

Welcome to AIMS²(HSI-STEM Grant) 2015 External Advisory Board Meeting Meeting # 37



*JD 1568
2 PM - 4PM
Sep 10, 2015*

09/10/15

AIMS(HSI-STEM Grant) Meeting
37

•AIMS² Cohort: Photo Courtesy Armando



AGENDA

- 2 PM Welcome and Introductions – External Advisory Committee
- 2:10 PM Overview of grant
 - Program News and Plans for Year 5– Ramesh
- 2:20 PM Project Evaluation and Progress to date – Nathan
- 2:50 PM Project Activities/Academic Progress of Cohorts
 - Glendale Community College – Jan Swinton, Scott Rubke and Richard Cortes
 - College of the Canyons – David Martinez and Eric Lara
 - CSUN – Bob Ryan, and Tesha
- 3:10 PM Feedback and Discussion - External Advisory Committee
- 4:00 PM Adjourn



External Advisory Committee

- Ms. Rupa Dachere, Codechix
- Ms. Roslyn Soto, JPL
- Dr. Vaughn Cable, JPL
- Mr. Luis Carbajo, IEEE LA Council Vice Chair
- Ms. Linda Friedman, Northrop Grumman, Woodland Hills
- Mr. Neal Gaborno, Raytheon
- Mr. Bill James, Avery James Inc.,
- Prof. Miguel Macias, Emeritus faculty CSUN
- Mr. Tony Magee, PWR
- Mr. Michael Medina, Hill International, San Diego
- Dr. Rick Ratcliffe, Dean emeritus CSUN



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WHITE HOUSE INITIATIVE
on EDUCATIONAL EXCELLENCE for HISPANICS
25 Years of Fulfilling America's Future

Dear Colleague,

On behalf of the White House Initiative on Educational Excellence for Hispanics (Initiative), thank you for answering the call for Bright Spots in Hispanic Education.

I am pleased to notify you that the Bright Spot nomination you submitted has been accepted for recognition through the Initiative's Anniversary Year of Action. Your Bright Spot will be publicly recognized on Tuesday, September 15, 2015 and will be included in the Initiative's first-ever National Bright Spots in Hispanic Education online catalogue. We will be in touch by the end of this week with amplification tools and resources, but please hold off in publicly announcing the acceptance of your Bright Spot (i.e., emails, press, social media) until we provide additional guidance.

Congratulations and thank you for your leadership, dedication and steadfast commitment to the Hispanic community. I look forward to celebrating the tremendous progress Hispanic students have made in education over the last 25 years and recognize the leaders, parents and educators who have supported them along the way.

Thank you,

/s/

Alejandra Ceja
Executive Director
White House Initiative on Educational Excellence for Hispanics



Goals and Objectives

- 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.



Project Activities

- Tutoring to improve student performance in preparatory Math and Science courses.
- Advising and tracking of students in cohort
- Work closely with faculty and staff in feeder community colleges to develop seamless articulation agreements, especially for students transferring from 2 year colleges to CSUN.
- Create a mobile digital environment with Tablet PCs , iPad's, and appropriate software, so that the project team can work with the cohorts to enhance communication, engagement, collaboration and creativity, and instant learning assessment.
- Expand Facilitated Academic Workshops (FAW) in required introductory courses and key upper division courses offered by the college's programs
- Faculty/Peer mentoring and career advising of students in the cohort
- College wide events focused on careers and jobs such as the biannual Tech Fest events held in February and September.
- Provide students with opportunities to work on hands-on projects and research activities that encourage them to stay connected with their majors



Nuts and Bolts

- All cohort students meet regularly as a group with faculty mentor and peer mentor from their respective program
- All cohort students maintain an online journal using Moodle with submissions required on a monthly basis – responses to prompts and additional information
- All faculty mentors maintain an online journal with submissions required once/semester
- Lead project faculty from GCC, COC and CSUN meet regularly to address gaps in articulation agreements and collaboratively develop curriculum to address gaps
- Monthly meetings of the entire team to review progress on key project measures and activities.
- Annual meeting with External Advisory Committee
- Bi-annual gathering of the cohorts at partner colleges to promote interaction



Proposed Cohort Size

3 Cohorts for a total of 180 students

90 Students from CC, 90 First Time Transfer Students at CSUN

Year	GCC	COC	CSUN	Total
Year 1	15	15	30	60
Year 2	30	30	60	120
Year 3	30	30	90	150
Year 4	15	15	90	120
Year 5			60	60
Total	90	90	330	510



Students served to date

- Since January 2012 we have served a total of over 200 students in three cohorts (approximately 67 % Latino/a). This includes first-time transfer students at CSUN, and students who transferred from our partner institutions at GCC, and COC.



Budget Update

Year 2	\$1,140,998	\$1,134,630	(\$6,368)	-0.56%
Year 3	\$1,132,511	\$1,128,888	(\$3,623)	-0.32%
Year 4	\$1,129,743	\$1,075,169	(\$54,574)	-4.83%
To Date	\$4,500,108	\$4,435,543	(\$64,565)	-1.43%
Year 5	\$1,062,659	\$1,003,681	(\$58,978)	-5.55%
	\$5,562,767	\$5,439,224	(\$123,543)	-2.22%



• Cohort 5



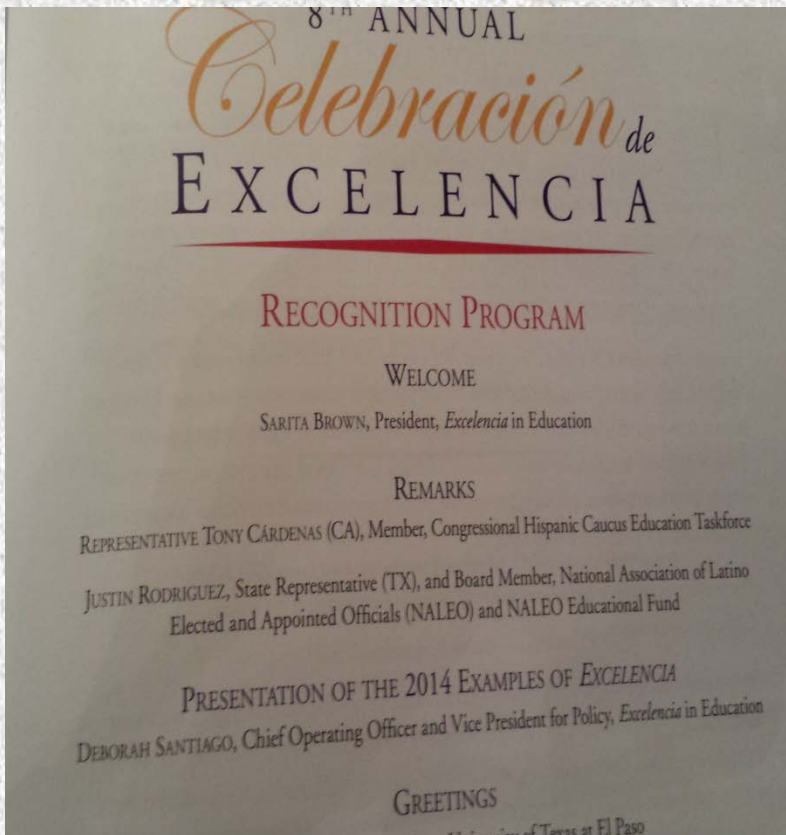
The AIMS² Project Team **Attract, Inspire, Mentor, and Support Students**



**Faculty and Staff from the College of the Canyons, Glendale CC,
& the College of Engineering and Computer Science, CSUN**



Celebracion de Excelencia: 9/30/14



“This year’s Examples of *Excelencia* and finalists are at the forefront of meeting the challenge of improving higher educational achievement for Latino students,” said **Sarita Brown, president of *Excelencia* in Education**. “No longer should policymakers and institutional leaders ask how to improve college success for Latinos – we have the largest accumulation of proven examples and tested strategies that show them how. Today’s question is do leaders have the will to put these practices into action.”

- **U.S. Rep. Tony Cárdenas (San Fernando Valley, Calif.)** brought greetings on behalf of the Congressional Hispanic Caucus. He congratulated *Excelencia* in Education and the Examples of *Excelencia* program, highlighting the California State University, Northridge's Engineering and Computer Science HSI-STEM Initiative, an institution from his congressional district who received recognition as an Honorable Mention in the bachelor's degree category. Cárdenas urged the audience never to pass up an opportunity to mentor Latino students toward success.

See more at: <http://www.edexcelencia.org/media/press-releases/excelencia-announces-top-programs-increasing-latino-student-success>



Excelencia Foundation Recognition: 9/30/14



Anwar, Ramesh, Sarah, Richard (above)
Richard, Bruno, Anwar, Ramesh (below)



Congressman Cardenas' remarks
President Sarita Brown looks on

<https://www.youtube.com/watch?v=I0Fzz-1t78s&list=PLi-dqTm4tmeeG9SabKxNd75UJl4s3UHBK&index=3>



White House STEM Workshop

- CSUN hosted one of the four national workshops on October 7, 2014
- Focused on College Opportunity and broadening participation in STEM
- Supported by the Helmsley Trust and the White House OSTP
- President Harrison invited to White House STEM Summit on December 4, 2014



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Title V/HSISTEM APR: YEAR 3

Advisory Board Meeting
California State University Northridge
September 10, 2015



Focus





Overview

- Background
- Overall approach and findings
- Trends in quantitative measures
- Patterns emerging from qualitative measures
- Focus areas and recommendations
- Plans



Approach: Framework

- Project Objectives guided the evaluation as an embedded mixed methods case study design.
- Overall, evaluation goal was to assess project performance measures with baseline and actual performance data at each campus.



Approach: Procedures

- Data sources: AIMS2 students, faculty, staff, and institutional data
- Data collection procedures: journal guides, surveys, and interviews
- Data analysis procedures: frequency analysis and thematic data analysis



The Big Picture: Objectives & Measures

- 3 overarching goals: build a transfer model, increase student transfer to CSUN, and increase student completion at CSUN
- 12 objectives shape 35 performance measures
- 35 performance measures informed by data type
- 28 quantitative, 7 qualitative measures shape data
- 28 quantitative measures by measure type:
- 21 = cohorts + 7 = project/non-cohort
- 7 qualitative: 2 @ COC + 2 @ GCC + 3 @ CSUN



Measures

- 35 performance measures guide assessment
- 4 project measures = across campuses
- Transfer, articulation, completion
- 3 non-cohort measures = campus specific
- Counselor STEM PD, academic advisers
- 28 cohort measures = direct cohort
- Advising, tutoring, tutoring, mentoring
- 21 quantitative + 7 qualitative



Cohorts

- Project = cohort model:
- Evaluation = cohort approach
- Cohort 2 (Fa12) + Cohort 3 (Fa13): assess cohort measures by cohort
- Baseline + performance data collected, analyzed, assessed by cohort targets
- Applied 21 quantitative cohort measures to each cohort (n=42) + applied 7 qualitative measures across cohorts (n=7)
- Total: 49 cohort measures



Quantitative Measures

- Advising sessions (6)
- Peer/tutoring sessions (12)
- Online course enrollment (4)
- Student-faculty interaction (6)
- Peer mentoring (6)
- Academic workshops (2)
- Supplemental lab (2)
- Faculty research interaction (2)
- Cohort participation (2)



Qualitative Measures

- Quality of student-faculty interaction at GCC/COC (2) and CSUN (1)
- Quality of peer-peer interaction at GCC/COC (2) and CSUN (1)
- Effects of student participation in faculty research at CSUN (1)



Final Count

	Quantitative		Qualitative	<i>Total</i>
Project	4		0	4
Non-Cohort	3		0	3
Cohort	21	21	7	49
<i>Total</i>	49		7	56



The Big Picture: Overall Findings

- Of 56 total measures, 37 measures (66%) met or exceeded project targets or demonstrated improvement in quality for both cohorts
- Data for the quantitative measures (n=49) reveal that 30 (or 61%) measures met or exceed project targets
- Results for all qualitative measures (n=7/7) point to improvement in quality of peer-peer interaction, student-faculty interaction, research participation



Overall Trends: Quantitative Measures

- All 4 project measures—transfer (1a), course articulation (2a/b), and completion (7a) met or exceeded project targets in the period
- All 3 non-cohort measures—Counselor STEM PD (3a) at GCC/COC, academic advisors at CSUN (8a)—met or exceeded project targets
- 32 of 49 (65%) cohort measures across campuses met or exceeded targets in the period



Transfer/Completion

- Transfer achievement exceeded target
- 64 new CSUN transfer students entered in 2013-14 from COC/GCC in a field housed in CECS
- 178% increase over the project target (n=36) and a 305% increase over baseline figure (n=21) from 2010-11
- Program completion exceeded target
- 39.2% (60/153) completed a degree program for the most recent period vs. 30.9% (21/68) project target
- Increase over first project year of 29.3% (22/75) and a slight increase over second project year of 38.8% (n=31/80)



Strengths: Cohort Measures

- GCC/COC counselor STEM PD steady
- COC academic advising in Cohort 2 up, COC/GCC student-faculty interaction way up
- Student-faculty interaction at all three campuses dramatically increased during the period
- Consistent and strong student participation in CSUN faculty research
- CSUN academic advising, peer mentoring in Cohort 2 increased



Focus Areas: Cohort Measures

- Academic advising at GCC/COC generally did not meet project targets
- Peer/tutoring participation at CSUN a mixed bag--with exception: Cohort 3 peer tutoring
- Academic workshops, supplemental labs at CSUN generally fell below targets
- Cross-campus collaborative cohort measures
- GCC/COC: online CSUN course enrollment
- CSUN cohort peer mentoring of GCC/COC cohort fell below targets



Interpretation: Quantitative Measures

- Faculty work with cohort participants—advising, mentoring, supervising research: strength
- Project faculty and staff efforts to develop events, activities pays off: student-faculty/peer-peer interaction
- GCC/COC cohort participation in CSUN online courses = no course offerings, need to rethink measure
- Peer mentoring across campuses: needs attention/project focus
- Lower peer tutoring rates = greater percentage: Cohort 2 students = senior standing



General Patterns: Qualitative Measures





Overall Trends

- In general, results reveal positive effects of student-faculty interaction, peer-peer interaction, and faculty research participation on student experiences and learning
- Overall, 7 of 7 (100%) qualitative measures demonstrate improvement in student-faculty and peer environments on campus and enhanced research environment for student participation



Faculty Research: Student Learning

- Student application of knowledge relevant to their fields of study
- “Originally I didn’t know anything about it so it was good experience. I’m glad I learned something.”
- “I was able to learn the basics and apply it and put it all together.”



Faculty Research: Career Readiness

- Preparation for careers in the field
- “With the [redacted], we can actually save our data because [redacted] so it’s a cool thing. I like it. And the other equipment is very modern. Whatever we ask [for], we can get it at the main equipment lab.”



Faculty Research: Challenges for Students

- Work obligations, academic performance:
- “There was a lot. It kept me from participating in those opportunities.”
- “I was kind of limited because my GPA had dropped since I had gone back to work and wasn’t able to maintain those grades as much as I would have wanted to.”



Student-Faculty Interaction





Student-Faculty Interaction at COC

- Mentoring: academic and career advising shapes student experiences
- “I have been able to develop two relationships with faculty that participated in the [AIMS2] program. This has helped me to bond with and interact with these professors outside of the [classroom]. One has become a mentor to me. [The professor] is guiding and advising me through my engineering career.”



Student-Faculty Interaction at GCC

- Guest speakers, including faculty from GCC and CSUN, have attended monthly sessions, presented a range of STEM issues and disciplines to cohort participants:
- How different STEM fields are connected
- How different science theories are applicable to day-to-day life
- Process/benefits of graduate education



Student-Faculty Interaction at CSUN

- Beneficial contact, meaningful relationships with faculty mentors
- “I always sought guidance from Prof. [redacted] here. [Redacted] was kind of like the person to go to if I had any issues for any problems. I’m not able to take this class. What can I do? [Redacted] would offer different suggestions, different paths I could take.”
- “Dr. [redacted] gave us advice and told us what we needed to do and asked how we were doing.”



CSUN Student Contact with Faculty as Mentoring

- Shaping student experiences viz. industry, professional internships, job opportunities:
- “[Redacted] helped me a lot with the internship. [Redacted] was really friendly and [redacted] helped me to get familiar with my courses. Those were the main things that helped me get very comfortable here.”



CSUN Students and Faculty: Navigating Academic Systems

- “I would ask ways to improve my studying in order to get better grades. How can I improve myself? What kind of sources can I get in order to get a better understanding of the concepts taught in class? They were really helpful with these things.”



Academic Self-Confidence

- Encouragement and support for developing beliefs in abilities to succeed
 - “[Redacted] still goes ahead and gives us confidence and when we get to points where we might be stuck she shall bring in either former students or people in the field to give us a little help and we’ll go from there. And because [redacted] gives us so much freedom I think that’s where we get the confidence from that.”



Problem-Solving Skills

- “I even told Dr. [redacted] about it. And [redacted] just told me that [it was] strange but you should just blow it off. Just do better and show him different.
- “If I wasn’t in the AIMS program then I probably would have foundered a little bit... but I had that support.”



Peer to Peer Interaction at COC

- Networking to build a social system as a pre-transfer activity to promote success during transfer
- “I have met many other students that are pursuing a degree in engineering at COC and transferring to CSUN that has helped me form study groups to study during courses.”
- "Knowing you are surrounded by people that have to go through many of the same classes gives you strength."
- "Seeing how they progressed and improved really helps set a perspective on how I can reach my goals.”



Peer to Peer Interaction at GCC

- Peer environment offers capacity to work as a team to tackle real, tangible, and ambitious projects, as well as enhance knowledge of STEM through guest speakers.
- As one student described, they are being “given opportunities to apply science to real life.”



Peer to Peer Interaction at CSUN: Reproducing Success

- "We help each other whenever we have trouble with projects or homework or anything."
- "We studied together a lot and he's pretty motivated and really wants to succeed. It helps me also to succeed because he always wants study."



Peer Environment at CSUN: Mitigate Transfer Shock

- “No, it was hard. A lot of the concepts were new and I didn’t know anyone so I really didn’t have that much confidence. I didn’t want to talk to other people or get study into groups. So the first semester, a lot of it was studying on my own until I started connecting with people in AIMS. It eventually clicked; it eventually got easier.”



Peers at CSUN: Navigating Academic Systems

- Institutional knowledge that aids cohort participants in program completion:
- “I would ask her questions like, ‘How did you apply? What did they ask you?’”
- "You could call them up and set up an appointment to go over your homework or prep for a test or something."



Peers Environment at CSUN: Non-Cognitive Skill Building

- “It’s just the thought of someone saying you can do it and keep doing it. Eventually it’s going to come to you. It motivates you to do better.”
- “I feel more capable. I see that they work very hard for their major and for their career and it makes me want to work harder for my major and my career. So if they could do it, I could do it.”



Special Note: iPad Use

- Cohort 2 and Cohort 3 students reported using the iPad 13,365 and 5,554 times in total during the period, respectively.
- Average use by student:
- Cohort 2 = 461 uses
- Cohort 3 = 617 uses
- Peak months for iPad use = Aug-Oct + Feb-May



Qualitative Measures: Interpretation

- Meaningful student-faculty and peer- environments @ COC, GCC, and CSUN
- Student contact with faculty in research, cohort group meetings, informal meetings = academic, social, and career development
- Peer-peer interaction: navigate transfer and academic systems



Limitations

- Historical nature of compliance reporting: snapshot in time
- Objectives, performance measures limit scope
- Monthly cohort participant journals: completion rates high but variable



Recap: Conclusions on Performance

- In general, advising, activities, workshops, and faculty research are project strengths
- Overall, frequent and consistent student-faculty interaction tends to have the strongest effects on student experiences
- Finally, peer interaction in the form of peer mentoring and tutoring appear to have strong, positive effects on student transitions, learning



Thank you!



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Glendale Community College AIMS²



GCC Program Profile

- A total of 51 low-income (98% BOG eligible) GCC STEM students participated in the AIMS² program (2012-present)
- Cohort 1 ($n=13$), Cohort 2 ($n=13$), Cohort 3 ($n=11$), Cohort 4 ($n=14$)
- Female ($n=20$), Male ($n=31$)
- Average GPA amongst all 4 cohorts is 3.11 vs. 2.6 (comparison group)
- Majors included: Computer Science, Physics, Aerospace, Civil, Computer, Electrical, Manufacturing, Mechanical, and Structural Engineering.
- Thus far, 28 students have transferred to: **CSUN** ($n=17$), **Cal Poly Pomona** ($n=5$), **UC Berkeley** ($n=3$), **CSULA** ($n=1$), UC Irvine ($n=1$) & **UC Santa Barbara** ($n=1$)

Performance by Cohort

Cohort	Spr 12	Fall 12	Spr 13	Fall 13	Spr 14	Fall 14	Spr 15
1	2.91 (n=13)	3.05 (n=12)	2.95 (n=10)	2.11 (n=7)	M=11.71 units carried		
2		3.09 (n=13)	3.00 (n=13)	3.09 (n=11)	3.36 (n=10)	M= 12.84 units carried	
3			3.38 (n=8)	3.43 (n=11)	3.14 (n=10)	2.74 (n=10)	M=12.83 units
4				M=11.22 units carried		2.83 (n=14)	2.67 (n=14)
Comparison groups							
1	2.58 (n=14,828)	2.57 (n=14,962)	2.59 (n=15,085)	2.59 (n=14,549)	M= 7.86 units carried		
2		2.57 (n=14,962)	2.59 (n=15,085)	2.59 (n=14,543)	2.63 (n=14,115)	M= 7.83 units carried	
3			2.59 (n=15,036)	2.59 (n=14,549)	2.63 (n=14,115)	2.59 (n=15,036)	M=7.88 units
4				M=7.91 units carried		2.59 (n=15,036)	2.63 (n=14,054)

Closing the GAP: GCC/CSUN Articulation Agreements Enhanced

CSUN Course Name/#	Course Title	GCC Course Name/#	Course Title
CIT 101/L	CIT Fundamentals w/lab	CS/IS 101	Intro to Computer Info Systems
CIT 160/L	Internet Technologies w/lab	CS/IS 260	Intro to Website Development
COMP 108	Orientation to Computer Science	CS/IS 112	Intro to Programming using JAVA
COMP 122/L	Computer Architecture & Assembly Language	CS/IS 165	Computer Architecture & Assembly Language
ME 186/L	Computer-Aided Design w/lab	ENGR 111	Solid Works Applications
CE 240/L	Engineering Statics	ENGR 152	Engineering Mechanics-Statics
ECE 240/L	Electrical Engineering Fundamentals	ENGR 140	Electrical Engineering Fundamentals (pending)
MSE 227/L	Engineering Materials w/lab	ENGR 146	Engineering Materials (pending)
ME 209	Programming for Mechanical Engineers	Engr 156	Programming & Problem Solving in MATLAB

Project Activities

- Naval Air Base (San Diego)
- Burbank Water & Power
- JBL/Harman field trip
- Great Minds in STEM Conf
- CSUN Speed Mentoring
- SHPE National Conference
- Calif. Science Museum
- Golden Road Brewery
- CSUN Research Program
- Jet Manufacturing Firm
- Jet Propulsion Lab (JPL)
- Latinas in STEM conf
- Society of Women Engineers Conference
- CSUN Tech Fest
- IPAD trainings
- Boeing field trip





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AIMS²

College of the Canyons



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Program Overview 2012-2015

- A total of 35 low-income (100% BOG eligible), educationally disadvantaged, COC STEM students participated
- Cohort 1 ($n=10$), Cohort 2 ($n=14$), Cohort 3 ($n=8$), Cohort 4 ($n=3$)
- Female ($n=9$), Male ($n=26$)
- Average GPA amongst all 4 cohorts is 3.22 vs. 2.65 (comparison group)
- To date 24 students have transferred to: **CSUN** ($n=13$), **Cal Poly SLO** ($n=3$), **Cal Poly Pomona** ($n=1$), **CSU Long Beach** ($n=1$), **CSU San Jose** ($n=1$), **UC Berkeley** ($n=1$), **UC Davis** ($n=1$), **UC Irvine** ($n=1$), **UC San Diego** ($n=1$), **USC** ($n=1$)
 - 5 are inactive, withdrawn or were removed from the AIMS program
 - 6 remain active participants



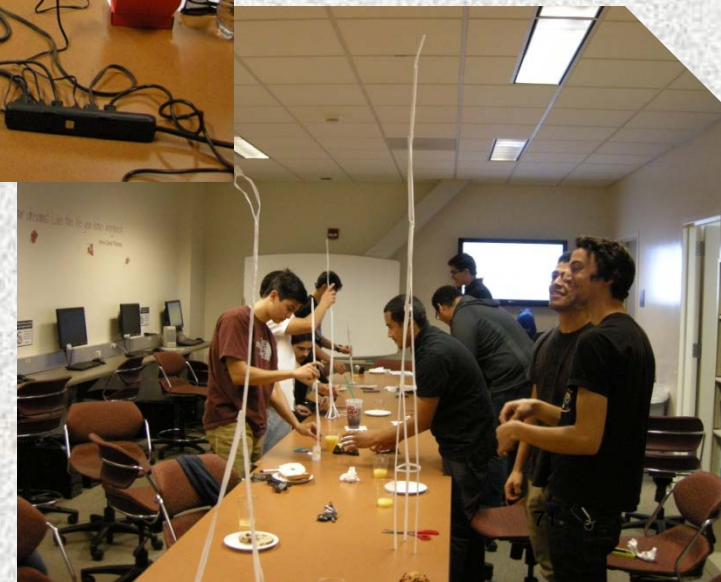
Comparative Student Achievement Data/ALL COHORTS

	Mean Cumulative local Units Completed		Mean Cumulative GPA	
	n	\bar{x}	n	\bar{x}
Spring 2012: Cohort 1	10	104.9	10	3.16
Fall 2012: Cohort 2	14	113.4	14	3.48
Fall 2013: Cohort 3	8	111.2	8	3.10
Fall 2014: Cohort 4	3	86.8	3	3.15
Comparison (Cohort 1)	976	60.9	976	2.61
Comparison (Cohort 2)	1003	58.6	1003	2.68
Comparison (Cohort 3)	1249	49.4	1249	2.60
Comparison (Cohort 4)	1407	39.9	1407	2.69



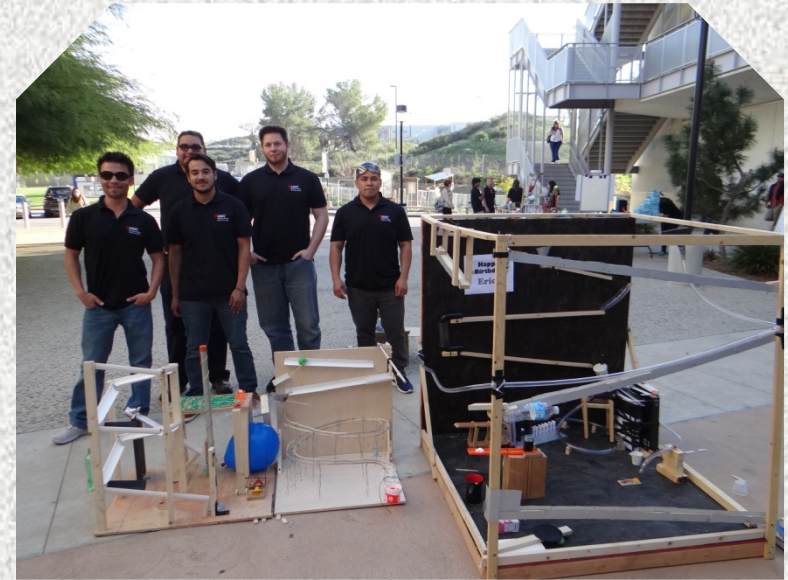
- **Fall 2014**
- Preparing for an Interview
- Resume Workshop
- First Impressions Workshop
- JPL Tour
- HENNAC Conf.
- Soldering Workshop
- Math Anxiety Workshop
- SHPE Conf.
- SpaceX Tour
- CSUN Engr. Faculty Presentation
- REU application workshop

Activities





- **Spring 2015**
- MESA STEM Week
- Professional Engineering Panel
- Rube Goldberg Competition
- Mechanics Wear tour
- Financial Aid Workshop





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Graduates

	Fall 2011	Fall 2012	*Fall 2013	Spring 2014	*Fall 2014	*Fall 2015
Cohort	1	2	3	4	5	6
Total # applicants	30	19	9	28	9	7
Graduates	29	16	1	1	0	0

- * Transfer students from COC and GCC



Progress of Cohorts

	Cohort 4	Cohort 5	Cohort 6
	Spring 2014	Fall 2014	Fall 2015
Good Academic Standing	23	8	7
Academic Probation	3	0	0
Unit Deficiency	2	1	0
Total # applicants	28	9	7



Research Assistants

	Fall 2014	Spring 2015	Summer 2015
CSUN	21	21	26
COC			4
GCC			6
LAMC			2
Total	21	21	38

•Projects (Summer 2015):

1. **CEAM:** Costs associated with the construction of marine outfalls
2. **CS and ME:** (*Interdisciplinary*) Autonomous Camera Drone
3. **ECE:** Construction of Dual-Axis Solar Tracking System
4. **MSEM:** Electrochemical Testing of Biosensors, Electrochemical Testing of Biosensors, Rechargeable Metal-Ion Batteries for Energy Storage, and Active Materials and Morphing structures
5. **ME:** Stem Integrated Robotics, Biomedical Modeling



Presentation at STEM Meeting

- “Promoting Success for Under-Represented Transfer Students at CSU Northridge”, poster presented by Dr. Durdella, Dr. Ryan, and Christopher Lawrence at CSU STEM Meeting (April 7-8, 2015, Cal Poly Pomona)
- Several project strengths were noted:
 - Student contact with faculty mentors in cohort group meetings, research activities, and informal meetings
 - Peer interaction in the form of peer mentoring and tutoring
 - Measured improvements in transfer and program completion rates



Sample of Student Research Presentations

- Poster presentation at 2014 CSUN Research Symposium, “Flow visualization experiments on NACA0021 airfoil at low Re numbers”, Elifalet N. Garcia, Dr. V. Durgesh, & Dr. H. Johari
- “Experimental Study of Thin and Thick Airfoils at Low Reynolds Numbers”, Dr. V. Durgesh, Elifalet N. Garcia, Dr. H. Johari, to be presented at the 68th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD) in Boston, Massachusetts, on November 22-24, 2015



Presentations, continued

- “Experimental Study of Thin and Thick Airfoils at Low Reynolds Numbers, Elifalet N. Garcia, Paulo Yu, Dr. V. Durgesh, and Dr. H. Johari, to be presented at SciTech 2016, January 2016 in San Diego
- AIAA Journal paper in preparation



Conference Participation

- SHPE – Society of Hispanic Professional Engineers
- HENAAC – Great Minds in STEM
- HACU – Hispanic Association of Colleges and Universities
- AHSIE – Alliance of Hispanic Serving Institution Educators
- Support 2 – 5 students each year
- Network, research experience, internship opportunities, connect with industry, and build confidence.



Meeting Calendar for Fall 15

- ✓ *August 27th, 2015**
- *October 22nd, 2015**
- *December 10th, 2015**

***Monthly meetings above are scheduled from 2 PM – 4 PM in JD 1568.**

- *September 10th, 2015***
- *November 12th, 2015****

**** External Advisory Committee Annual Meeting – Year 4**

***** AIMS² Student Research Symposium**



AGENDA

- 2 PM Welcome and Introductions – External Advisory Committee
- 2:10 PM Overview of grant
 - Program News and Plans for Year 5– Ramesh
- 2:20 PM Project Evaluation and Progress to date – Nathan
- 2:50 PM Project Activities/Academic Progress of Cohorts
 - Glendale Community College – Jan Swinton, Scott Rubke and Richard Cortes
 - College of the Canyons – David Martinez and Eric Lara
 - CSUN – Bob Ryan, and Tesha
- 3:10 PM Feedback and Discussion - External Advisory Committee
- 4:00 PM Adjourn