



**U.S. Department of Education  
Grant Performance Report (ED 524B)  
Project Status Chart**

OMB No. 1894-0003  
Exp. 04/30/2014

PR/Award # (11 characters):  P031C110031

**SECTION A - Performance Objectives Information and Related Performance Measures Data** (See Instructions. Use as many pages as necessary.)

**1. Project Objective**       Check if this is a status update for the previous budget period.

Improve the academic achievement of Hispanic and low-income students in engineering and computer science fields.

I.a. Performance Measure	Measure Type	Quantitative Data						
		Target			Actual Performance Data*			
The percent of Hispanic and low-income students who participated in grant-supported services or programs who successfully completed gate-way courses.	Program or Project	Raw Number**	Ratio	%	Raw Number	Ratio	%	
		CSUN	/			/		
		COC	/			/		
		GCC	/			/		
		MC	/			/		
		PC	/			/		

\*No baseline data available for this report

\*\* CSUN: California State University, Northridge; COC: College of the Canyons; GCC: Glendale Community College; MC: Moorpark College; PC: Pierce College

I.b. Performance Measure	Measure Type	Quantitative Data						
		Target			Actual Performance Data*			
The percent of Hispanic and low-income students who participated in grant-supported services or programs in good academic standing.	Program or Project	Raw Number**	Ratio	%	Raw Number	Ratio	%	
		CSUN	/			/		
		COC	/			/		
		GCC	/			/		
		MC	/			/		
		PC	/			/		

\*No baseline data available for this report

\*\* CSUN: California State University, Northridge; COC: College of the Canyons; GCC: Glendale Community College; MC: Moorpark College; PC: Pierce College

I.c. Performance Measure	Measure Type	Quantitative Data					
		Target			Actual Performance Data		
Improvements in student success (non-cognitive) skills.	Program or Project	Raw Number	Ratio	%	Raw Number	Ratio	%
			/			/	

Explanation of Progress (Include Qualitative Data and Data Collection Information)

**Evaluation Data Sources and Methods for the Objective**

We plan to work with CSUN’s Office of Institutional Research and support requests for institutional data at College of the Canyons, Glendale Community College, Pierce College, and Moorpark College to produce the 2016-17 course completion (1a) and academic standing (1b) data for Hispanic and low-income students in engineering and computer science fields. Also, as part of the process, CSUN faculty mentors worked with project staff to identify the gateway courses listed in Table 1. Gateway courses for COC, GCC, PC, and MC are currently under consideration and will be summarized in the next performance report. The gateway courses for CSUN, which are outlined in Table 1, are courses in which transfer students generally enroll in engineering and computer science majors. These courses will also be monitored with the assistance of CSUN’s Office of Institutional Research.

**Table 1: Gateway Courses by Institution and Major**

Institution	Major	Gateway Courses
CSUN	Mechanical Engineering and Civil Engineering	AM 316
		CE 340
		ME 370
		MSE 304
CSUN	Electrical Engineering and Computer Engineering	ECE 340/L
		ECE 350
		ECE 320/L
		MSE 304
CSUN	Manufacturing Systems and Engineering Management	MSE 304
		MSE 362
		MSE 402
		CE 340
CSUN	Computer Science	COMP 333
		COMP 322/L
		COMP 380/L
CSUN	Computer Information Technology	CIT 270/L
		CIT 360

We also plan to look for improvements in student success skills through the use of results from the Engineering Majors Survey (EMS) – an online survey instrument – and group interviews (i.e., focus groups). Specifically, CSUN plans to collect data on CSUN student interests and career goals surrounding innovation and entrepreneurship through the EMS. With the Engineering Majors Survey (EMS), we will use a pretest/posttest survey administration with CSUN students who participate in grant-supported services and those who do not participate. Each student participant and comparison group will be surveyed two or more times – once at the project entry (pretest), at the end of each academic year (posttest), and/or once at project exit (posttest). For the student focus groups, students from CSUN, COC, GCC, PC, and MC will be invited to group interviews in an effort to explore how participation shapes student experiences and outcomes. Focus group participants will be recruited from a pool of students identified by faculty and staff as participants in grant-supported services and programs. A protocol has been developed to ask students to reflect on their experiences in the program and explore changes in their student success skills. The focus groups will be led by the program evaluators, with three to five focus groups being conducted in the first, third, and fifth years of the grant period. These focus groups will be audio recorded and have hand-written notes taken during the discussion. In addition, focus groups with students who enroll in MATH 150A/L will be invited to participate in a focus group about their changes related to their student success skills.

### Description of Preliminary Findings Related to the Objective

No actual performance measure data are reported here for the objective. Given that project participants have recently been recruited (COC, GCC, MC, and PC) and are currently being recruited, we do not have actual performance measure data to report for the two performance measures (1a and 1b) for this objective. Actual performance data for current project participants will be reported in the next performance report.

### Description of Project Activities Related to the Objective

Currently, faculty and staff are working to provide program activities and services that will help students successfully complete their gateway courses and maintain good academic standing and improve student success. Project activities across all institutions include tutoring, mentoring, textbook award programs, study skills/orientation (CSUN), calculus lab (CSUN), first-time freshman math workshop (CSUN), academic excellence workshops (COC), journal club (COC), workshop on how to develop a student education plan (GCC), a learning workshop for math (GCC), and team building activities (MC) (please see “Description of Project Activities Related to the Objective” for objective 2 for more details).

### Plans to Use of Performance Data to Monitor Progress

Using student participant data, we anticipate that project leads will work with their respective institutional research offices across project sites (CSUN, COC, GCC, MC, and PC) to produce actual course completion and academic standing data from the 2016-17 academic year in August-September 2017.

Given that the third performance measure (1c) relates to improvements in student success skills, plans to monitor performance also includes use of results from the EMS online survey instrument and group interviews (i.e., participant focus groups). Specifically, program evaluators plan to launch the EMS online survey pretest as a pilot to the first group of student participants in Spring or Summer 2017, and data will be collected as part of the group interviews through Fall 2017. Accordingly, group interviews will use interview protocols that include multiple items related to improvements in student success (non-cognitive) skills. For example, we included the following questions in the interview protocol:

- (1) What did you expect CSUN to be like when you first got here?
  - a. Do you feel like you were prepared for a university like CSUN when you first started? What about for your major?
- (2) Do you think you will succeed in college? Why? What about your major?
- (3) More broadly, does it feel like you are competing with your peers in AIMS<sup>2</sup>? Or does it feel like everyone wants each other to succeed? Why or why not?
  - a. Can you describe experiences where you felt validated –culturally, ethnically, linguistically- by your AIMS<sup>2</sup> peers?

Given that student participants began or will begin in Spring 2017 and the EMS online survey pretest and group interviews will occur during the first project year, we anticipate the reporting of actual performance data on these objectives in the next Annual Performance Report. Specifically, we plan to use institutional data to assess further progress on the first and second performance measures (1a and 1b) and the EMS and group interviews to evaluate progress on the third performance measure (1c). Our plans to use data collected through these procedures include discussions of the results in project meetings to address areas of improvement.



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**SECTION A - Performance Objectives Information and Related Performance Measures Data** (See Instructions. Use as many pages as necessary.)

**2. Project Objective**       Check if this is a status update for the previous budget period.

Enhance faculty and peer environments for Hispanic and low-income students in engineering and computer science fields.

2.a. Performance Measure*	Measure Type	Quantitative Data					
		Target			Actual Performance Data*		
The number of Hispanic and low-income students participating in grant-funded student support programs or services.	Program or Project	Raw Number**	Ratio	%	Raw Number	Ratio	%
		CSUN	/		0	/	
		COC	/		23	/	
		GCC	/		10	/	
		MC	/		24	/	
		PC	/		230	/	

\*Baseline data (per Instructions for Grant Performance Report)

\*\* CSUN: California State University, Northridge; COC: College of the Canyons; GCC: Glendale Community College; MC: Moorpark College; PC: Pierce College

2.b. Performance Measure	Measure Type	Quantitative Data					
		Target			Actual Performance Data*		
Improvements in self-reports of quality, quantity, and effects of student-faculty and peer-peer interaction.	Program or Project	Raw Number	Ratio	%	Raw Number	Ratio	%
			/			/	

\*No baseline data available for this report

Explanation of Progress (Include Qualitative Data and Data Collection Information)

**Evaluation Data Sources and Methods for the Objective**

CSUN, College of the Canyons, Glendale Community College, Pierce College, and Moorpark College report their respective data sources and methods pertaining to performance measure 2a below.

**Evaluation Data Sources and Methods at CSUN**

CSUN will collect data on student participation through formal recruitment and program acceptance and, on an ongoing basis, through faculty-student individual advising and faculty mentor group meetings with students. See "Description of Project Activities Related to the Objective" for details on faculty mentor group meetings.

*Evaluation Data Sources and Methods at College of the Canyons*

College of the Canyons collected data on student participation through attendance in student meetings. See “Description of Project Activities Related to the Objective” for details on Student Meetings.

*Evaluation Data Sources and Methods at Glendale Community College*

Glendale Community College collected data on student participation through student attendance and participation in biweekly workshop participation. See “Description of Project Activities Related to the Objective” for details on biweekly workshops.

*Evaluation Data Sources and Methods at Pierce College*

Pierce College collected data on student participation through participation in tutoring workshops. See “Description of Project Activities Related to the Objective” for details on tutoring workshops.

*Evaluation Data Sources and Methods at Moorpark College*

Moorpark College collected data on student participation through student attendance at biweekly meetings. See “Description of Project Activities Related to the Objective” for details on biweekly meetings.

Additionally, plans to monitor performance on quality, quantity, and the effects of student-faculty and peer-peer interaction (2b) include use of results from the Engineering Majors Survey (EMS) – an online survey instrument – and group interviews (i.e., focus groups). Specifically, CSUN plans to collect data on student interests and career goals surrounding innovation and entrepreneurship beginning in Spring or Summer 2017 through an EMS pilot. With the Engineering Majors Survey (EMS), we will use a pretest/posttest survey administration with both CSUN students who participate in grant-supported services and those who do not participate. Each student participant and comparison group will be surveyed two or more times – once at the project entry (pretest), at the end of each academic year (posttest), and/or once at project exit (posttest). For the student focus groups, students from CSUN, COC, GCC, PC, and MC will be invited to group interviews in an effort to explore how participation shapes student experiences and outcomes related to student-faculty and peer-peer contact. Focus group participants will be recruited from a pool of students identified by faculty and staff as participants in grant-supported services and programs. A protocol has been developed to ask students to reflect on their experiences in the program. The focus groups will be led by the program evaluators, with three to five focus groups being conducted in the first, third, and fifth years of the grant period. These focus groups will be audio recorded and have hand-written notes taken during the discussion.

Description of Preliminary Findings Related to the Objective

Preliminary findings for each college are reported below.

*Preliminary Findings of CSUN*

CSUN is currently in the recruitment process for first student participant group. Eleven applicants are participating in an interview recruitment process. Upon completion of the interviews, faculty will determine which students will be accepted as student participants.

*Preliminary Findings of College of the Canyons*

Data were collected from participation in student meetings. Based on this participation, College of the Canyons reports that 23 students participated in grant-funded support programs or services.

*Preliminary Findings of Glendale Community College*

With the establishment of a new group of student participants, and through tracking of participation in biweekly workshops, Glendale Community College reports that 10 students participated in grant-funded support programs.

*Preliminary Findings of Pierce College*

With tutoring available in engineering and calculus-based physics course sections, Pierce College reports that 200 students participated in calculus-based physics sections and 30 students participated through the engineering section. These subtotals yield a total of 230 students served through grant-funded support programs.

### *Preliminary Findings of Moorpark College*

Through student project participation in biweekly meetings, Moorpark College reports that 24 students participated in grant-funded support programs or services.

### Description of Project Activities Related to the Objective

Specific project activities at CSUN, College of the Canyons, Glendale Community College, Pierce College, and Moorpark College, respectively, are detailed below.

#### *Project Activities at CSUN*

Although CSUN is in the final stages of forming the first group of student participants for the Spring 2017 term, faculty and staff have worked to implement multiple program activities to support this student participant group and future student participants. These programs include establishing a peer-tutoring component to the program. In particular, in January-February 2017, we recruited and hired peer tutors from CSUN's upper-division undergraduate and graduate students in the College of Engineering and Computer Science. In addition to peer tutoring, faculty mentors will be assigned to each student participant, and these faculty mentors have planned small group meetings with student participants. These meetings support student-faculty interaction and student development, and are also intended to facilitate peer-peer interaction. Additionally, faculty mentors will meet with students on a regular basis one-on-one to discuss their academic performance and help them with advising. Further, project faculty developed and enrolled students in a designated course section of MATH 105A/L that offers students enhanced instruction, including a teaching assistant for the lab component of the course.

Project faculty and staff at CSUN are planning a study skills/orientation and specialized math workshops. CSUN faculty are working to create a study skills/orientation workshop to begin Summer 2017 designed as a week-long program during CSUN's summer orientation and will provide customized workshops to help first time freshman (FTF) entering the College of Engineering and Computer Science. The topics covered in the customized workshops include a welcome to engineering, concerns about being an engineer, setting student goals in engineering, what is a study plan, preparing for class, learning strategies, managing your finances, and a tour of the engineering labs, etc. As a complimentary summer program, CSUN faculty are working to create a math workshop for first time freshman (FTF) to also begin Summer 2017. The goal is to support and accelerate students' progress through the math course sequence. Utilizing the Math Selection Assessment (MSA) online system and weekly face-to-face tutoring support, students will participate in a four-to-six week workshop over the summer in preparation of the Math Placement Test (MPT). The MPT is used to determine eligibility to enroll in specific math courses and is required for all incoming freshmen. Through adequate preparation for the MPT, students will be better prepared with the likelihood of testing to their full capability. This approach has the potential to improve student retention and ultimately graduation rates. In addition, CSUN faculty have also worked to create a calculus lab which enhances the materials and instruction for one section of a Calculus 150A lab. Calculus 150A is a math prerequisite course for all majors in the College of Engineering and Computer Science. Students meet weekly with faculty and a teaching assistant (TA) to review the lesson for the week and are provided with additional examples and hands on technology (Geogebra). Geogebra is mathematics software that brings together geometry, spreadsheets, graphing, statistics, and calculus, and is set-up for the TA to use during class as a demo and for students to use both during and outside of class.

#### *Project Activities at College of the Canyons*

Project activities at College of the Canyons include a journal club, in which students will meet with a professional scientist/engineer from NASA Armstrong and will discuss current scientific and technological articles. COC will also host monthly student meetings where students will have the opportunity to learn more about study skills, internship opportunities, scholarship opportunities, current trends in research, and future workshops, with a format open to questions and discussions with peers. There will also be an offering of weekly Academic Excellence Workshops where students will develop and refine study and test taking skills for academic success in their current STEM courses under the guidance of a trained facilitator. Workshops will primarily be offered in calculus and chemistry. In addition to these ongoing meetings and workshops, students are also invited to attend special lectures exposing students to how our global economy will affect our future in the STEM field, and how various STEM majors fit into civic engagement through discussion with peers and faculty. College of the Canyons will also sponsor students to attend the Society of Hispanic Professional Engineers (SHPE) Regional Conference. This conference fosters an environment to accelerate and enhance leadership, management, and technical skills.

#### *Project Activities at Glendale Community College*

During the course of this project period, students at Glendale Community College will be supplemented with workshops that cover many topics relevant to student success. These topics include a welcome orientation to help students create a sense of community, time dedicated to developing a student education plan that includes transfer options, an introduction to the career center that explains how to prepare a resume and what to expect at a conference, and a math workshop. In addition, students are given the task of working with other campus student organizations to organize an annual Maker Faire Conference. This conference showcases original projects

from students and industry professionals from Los Angeles County. Finally, Glendale Community College will sponsor students to attend the Society of Hispanic Professional Engineers (SHPE) Regional Conference. This conference aims to foster an environment to accelerate and enhance leadership, management, and technical skills.

#### *Project Activities at Pierce College*

For the current project period, activities at Pierce College include peer tutoring offered for one engineering course section and six calculus-based physics course sections. During this performance period, weekly help sessions were established for these various course sections to assist students with completing assignments and preparing for exams. Additionally, a Career Guidance Counselor Assistant (CGCA) is currently in the planning stages of creating workshops for students on topics such as study skills and resume building. The CGCA is also working to facilitate student support activities such as coordinating guest speakers and field trips.

#### *Project Activities at Moorpark College*

Project activities at Moorpark College focus on team building in biweekly meetings that include workshops, guest speakers from industry and academia, field trips, peer-tutoring, and review sessions. Workshops include the following topics: Counseling to help with developing an education plan, study skills, time management, stress identification and reduction, and resume and cover letter writing. In addition to workshops, guest speakers from industry and academia help students understand different engineering disciplines and occupations within the field and how their education can help them realize their dreams. These guest speakers can also serve as role models for some students and help them make some professional connections. Additionally, field trips are arranged so that students can see first-hand what some engineers do on the job for real-world inspiration. Then after the hour-long workshops mentioned above, students form groups and work on common subjects that they have difficulty with or need help with. In these groups, students help one another while a facilitator is also available to help students with questions. Due to the popularity of these tutoring sessions, the program is exploring the possibility of hiring a dedicated student tutor. In addition to participation in the biweekly team building activities, students are informed of various summer research opportunities available at CSUN and Moorpark College, and other research opportunities will be sought for students, including opportunities at California State University, Channel Islands. Also, students are expected to join an engineering organization and attend at least one local meeting per semester. And finally, students will use their resume writing and cover letter writing skills to apply to at least one engineering internship opportunity. While not required to secure an internship, this exercise is an important way for students to gain some real-world experience and learn some soft-skills to help them find a job once they graduate.

#### Plans to Use of Performance Data to Monitor Progress

While data collection for the first performance measure (2a) is well underway, data collection for the second performance measure (2b) will take place during the first project year. Given that the second performance measure (2b) relates to quality, plans to monitor performance includes use of results from the EMS online survey instrument and group interviews (i.e., participant focus groups). Specifically, program evaluators plan to launch the EMS online survey pretest as a pilot to the first group of student participants in Spring or Summer 2017, and data will be collected as part of the group interviews through Fall 2017. Accordingly, group interviews will use interview protocols that include multiple items related to student-faculty and peer-peer interactions intended to examine the nature of and effects from student-faculty and peer-peer interaction in the project. For example, we included the following questions in the interview protocol:

- (1) Let's talk about your first year here at CSUN (either as a first-year student or after transferring from community college or another institution). Did you come to feel a connection to CSUN? Like you belonged here? What about your major?
  - a. Were there any individuals who played a role in making you feel this way? What did they do?
- (2) Let's keep discussing those individuals who have helped you feel a part of CSUN. Can you describe some experiences with them both inside and outside the classroom? How did these situations make you feel? Did they make you feel like a more capable student?
- (3) Do you think you need encouragement (validation) from AIMS<sup>2</sup> faculty, staff, or students before you get involved in an activity, event, project, or research opportunity? Why or why not?
  - a. Have there been any situations where someone has taken an active interest in you, or thought you were capable of doing something, to get you more involved in your education?
- (4) In general, how do your AIMS<sup>2</sup> faculty mentors make you feel academically? Do you feel like they think you can succeed?
  - a. How do they help you succeed in the major?
  - b. In preparing for a career?
- (5) Let's continue discussing your AIMS<sup>2</sup> faculty mentors? Do you find that they:
  - a. Have a genuine concern for teaching students? How did they show this?

- b. Are personable and approachable toward students? How so?
  - c. Treat students equitably? Please describe how.
  - d. Work individually with those students needing extra help? Can you recall any examples?
  - e. Provide meaningful feedback to students? Anything specifically?
- (6) Now let's talk about your friend in AIMS<sup>2</sup> for a bit. Can you describe them to me? Do you find that, as a whole, you all place a high importance on college? Do you feel like you can turn to them for help with school? Or to discuss problems?
- a. Do you feel like your friends from AIMS<sup>2</sup> value your cultural history and identity? Do you feel that they accept your ethnic, cultural, and linguistic heritage? In what ways, yes or no?
- (7) More broadly, does it feel like you are competing with your peers in AIMS<sup>2</sup>? Or does it feel like everyone wants each other to succeed? Why or why not?
- a. Can you describe experiences where you felt validated – culturally, ethnically, linguistically – by your AIMS<sup>2</sup> peers?

Given that student project participants across sites began in Spring 2017 and group interviews will occur during the first project year, we anticipate the reporting of actual performance data on these objectives in the next Annual Performance Report. We will use results from program data, the EMS, and interviews to monitor progress on meeting this objective. Specifically, we plan to use program data to assess further progress on the first performance measure (2a) and the EMS and group interviews to evaluate progress on the second performance measure (2b). Our plans to use data collected through these procedures include discussions of the results in project meetings to address areas of improvement.



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**3. Project Objective**       Check if this is a status update for the previous budget period.

Improve the transfer of Hispanic and low-income students in engineering and computer science fields to baccalaureate-granting institutions.

3.a. Performance Measure	Measure Type	Quantitative Data						
		Target			Actual Performance Data*			
The percentage change, over the five-year grant period, of the number of Hispanic and low-income, full-time STEM field degree-seeking undergraduate students enrolled.	Program or Project	Raw Number**	Ratio	%	Raw Number	Ratio	%	
		CSUN	/			/		
		COC	/			/		
		GCC	/			/		
		MC	/			/		
		PC	/			/		

\*No baseline data available for this report

\*\* CSUN: California State University, Northridge; COC: College of the Canyons; GCC: Glendale Community College; MC: Moorpark College; PC: Pierce College

3.b. Performance Measure	Measure Type	Quantitative Data						
		Target			Actual Performance Data*			
The percentage of Hispanic and low-income, first-time STEM field degree-seeking undergraduate students who were in their first year of postsecondary enrollment in the previous year and are enrolled in the current year who remain in a STEM field degree/credential program.	Program or Project	Raw Number**	Ratio	%	Raw Number	Ratio	%	
		CSUN	/			/		
		COC	/			/		
		GCC	/			/		
		PC	/			/		
		MC	/			/		

\*No baseline data available for this report

\*\* CSUN: California State University, Northridge; COC: College of the Canyons; GCC: Glendale Community College; MC: Moorpark College; PC: Pierce College

Explanation of Progress (Include Qualitative Data and Data Collection Information)

**Evaluation Data Sources and Methods for the Objective**

We plan to work with CSUN's Office of Institutional Research and support request for institutional data by project leads at College of the Canyons, Glendale Community College, Pierce College, and Moorpark College to produce the 2016-17 enrollment (3a) and STEM retention (3b) data for Hispanic and low-income students in engineering and computer science fields.

**Description of Preliminary Findings Related to the Objective**

No student participant data are reported here for the objective. Baseline and actual performance data for current student participants will be reported in the next performance report.

**Description of Project Activities Related to the Objective**

In this project period, project faculty and staff are working to create project activities that support the achievement of this objective through work with student project participants at CSUN, College of the Canyons, Glendale Community College, Pierce College, and Moorpark College. Project activities include tutoring, mentoring, textbook award programs, team building activities (Pierce College), academic excellence workshops (College of the Canyons), attendance of College Day at UC Riverside (College of the Canyons), and sponsorship of students to attend the Society of Hispanic Professional Engineering (SHPE) Regional Conference (College of the Canyons and Glendale Community College) (please see “Description of Project Activities Related to the Objective” for objective 2 for more details). In addition, project faculty at CSUN, College of the Canyons, Glendale Community College, Pierce College, and Moorpark College are working collaboratively to support early contact and connections between community college students and CSUN, including Summer Research Opportunities and community college student participant attendance at CSUN’s Project Design Showcase.

**Plans to Use of Performance Data to Monitor Progress**

We anticipate that the CSUN Office of Institutional Research and institutional research/effectiveness offices for COC, GCC, PC, and MC will produce actual student enrollment (3a) and STEM retention (3b) data from the 2016-17 academic year in August-September 2017. Once we receive 2016-17 institutional data on student enrollment and STEM retention, we will calculate the actual performance data for this measure. Our plan to use data collected through this procedure includes discussions of the results in project meetings to address areas of improvement.



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**4. Project Objective**       Check if this is a status update for the previous budget period.

Improve career preparation of Hispanic and low-income students in engineering and computer science fields.

4.a. Performance Measure	Measure Type	Quantitative Data					
		Target			Actual Performance Data*		
		Raw Number	Ratio	%	Raw Number	Ratio	%
Gains on measures of self-perceptions, attitudes, and skills related to career.	Program or Project						

\*No baseline data available for this report

Explanation of Progress (Include Qualitative Data and Data Collection Information)

**Evaluation Data Sources and Methods for the Objective**

We plan to look for gains on measures of self-perceptions, attitudes, and skills related to career through the use of results from the Engineering Majors Survey (EMS) – an online survey instrument – and group interviews (i.e., focus groups). Specifically, CSUN plans to collect data on student interests and career goals surrounding innovation and entrepreneurship through the EMS. With the Engineering Majors Survey (EMS), we will use a pretest/posttest survey administration with both CSUN students who participate in grant-supported services and those who do not participate. We will survey both groups so that we can identify a comparison group to compare the student participant group. Each student participant and comparison group will be surveyed two or more times – once at the project entry (pretest), at the end of each academic year (posttest), and/or once at project exit (posttest). For the student focus groups, students from CSUN, COC, GCC, PC, and MC will be invited to group interviews in an effort to explore how participation shapes student self-perceptions, attitudes, and skills related to career. Focus group participants will be recruited from a pool of students identified by faculty and staff as participants in grant-supported services and activities. A protocol has been developed to ask students to reflect on their experiences in the program. Multiple annual focus groups will be led by the program evaluators.

**Description of Preliminary Findings Related to the Objective**

No student participant data are reported here for the objective. Baseline and actual performance data for current student participants will be reported in the next performance report.

**Description of Project Activities Related to the Objective**

Specific project activities at CSUN, College of the Canyons, Glendale Community College, Pierce College, and Moorpark College, respectively, are detailed below.

***Project Activities at CSUN***

For this project period, current and planned project activities related to this objective include a resume workshop where students will have the opportunity to receive one-on-one feedback on their resume by professionals. In addition to this resume workshop, students will be encouraged to attend TechFest, an arena-style job fair hosted by CSUN’s Career Center, and three unique CSUN Career Expos – the Spring Internship and Career Expo, the Non-profit and Government Career Expo, and the Education Expo.

#### *Project Activities at College of the Canyons*

Current and planned project activities include monthly student meetings where students will have the opportunity to learn more about internship opportunities, etc. There has also been a celebration of STEM week where each day workshops are offered in areas such as helping students understand the application process for internship opportunities, and the transfer process. These workshops were presented by COC alumni. Additionally, students will be invited to attend special lectures expanding their views of the career options available with a STEM degree. These lectures expose students to how our global economy will affect our future in the STEM field, and how various STEM majors fit into civic engagement through discussion with peers and faculty. And finally, College of the Canyons will sponsor students to attend the Society of Hispanic Professional Engineers (SHPE) Regional Conference. This conference fosters an environment to accelerate and enhance leadership, management, and technical skills while providing opportunities to network with professionals and industry representatives.

#### *Project Activities at Glendale Community College*

Planned project activities related to this objective in this project period include a workshop that provides students with an introduction to the career center. This introduction includes subjects such as how to prepare a resume and what to expect at a professional conference. In addition, students are given the task of working with other campus student organizations to organize an annual Maker Faire Conference. This conference showcases original projects from students and industry professionals from Los Angeles County. And finally, Glendale Community College will sponsor students to attend the Society of Hispanic Professional Engineers (SHPE) Regional Conference. This conference aims to foster an environment to accelerate and enhance leadership, management, and technical skills while providing opportunities to network with professionals and industry representatives.

#### *Project Activities at Pierce College*

During this performance period, Pierce College has completed the process for hiring a Career Guidance Counselor Assistant (CGCA). The CGCA is currently in the planning stages of creating workshops for students on various topics, including resume building. The CGCA is also working to facilitate student support activities such as coordinating guest speakers and field trips.

#### *Project Activities at Moorpark College*

In this project period, activities underway at Moorpark College include guest speakers from industry and academia to help students understand different engineering disciplines and occupations within the field and how their education can help them realize their dreams. These guest speakers can also serve as role models for some students and help them make some professional connections. Additionally, field trips are arranged so that students can see first-hand what some engineers do on the job and be inspired. Finally, students will use their resume writing and cover letter writing skills to apply for at least one engineering internship opportunity. While not required to secure an internship, this exercise is an important way for students to gain some real world experience and learn some soft-skills to help them find a job once they graduate.

#### Plans to Use of Performance Data to Monitor Progress

Data collection for performance measure 4a will take place during the first project year. Given that the performance measure relates to gains on measures of self-perceptions, attitudes, and skills related to career, plans to monitor performance on these measures include use of results from the EMS online survey instrument and group interviews. Specifically, program evaluators plan to launch the EMS online survey pretest as a pilot to the first group of student participants in Spring or Summer 2017, and data will be collected as part of the group interviews through Fall 2017. Accordingly, group interviews will use interview protocols that include multiple items related to gains on measures of self-perceptions, attitudes, and skills related to career. For example, we included the following questions in the interview protocol:

- (1) In general, how do your AIMS<sup>2</sup> faculty mentors make you feel academically? Do you feel like they think you can succeed?
  - a. How do they help you succeed in the major?
  - b. In preparing for a career?
- (2) Looking ahead, discuss possible connections, if any, between AIMS<sup>2</sup> experiences and future career in the workforce. Has your participation in the program supported your development as a professional engineer?

Given that student participants began or will begin in Spring 2017 and the EMS online survey pretest and group interviews will occur during the first project year, we anticipate the reporting of actual performance data on these objectives in the next Annual Performance Report. We will use results from EMS and group interviews to

**monitor progress on meeting this objective. Our plans to use data collected through these procedures include discussions of the results in project meetings to address areas of improvement.**



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**SECTION A - Performance Objectives Information and Related Performance Measures Data** (See Instructions. Use as many pages as necessary.)

**5. Project Objective**       Check if this is a status update for the previous budget period.

Develop research skills of Hispanic and low-income students in engineering and computer science.

5.a. Performance Measure	Measure Type	Quantitative Data					
		Target			Actual Performance Data*		
		Raw Number	Ratio	%	Raw Number	Ratio	%
Gains on measures of self-perceptions, attitudes, and skills related to research from URSSA survey and interviews.	Program or Project						
		/			/		

\*No baseline data available for this report

Explanation of Progress (Include Qualitative Data and Data Collection Information)

**Evaluation Data Sources and Methods for the Objective**

Data collection to measure actual performance on this objective consists of a combination of survey data collection (e.g., the Undergraduate Research Student Self-Assessment (URSSA) and group interviews (i.e., focus groups). URSSA is an online survey instrument for programs to use in assessing the student outcomes of undergraduate research. Specifically, URSSA focuses on what students learn from their undergraduate research experience, rather than whether they liked it. The self-assessment includes both multiple-choice and open-ended items that focus on students' gains from undergraduate research. For example, students are asked about their gains in thinking and working like a scientist, their personal gains related to research work, their gains in skills, their overall research experience, and any changes in attitudes or behaviors as a researcher. Near the end of their summer research project, student participants will complete a paper or online URSSA survey. As a one-shot posttest survey, URSSA allows for collection of anonymous responses from students. Once students submit their survey, data extracts in Excel occur. In addition to the self-assessment survey, students from CSUN, COC, GCC, PC, and MC will be invited to participate in focus groups to explore how participation shapes students' self-perceptions, attitudes, and skills related to research. This approach will allow us to collect data on how participation in project activities has improved the research interests/skills of student participants. Focus group participants will be recruited from a pool of students identified by faculty and staff as participants in faculty research. Given that student research will primarily take place in Summer 2017 and URSSA will be administered as a pilot once near the end of the summer, and student focus groups that will take place during the first project year, we anticipate the reporting of actual performance data for this measure in the Annual Performance Report for the first and/or second years of the project.

**Description of Preliminary Findings Related to the Objective**

No student participant data are reported here. Baseline and actual performance data for current student participants will be reported in the next performance report.

**Description of Project Activities Related to the Objective**

During the current term (Spring 2017), CSUN faculty mentors have worked to develop research-related activities for student participants. These research-related projects will primarily take place during Summer 2017. CSUN faculty mentors will facilitate interaction between themselves and community college partner students by inviting COC, GCC, PC, and/or MC students to join CSUN students in faculty research projects at CSUN with CSUN faculty mentors. In support of this cross-campus

initiative, project faculty at CSUN, College of the Canyons, Glendale Community College, Pierce College, and Moorpark College are working collaboratively to support early contact and connections between community college students and CSUN, including a summer application workshop, a formal announcement of research project topics, interviews and CSUN campus visits, and a safety and orientation training workshop for all summer research participants. Approximately 35-40 students will be selected to participate in a hands-on summer research project with CSUN faculty. The research will last for a period of 8-10 weeks. The CSUN faculty mentor and research project names are listed below:

**Professors Behzad Bavarian and Lisa Reiner:**

“Application of High Strength Aluminum Alloys for Aircraft Applications,” “Corrosion Protection of Steel Pipes/Reinforced Concrete Structures Using Corrosion Inhibitors,” and “Application of Low Melting Point Materials for Soldering”

**Professor Ruting Jia:**

“Solving Real World Problems by Using Intelligent Comparison Techniques”

**Professor Bingbing Li:**

“Customized Orthodontic Brackets Created by Selective Laser Melting Process for Orthodontic Treatment” and “3D Bioprinting of Aneurysm Blood Vessel”

In addition to summer research, several students will be selected to participate in research during the fall and spring semesters as Research Assistants. Research Assistants will perform research, attend regular meetings with their faculty mentors, and participate in annual Student Research Presentations alongside summer research participants.

#### Plans to Use of Performance Data to Monitor Progress

Data collection for performance measure 5a will take place during the first project year. Given that the performance measure relates to gains on measures of self-perceptions, attitudes, and skills related to research, plans to monitor performance on these measures include use of results from the URSSA survey and group interviews. Specifically, program evaluators plan to administer the URSSA survey as a pilot near the end of Summer 2017, and data will be collected as part of the group interviews through Fall 2017 and/or Spring/Summer 2018. Accordingly, group interviews will use interview protocols that include items related to gains on measures of self-perceptions, attitudes, and skills related to research. To that end, we included the following questions in the interview protocol:

- (1) Do you think you need encouragement (validation) from AIMS<sup>2</sup> faculty, staff, or students before you get involved in an activity, even, project, or research opportunity? Why or why not?
  - a. Have there been any situations where someone has taken an active interest in you, or thought you were capable of doing something, to get your more involved in your education?

Given that student participants began or will begin in Spring 2017 and the URSSA survey and group interviews will occur during the first project year, we anticipate the reporting of actual performance data on these objectives in the next Annual Performance Report. We will use results from URSSA and groups interviews to monitor progress on meeting this objective. Discussions of results from both data collection procedures will support the monitoring and progress of this objective.



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**SECTION A - Performance Objectives Information and Related Performance Measures Data** (See Instructions. Use as many pages as necessary.)

**6. Project Objective**       Check if this is a status update for the previous budget period.

Increase baccalaureate degree completion of Hispanic and low-income students in engineering and computer science fields.

6.a. Performance Measure	Measure Type	Quantitative Data					
The percentage of Hispanic and low-income students transferring successfully to a four-year institution from a two-year institution and retained in a STEM field major.	Program or Project	Target			Actual Performance Data*		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				/			/

\*No baseline data available for this report

6.b. Performance Measure	Measure Type	Quantitative Data					
The percent of Hispanic and low-income STEM field major transfer students on track to complete a STEM field degree within three years from their transfer date.	Program or Project	Target			Actual Performance Data*		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				/			/

\*No baseline data available for this report

6.c. Performance Measure	Measure Type	Quantitative Data					
The percent of Hispanic and low-income students who participated in grant-supported services or programs and completed a degree or credential.	Program or Project	Target			Actual Performance Data*		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				/			/

\*No baseline data available for this report

Explanation of Progress (Include Qualitative Data and Data Collection Information)

**Evaluation Data Sources and Methods for the Objective**

We plan to work with CSUN's Office of Institutional Research to produce the 2016-17 transfer rates (6a) and degree completion figures (6b) for Hispanic and low-income students in engineering and computer science fields. The end of the 2016-17 academic year will mark the end of the first academic year of the project (but will only mark the end of the first semester after formation of the first group of student participants during the Spring 2017 term).

We will also work with CSUN's Office of Institutional Research to produce a status update of the degree completion figures for performance measure 6c for the next Annual Performance Report. The 2018-19 academic year (third project year) will be the first to yield data with respect to the three-year degree completion for first time transfer students who participated in grant-supported services, while the 2019-20 academic year (fourth project year) will provide four-year degree completion rates for first time freshman who have participated in grant-supported services. Up to these points, actual performance data will reflect patterns prior to grant-supported activities and services.

**Description of Preliminary Findings Related to the Objective**

No student participant data are reported here for the objective. Baseline and actual performance data for current student participants will be reported in the next performance report.

**Description of Project Activities Related to the Objective**

Project faculty and staff are working to create project activities that support the achievement of this objective through work with student participants at CSUN, College of the Canyons, Glendale Community College, Pierce College, and Moorpark College. Project activities currently under way and/or planned this year include one-on-one advising, tutoring, mentoring, textbook award programs, study skills/orientation (CSUN), calculus lab (CSUN), first-time freshman math workshop (CSUN), academic excellence workshops (College of the Canyons), attendance of College Day at UC Riverside (College of the Canyons), Education Plan Development Workshop (Glendale Community College), sponsorship of students to attend the Society of Hispanic Professional Engineering (SHPE) Regional Conference (College of the Canyons and Glendale Community College), and team building activities (Moorpark College) (please see "Description of Project Activities Related to the Objective" for objective 2 for more details). In addition, project faculty at CSUN, College of the Canyons, Glendale Community College, Pierce College, and Moorpark College are working collaboratively to support early contact and connections between community college students and CSUN, including Summer Research Opportunities and community college student participant attendance at CSUN's Project Design Showcase and CSUN's TechFest career event.

**Plans to Use of Performance Data to Monitor Progress**

We anticipate that the CSUN Office of Institutional Research will produce actual transfer rates (6a) and degree completion figures (6b and 6c) from the 2016-17 academic year (and previous academic years) in August-September 2017. Once the Offices of Institutional Research send us the 2016-17 data on transfer rates and degree completion, we will calculate the actual performance data for this measure. Our plan to use data collected through this procedure includes discussions of the results in project meetings to address areas of improvement.



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**SECTION B - Budget Information** (See Instructions. Use as many pages as necessary.)

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**SECTION C - Additional Information** (See Instructions. Use as many pages as necessary.)