activities by cohort students to other colleges and high schools helps raise awareness of the grant and encourages future students. Students in the cohort are supported with stipends and have created a [web portal](#) that allows all USDE supported HSI-STEM grantees to collaborate. As we complete Year 4 of the grant, several students from the cohort have been recognized at national conferences including [AHSIE](#), [HACU](#) and [HEENAC](#) and the program was recognized with an Honorable Mention award by Excelencia in Education in 2014. Our results reveal the positive effects of student-faculty interaction, peer-peer interaction, and faculty research participation on student experiences and learning.