

CSUN College of Engineering and Computer Science
2016 HSI-STEM/AIMS² Project
Operationalizing Project Performance and Outcome Measures:
Aligning Data Sources and Data Collection Procedures to Project Assessment

Project Performance/Outcome Measures	Data Sources/Procedures	Operationalization/Definitions
<i>Objective 1: Improve the academic achievement of Hispanic and low-income students in engineering and computer science fields.</i>		
<p>Performance Measure 1a (1.1): <u>The percent of Hispanic and low-income students who participated in grant-supported services or programs* who successfully completed gateway courses.</u></p> <hr style="border-top: 1px dashed black;"/> <p><i>Measure reported by:</i> CSUN, COC, GCC, MC, PC <i>Data reporting requirements:</i> Baseline** + current project-year <i>Measure type:</i> USDE HSI-STEM program</p>	<p style="text-align: center;">Program data @ CSUN, COC, GCC, MC, PC: Eligible students* who participated in grant-supported programs and services</p> <p style="text-align: center;">Institutional data @ CSUN, COC, GCC, MC, PC</p>	<p>Successful course completion = valid grade notation of A, B, C, or credit</p> <p>Gateway courses = local campus or project identification: CSUN = AM 316, CE 340, ME 370, MSE 304, ECE 340/L, ECE 350, ECE 320/L, MSE 304, MSE 304, MSE 362, MSE 402, CE 340, COMP 333, COMP 322/L, COMP 380/L, CIT 270/L, CIT 360 COC =</p> <p>GCC =</p> <p>MC =</p> <p>PC =</p>
<p>Performance Measure 1b (1.2): <u>The percent of Hispanic and low-income students who participated in grant-supported services or programs* in good academic standing.</u></p> <hr style="border-top: 1px dashed black;"/> <p><i>Measure reported by:</i> CSUN, COC, GCC, MC, PC <i>Data reporting requirements:</i> Baseline** + current project-year <i>Measure type:</i> USDE HSI-STEM program</p>	<p style="text-align: center;">Program data @ CSUN, COC, GCC, MC, PC: Eligible students* who participated in grant-supported programs and services</p> <p style="text-align: center;">Institutional data @ CSUN, COC, GCC, MC, PC</p>	<p>Good academic standing = local campus or project definition CSUN = “Students are in good standing at the conclusion of any matriculated term in which they have both a cumulative total GPA and a CSUN GPA of 2.0 or higher.” (catalog) COC =</p> <p>GCC =</p> <p>MC =</p> <p>PC =</p>
<p>Outcome Measure 1c (1.3): <u>Improvements in student success (non-cognitive) skills (among students who participated in grant-supported services or programs*)</u></p> <hr style="border-top: 1px dashed black;"/> <p><i>Measure reported by:</i> CSUN <i>Data reporting requirements:</i> Current project-year data <i>Measure type:</i> AIMS² project</p>	<p style="text-align: center;">EMS @ CSUN</p> <p style="text-align: center;">Focus groups @ CSUN, COC, GCC, MC, PC</p> <p style="text-align: center;">Program data @ CSUN, COC, GCC, MC, PC: Eligible students* who participated in grant-supported programs and services</p>	<p>EMS @ CSUN: Examine engineering task self-efficacy-Q15 as a predictor of academic performance + engineering task self-efficacy as a facet of a larger measure achievement profile + EMS @ CSUN: Explore professional/interpersonal self-efficacy-Q15 and innovation self-efficacy-Q15</p> <hr style="border-top: 1px dashed black;"/> <p>Focus groups = led by CSUN evaluation team with coordination by CSUN CECS and community colleges project team members. Coordination may include CSUN CECS and COC, GCC, MC, PC project team members recruiting students, scheduling date and time for focus group session(s), and reserving a campus location for focus group session(s).</p>

Project Performance/Outcome Measures	Data Sources/Procedures	Operationalization/Definitions
<i>Objective 2: Enhance faculty and peer environments for Hispanic and low-income students in engineering and computer science fields.</i>		
<p>Performance Measure 2a (2.1): <u>The number of Hispanic and low-income students participating in grant-funded student support programs or services*</u>.</p> <p>-----</p> <p>Measure reported by: CSUN, COC, GCC, MC, PC Data reporting requirements: Baseline + current project-year Measure type: USDE HSI-STEM program</p>	<p>Program data @ CSUN, COC, GCC, MC, PC: Eligible students* who participated in grant-supported programs and services</p>	<p>Number = frequency count of student participants in the current project year. *Eligible students are Hispanic, Hispanic and low-income (Pell-grant recipient), and low-income (Pell-grant recipient) students eligible to participate in grant-supported programs and services</p> <p>Baseline data = student participants in the first project year</p>
<p>Outcome Measure 2b (2.2): <u>Improvements in self-reports of quality, quantity, and effects of student-faculty and peer-peer interaction</u> (among students who participated in grant-supported services or programs*)</p> <p>-----</p> <p>Measure reported by: CSUN Data reporting requirements: Current project-year Measure type: AIMS² project</p>	<p>EMS @ CSUN</p> <p>Focus groups @ CSUN, COC, GCC, MC, PC</p> <p>Program data @ CSUN, COC, GCC, MC, PC: Eligible students* who participated in grant-supported programs and services</p>	<p>EMS @ CSUN: Examine peer and faculty interactions Qs13-14 to assess part of performance measure AND use focus group data @ CSUN, COC, GCC, MC, PC to explore = peer-peer and student-faculty interaction</p> <p>-----</p> <p>Focus groups = led by CSUN evaluation team with coordination by CSUN CECS and community colleges project team members. Coordination may include CSUN CECS and COC, GCC, MC, PC project team members recruiting students, scheduling date and time for focus group session(s), and reserving a campus location for focus group session(s).</p>
<i>Objective 3: Improve the transfer of Hispanic and low-income students in engineering and computer science fields to baccalaureate-granting institutions.</i>		
<p>Performance Measure 3a (3.1): <u>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.</u></p> <p>-----</p> <p>Measure reported by: CSUN, COC, GCC, MC, PC Data reporting requirements: Baseline** + current project-year Measure type: USDE HSI-STEM program</p>	<p>Institutional data @ CSUN, COC, GCC, MC, PC</p>	<p>Students = all Hispanic, Hispanic and low-income, or low-income students</p> <p>Full-time enrollment = enrolment in 12 or more units</p> <p>Degree seeking + STEM fields = local campus or project definition: CSUN = declared major in Colleges of: Engineering/CS + Science and Math COC = GCC = MC = PC =</p>
<p>Performance Measure 3b (3.2): <u>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.</u></p> <p>-----</p> <p>Measure reported by: CSUN, COC, GCC, MC, PC Data reporting requirements: Baseline + current project-year Measure type: USDE HSI-STEM program</p>	<p>Institutional data@ CSUN, COC, GCC, MC, PC</p> <p>Next-year persistence = enrollment in immediate previous year (fall + spring terms) + enrollment in current year (fall + spring terms)</p>	<p>Students = all Hispanic, Hispanic and low-income, or low-income students</p> <p>First-year of postsecondary enrollment = first-time, first-year enrollment</p> <p>Degree-seeking + STEM fields = local campus or project definition: CSUN = declared major in Colleges of: Engineering/CS + Science and Math COC = GCC = MC = PC =</p>

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<i>Objective 4: Improve career preparation of Hispanic and low-income students in engineering and computer science fields.</i>		
<p>Outcome Measure 4a (4.1): <u>Gains on measures of self-perceptions, attitudes, and skills related to career</u> (among students who participated in grant-supported services or programs*)</p> <hr/> <p>Measure reported by: CSUN Data reporting requirements: Current project-year Measure type: AIMS² project</p>	<p>EMS @ CSUN</p> <p>Focus groups @ CSUN, COC, GCC, MC, PC</p> <p>Program data @ CSUN, COC, GCC, MC, PC: Eligible students* who participated in grant-supported programs and services</p>	<p>EMS @ CSUN: Examine career plans (EMS) AND career preparedness (PEPS) career plans/goals (EMS) = innovative work-Q18 and job targets-Qs19-22 EMS 2.0: engineering tasks (parallel set of constructs to innovative work + PEPS: Professional Engineering Pathways Study = career preparation, career confidence, career orientation senior year start to graduation</p> <hr/> <p>Focus groups = led by CSUN evaluation team with coordination by CSUN CECS and community colleges project team members. Coordination may include CSUN CECS and COC, GCC, MC, PC project team members recruiting students, scheduling date and time for focus group session(s), and reserving a campus location for focus group session(s).</p>
<i>Objective 5: Develop research skills of Hispanic and low-income students in engineering and computer science.</i>		
<p>Outcome Measure 5a (5.1): <u>Gains on measures of self-perceptions, attitudes, and skills related to research from URSSA survey and interviews</u> (among students who participated in grant-supported services or programs*)</p> <hr/> <p>Measure reported by: CSUN Data reporting requirements: Current project-year Measure type: AIMS² project</p>	<p>URSSA @ CSUN</p> <p>Focus groups @ CSUN, COC, GCC, MC, PC</p> <p>Program data @ CSUN, COC, GCC, MC, PC: Eligible students* who participated in grant-supported programs and services</p>	<p>URSSA @ CSUN: Examine research skills, conceptual knowledge and linkages in students' field, deeper understanding of the work of science, growth in confidence and adoption of the identity, preparation for a career or graduate school in science, understanding of career or educational path.</p> <hr/> <p>Focus groups = led by CSUN evaluation team with coordination by CSUN CECS and community colleges project team members. Coordination may include CSUN CECS and COC, GCC, MC, PC project team members recruiting students, scheduling date and time for focus group session(s), and reserving a campus location for focus group session(s).</p>
<i>Objective 6: Increase baccalaureate degree completion of Hispanic and low-income students in engineering and computer science fields.</i>		
<p>Performance Measure 6a (6.1): <u>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.</u></p> <hr/> <p>Performance Measure 6b (6.2): <u>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.</u></p> <hr/> <p>Performance Measure 6c (6.3): <u>The percent of Hispanic and low-income students who participated in grant-supported services or programs* and completed a degree or credential.</u></p>	<p>Institutional data @ CSUN</p> <p>Measures reported by: CSUN</p> <p>Data reporting requirements: Baseline** + current project-year</p> <p>Measure type: USDE HSI-STEM program</p>	<p>Students @ CSUN = all Hispanic, Hispanic/low-income, or low-income students STEM fields @ CSUN = Colleges of: Engineering/CS + Science and Math Next-term persistence = enrollment in first-term post-transfer (fall or spring) + enrollment in next-term (fall or spring)</p> <hr/> <p>Students @ CSUN = all Hispanic, Hispanic/low-income, or low-income students STEM fields @ CSUN = Colleges of: Engineering/CS + Science and Math Degree completion @ CSUN = within three years of transfer term + program data: Eligible students* @ CSUN who participated in grant-supported programs and services</p> <hr/> <p>Degree completion @ CSUN = in any term after transfer term</p>

*Hispanic, Hispanic and low-income (Pell-grant recipient), or low-income (Pell-grant recipient) students

**Baseline data can be from prior or current project term or year