California State University
Louis Stokes Alliance for Minority Participation
Senior-Level Project Evaluation

Prepared for the CSU-LSAMP Program by the
Institute for Social Research at California State University, Sacramento

Ernest L. Cowles, Ph.D., Director and Principal Investigator
Sandie Sutherland, B.A., Research Specialist

April 2012

This report was prepared for the National Science Foundation Directorate for Education and Human Resources and supported by NSF-HRD-0802628. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the National Science Foundation.

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EXECUTIVE SUMMARY

This report presents the results of an external evaluation of the California State University Louis Stokes Alliance for Minority Participation (CSU-LSAMP). The evaluation was conducted by the Institute for Social Research at California State University, Sacramento. The report is divided into two sections. The first section examines the overall effectiveness of the CSU-LSAMP project since its inception in 1994. The second section examines the first three years of the current Senior-Level CSU-LSAMP project period (2008-2009, 2009-2010, and 2010-2011).

Overall Effectiveness of the CSU-LSAMP Alliance

When the CSU-LSAMP Alliance was established in 1994, it included 18 of the 20 CSU campuses. Since that time, three new campuses have been added to the CSU system and four new campuses have joined the CSU-LSAMP Alliance. The CSU-LSAMP Alliance currently includes all 22 of the comprehensive and polytechnic universities of the CSU. The only CSU campus that currently does not participate in CSU-LSAMP is the California Maritime Academy, which is a specialized campus of the CSU.

Since its inception, the CSU-LSAMP program has served 20,242 students, and 17,198 of these students were from underrepresented minority (URM) groups. Over the program's 18 years, the annual number of participants has increased more than four-fold, from 641 in 1994 to 2,908 in 2011.

Overall Effectiveness, 1994-2011

- Served 20,242 CSU-LSAMP participants, including 17,198 URM students
- CSU URM STEM undergraduate enrollment increased 109%
- CSU URM STEM baccalaureate degree production increased 118%
- Participants were 1.3-1-9 times more likely than non-participants to remain enrolled in STEM disciplines
- Participant were 2.1 times more likely than non-participants to graduate with STEM degrees
- 55% of participants were awarded a bachelors degree, and more than two-thirds of these degrees were in STEM disciplines
- 37% of Phase III graduates persisted at the post-baccalaureate level
- 21% of these participants earned master's degrees, 3% earned doctorates, and 76% remain enrolled

During this same period, the number of URM students enrolled in science, technology, engineering and mathematics (STEM) disciplines at CSU campuses more than doubled. There was a 109 percent increase in URM STEM enrollment, from 10,580 in 1994 to 22,081 in 2010. STEM enrollment for non-URM students increased by only four percent over the same period.

The major outcome objective for Phase I of the CSU-LSAMP project was to increase aggregate URM STEM baccalaureate degree production. This objective was achieved, and the number of STEM baccalaureate degrees awarded to URM students at CSU campuses has more than doubled. There was a 118 percent increase in CSU URM STEM baccalaureate degree production—from 917 in 1994 to 1,998 in 2011. Baccalaureate STEM degrees awarded by the CSU to non-URM students decreased by 15 percent during the same period.

The major outcome objective for Phase II of the CSU-LSAMP project was to improve individual URM STEM student success and progression to the baccalaureate degree. Participation in CSU-LSAMP was associated with improved persistence of Latino/Latina and African American students in STEM disciplines. Controlling for race and ethnicity, the differences in first through seventh year persistence rates for Latino/Latina and African American participants and estimated rates for non-participants were substantial, ranging from 1.3 times higher for first year persistence rates to 1.9 times higher for seventh year persistence rates.

Participation in CSU-LSAMP was associated with improved graduation rates for Latino/Latina and African American students in STEM disciplines. Controlling for race and ethnicity, six-year graduation rates for Latino/Latina and African American participants were 2.1 times higher than estimated rates for non-participants.

Fifty five percent of CSU-LSAMP participants earned their baccalaureate degree by the spring 2011 term and 69 percent of these degrees were in STEM disciplines. The STEM degree completion rate for URM participants was 38 percent. This translates to 7,692 STEM degrees awarded to CSU-LSAMP participants, including 6,191 awarded to URM students.

In Phase III, the CSU-LSAMP program began to increase emphasis on serving upper division students in research and other activities designed to motivate them to pursue graduate study and enhance their competitiveness. Of the 58 percent of Phase III participants who graduated with a bachelor's degree, 37 percent either earned a post-baccalaureate degree or are currently enrolled as of the spring 2011 term. This translates to 219 Phase III participants who obtained a STEM Master's degree, 18 who obtained a STEM doctorate degree, and 33 who obtained a doctorate in a health profession (predominantly medicine).

The Current Senior-Level Project

Senior-level CSU-LSAMP served a total of 4,665 unduplicated level-one participants during the project's first three years, including 4,170 students from URM groups. Most of these participants were also pursuing STEM degrees (4,158).

On average, 13 percent of all URM students enrolled in STEM majors at the 22 Alliance campuses participated in Senior-level CSU-LSAMP. Male and female students had similar participation rates, but rates varied by race/ethnicity, STEM discipline and campus. African American students had a higher participation rate than any other racial or ethnic group (16%). Chemistry majors had higher participation rates than any other STEM major (29%). CSU Los Angeles and CSU Dominguez Hills had higher participation rates than other campuses (39% and 35%, respectively).

Senior-Level Short-Term Milestones

	Year 1	Year 2	Year 3
1. Engaging at least 2,000 'level-one" students annually	✓	✓	✓
2. Engaging 900 upper division students annually in graduation preparation activities			✓
3. Engaging at least 300 first-time transfer students annually			
4. Supporting 200 students annually in research activities	✓	✓	✓
5. Supporting 300 students annually in scientific conferences	✓	✓	✓
6. Providing travel/stipend awards to at least 15 students participating in international conferences or projects annually	✓	✓	✓
7. Funding 66 students annually as Community College Merit Awardees	✓		
8. Funding 66 students annually as CSU-LSAMP Scholars			

✓ = goal was met or exceeded

The Senior-level project established eight short-term milestones and four long-term outcomes tied to improved individual student persistence, progression to graduate study and expanding opportunities for student engagement in international activities.

Four of the eight short-term milestones were reached in the first year of the Senior-Level project and this success was sustained—often by a wide margin—through year three. The target of engaging at least 2,000 "level-one" students annually was exceeded by 30-45 percent, with 2,835 participants in year one and 2,903 by year three.

The goal of supporting 200 students annually in research activities was exceeded two and three times over, with 433 students in year one and 604

students in year two. The goal of supporting 300 students annually in scientific conferences was exceeded by 59-90 percent, beginning with 477 students in year one and ending with 569 students in year three. The goal of providing travel/stipend awards to at least 15 students participating in international conferences of projects annually was exceeded by 67-220 percent, with 25 students in year one and 48 students in year three.

The goal of engaging 900 upper division students annually in graduate preparation activities was more challenging. The number of students participating in these activities fell short of the mark during the first two years, but the goal was met during year three, with 929 participants.

Work is still in progress on the remaining three milestones. Two of the three involve engaging community college transfer students. The goal of engaging at least 300 first-time transfer students annually has proven difficult for some campuses, and the number of first-time transfer students participating in the Senior-level CSU-LSAMP program ranged from 224 in year one to 164 in year three. Some campuses were more successful than others in this regard, and it may be helpful to have these campuses share their "best practices" with the Alliance. In contrast, only a small increase is needed to meet the goal of funding 66 students annually as Community College Merit Awardees. This goal was met in year one, with 68 students, and in year three, was only six below the goal with 60 students.

The remaining unmet milestone seeks to fund 66 students annually as CSU-LSAMP Scholars. There were 55 CSU-LSAMP Scholars during year three; a 20 percent increase is needed to reach this target.

Senior-Level Long-Term Outcomes

	Year 1	Year 2	Year 3
1.Increasing URM-STEM enrollment	✓	✓	✓
2. Increasing URM-STEM baccalaureate degree production			
3. Increasing the number of CSU-LSAMP students who graduate each year	✓	✓	✓
4. Increasing the number of participants enrolling in graduate programs	✓	✓	✓

✓ = goal was met or exceeded

By the third year of the Senior-level project, three of the four long-term outcomes were exceeded and meeting the one unmet outcome requires an increase of less than one percent.

Two outcomes—increasing URM STEM enrollment and the number of CSU-LSAMP students who graduate each year—were reached in year one, with additional progress made during subsequent years.

The goal of increasing URM-STEM enrollment to 17,250 was exceeded by 28 percent in year three, with 22,017 students from URM groups enrolled in STEM disciplines. The goal of increasing the number of CSU-LSAMP students who graduate each year to 400 was exceeded by 39 percent in year three, with 556 participants graduating, including 419 students from URM groups who graduated with STEM degrees.

The goal of increasing the number of participants enrolling in graduate programs was also met, although the margin was not as wide (between two and 21 students above the goal of 200 students, depending on the year), suggesting that continued work is needed to maintain and build on this success.

There has been progress in the remaining outcome of increasing annual URM-STEM baccalaureate degree production to 2,000 degrees. During year three, the number of URM STEM baccalaureate degrees was just five below the goal.

INTRODUCTION

This report presents the results of an external evaluation of the California State University Louis Stokes Alliance for Minority Participation (CSU-LSAMP). The evaluation was conducted by the Institute for Social Research at California State University, Sacramento. The report is divided into two sections. The first section examines the overall effectiveness of the CSU-LSAMP project since its inception in 1994. The second section examines the first three years of the current Senior-Level CSU-LSAMP project period.

When the CSU-LSAMP Alliance was established in 1994, it included 18 out of 20 CSU campuses. Since that time, three new campuses were added to the CSU system and four new campuses have joined the CSU-LSAMP Alliance. The CSU-LSAMP Alliance currently includes all 22 of the comprehensive and polytechnic universities of the CSU. The only CSU campus that currently does not participate in CSU-LSAMP is the California Maritime Academy, which is a specialized campus of the CSU.

The CSU-LSAMP project includes four five-year project periods (these periods were originally called phases, but are now called levels). The program's objectives and emphasis have evolved over time. The main outcome objective for Phase I was to double the number of science, technology, engineering and mathematics (STEM) baccalaureate degrees awarded by the CSU to students from underrepresented minority (URM) groups. The main outcome objective for Phase II was to improve individual URM-STEM student success and progression to the baccalaureate degree. The main objective for Phase III was to improve aggregate student progression to STEM graduate programs. The main objective for the current Senior-Level is to improve individual persistence and progression to graduate study, and engagement in international activities.

Data Sources and Methodology

The analysis presented in this report utilizes three primary data sources. The first data source, called WebAMP, is the online LSAMP data gathering system established by the National Science Foundation (NSF). Each CSU-LSAMP campus program enters student, faculty, and activity data annually into the WebAMP system. Annual extracts from this system, beginning with the first year of Phase I (1993-1994) through the third year of the Senior-Level (2010-2011) were aggregated on a series of identifiers and characteristics (name, SSN, campus, gender, and discipline) to produce a longitudinal database describing all participants.

The second data source is the CSU Electronic Records System (ERS). ERS is the centralized reporting system for all CSU campuses maintained by the Analytic Studies Division (ASD) of the CSU Chancellor's Office. It includes detailed individual student-level information on matriculation, enrollment, and degrees awarded within the CSU system. The third data source is the National Student Clearinghouse (NSC). The NSC is an electronic registry of student records. It includes individual student-level information on enrollment and degrees awarded nationally for all campuses who participate in the reporting system.

In addition to providing de-identified annual enrollment and degree files for all CSU students, the ASD performed annual matches to the ERS system using Social Security numbers of CSU-LSAMP participants from 1996-1997 through 2010-2011. ERS data was obtained for 79 percent of CSU-LSAMP participants. In order to obtain enrollment and degree information outside the CSU system, student name and date of birth for participants matched to the ERS system are submitted to the NSC using the StudentTracker batch file exchange feature. NSC data was obtained for 62 percent of CSU-LSAMP participants.

SECTION 1: OVERALL EFFECTIVENESS OF THE CSU-LSAMP ALLIANCE

This section examines measures of program effectiveness, looking back to 1994 when the CSU-LSAMP program was established and continuing on through the third year of the current Senior-level project period. The section begins with a profile of CSU-LSAMP participants, moves on to examine the extent to which CSU-LSAMP contributed to increasing URM STEM enrollment and degrees within the CSU system, and closes with an evaluation of individual participant performance, including graduation rates, progression to STEM graduate programs and completion of STEM graduate degrees.

Profile of CSU-LSAMP Participants

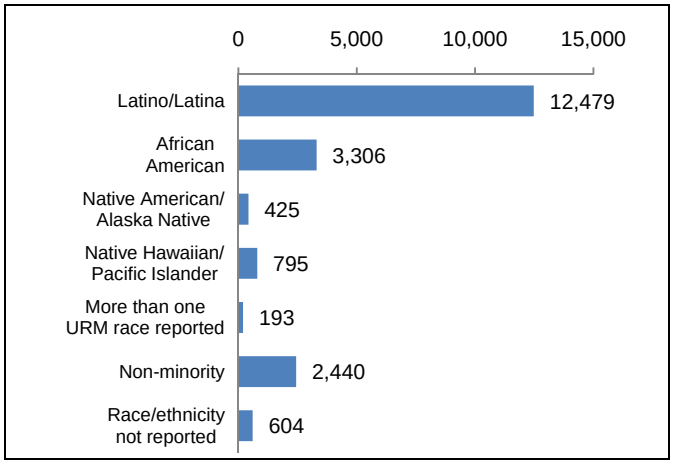
Since its inception in 1994, the CSU-LSAMP program has served a total of 20,242 students, 17,198 of who were URM students. Table 1 shows the number of new students entering the program during each phase.

Table 1: Number of New CSU-LSAMP Participants by Phase and URM Category, 1994-2011

	Phase I 1994-1998	Phase II 1999-2003	Phase III 2004-2008	Senior-Level 2009-2011*	Total
URM	4,296	5,330	5,565	2,007	17,198
Non-URM	285	1,622	207	326	2,440
Not reported	58	478	14	54	604
Total	4,639	7,430	5,786	2,387	20,242

Source: Longitudinal CSU-LSAMP participant database constructed from WebAMP records. Because the longitudinal database is updated annually, the number of participants entering the program during each phase varies slightly from previous reports.
* Includes just the first three reporting years of Senior-Level CSU-LSAMP (academic years 2008-2009, 2009-2010, and 2010-2011). Each of the three previous phases includes the full five years.

Figure 1: CSU-LSAMP Participant Racial/Ethnic Composition, 1994-2011



Source: Longitudinal CSU-LSAMP participant database constructed from WebAMP records.

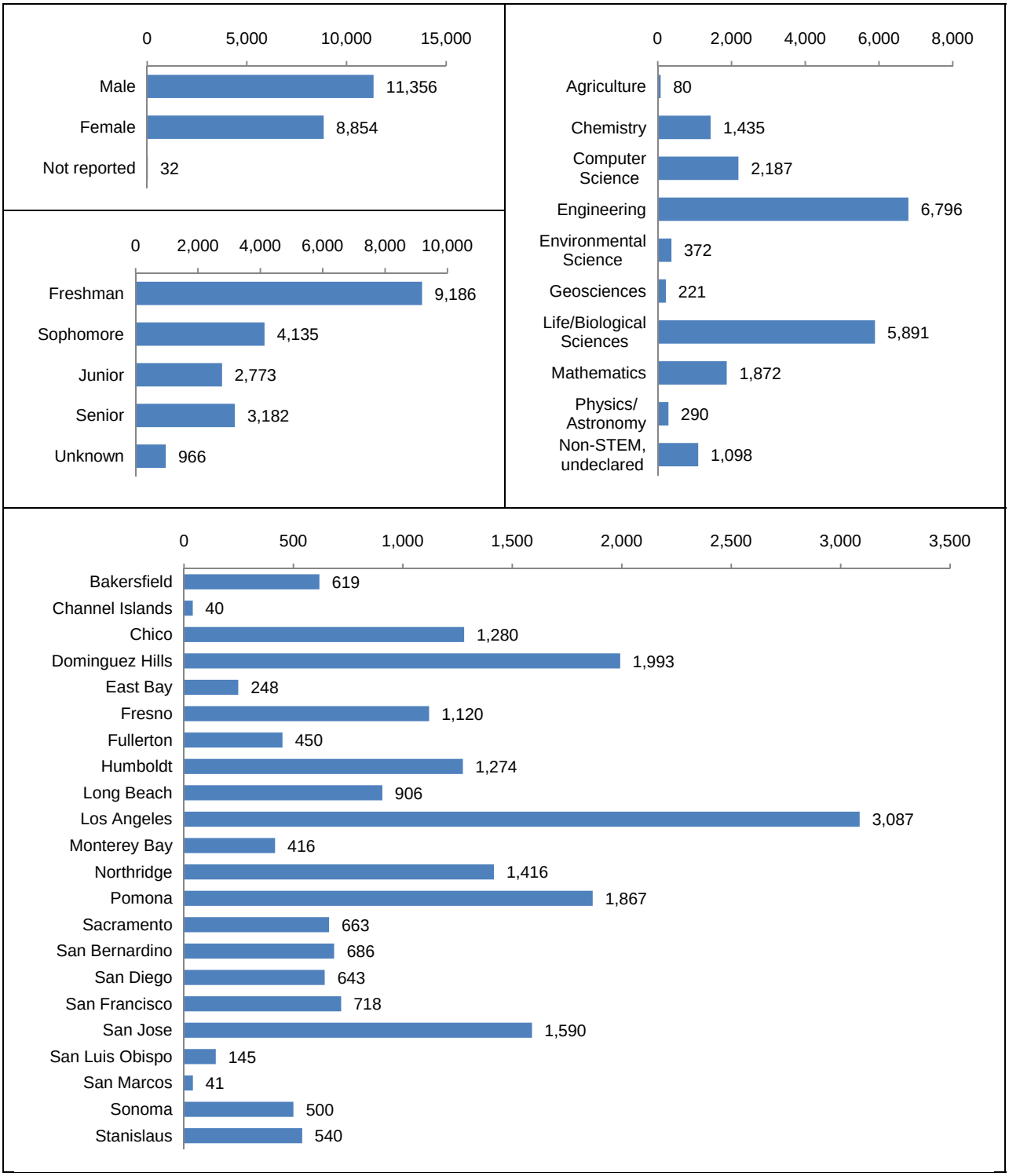
Figure 1 describes the racial and ethnic composition of participants. Latino/Latina students were the largest group, followed by African American students and students who are not members of underrepresented minority groups.[1]

Participants were predominantly male (56%) and often entered the program as lower division students (66%) (Figure 2). Participants were most likely to be majoring in engineering or life/biological sciences (34% and 29%, respectively).

The number of participants from each campus varied widely, from a high of 3,087 for CSU Los Angeles, to a low of 40 for CSU Channel Islands. Appendix Table 1 provides additional detail and shows participant characteristics broken down by entry phase.

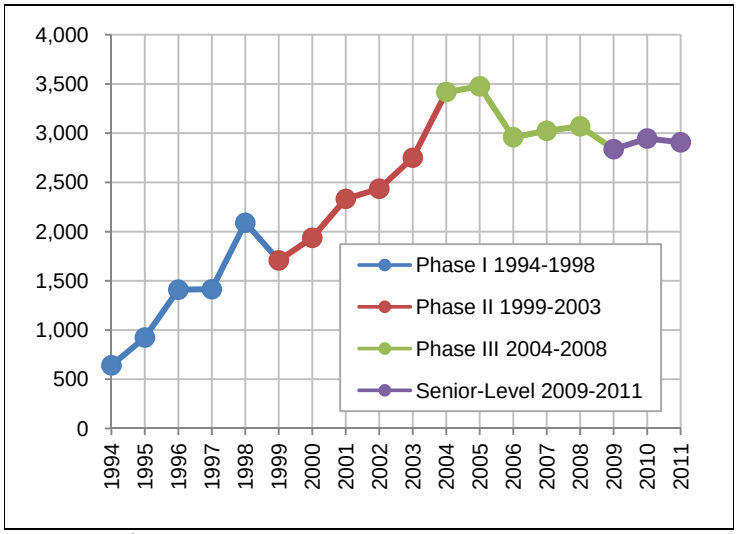
[1] CSU-LSAMP does not limit participation to URM students or provide URM students preference in admission. Students who face social, educational or economic barriers to careers in STEM are eligible for the program. To be eligible to participate in CSU-LSAMP, students must also be U.S. Citizens or Permanent Residents enrolled at a participating campus either in an undergraduate major in a STEM discipline or have expressed an interest in pursuing a STEM baccalaureate degree. Campuses may also specify additional academic qualifications, activity requirements, or entry level points for acceptance into the program.

Figure 2: CSU-LSAMP Participant Gender, Class Level, Discipline and Campus, 1994-2011



Source: Longitudinal CSU-LSAMP participant database constructed from WebAMP records.

Figure 3: Annual Number of CSU-LSAMP Participants, 1994-2011



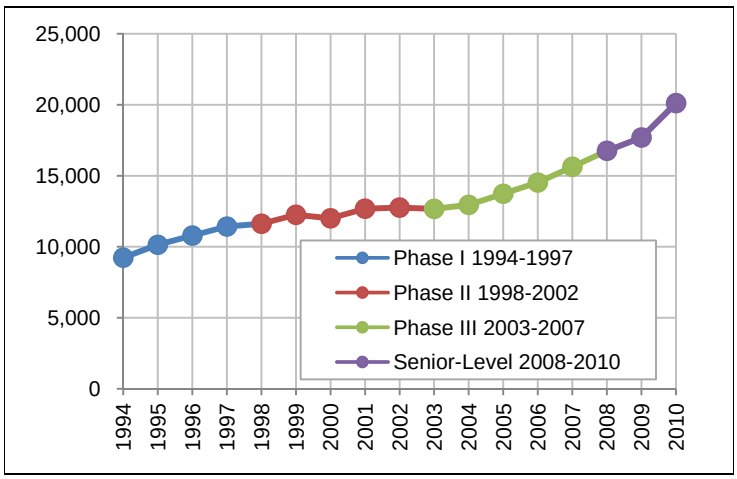
Source: WebAMP ExACT Reports.

Over the CSU-LSAMP program's 18 years, the annual number of participants has more than quadrupled (Figure 3 and Appendix Table 2). The largest increases occurred during the first 11 years. The first year of CSU-LSAMP, there were 641 participants and the number of participants peaked at 3,476 the second year of Phase III.

During the Phases I and II, the program included mostly group activities for lower division students. Beginning in Phase III, the program added an emphasis on engaging upper division students in mentored research and preparation for graduate study. This shift in emphasis brought the annual number of participants to approximately 2,800. During the most recent year, there were 2,908 participants.

CSU Enrollment of Students from Underrepresented Minority Groups in STEM Disciplines

Figure 4: Annual Undergraduate URM STEM Enrollment for All CSU Campuses, Fall 1994-Fall 2010



Sources: CSU Analytic Studies Division ERS enrollment files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports. Enrollment data for Fall 1993 (the first year of the Alliance) is not currently available. Excludes International Program and non-resident alien enrollment.

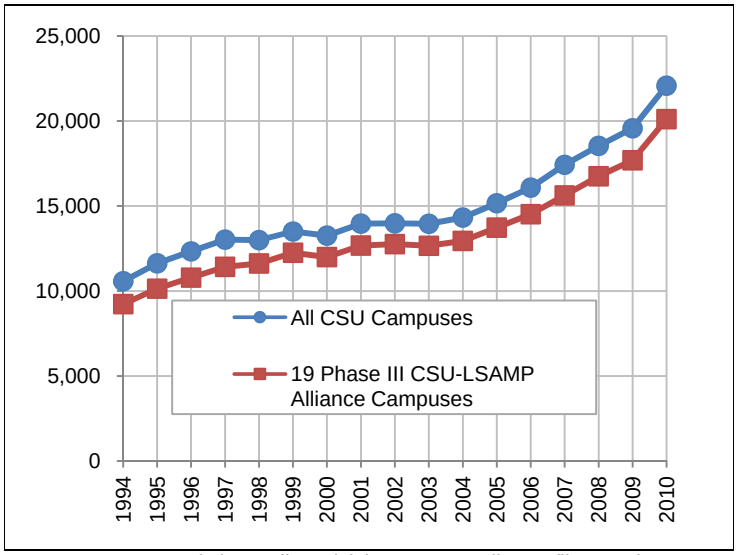
From the second year of Phase I, to the third year of the Senior-Level project, URM STEM undergraduate enrollment more than doubled. There was a 109 percent increase in URM STEM enrollment, from 10,580 in 1994 to 22,081 in 2010 (Figure 4 and Appendix Table 3).

During the same period, overall STEM enrollment increased by 29 percent. For students reporting non-URM race and ethnicity, STEM enrollment increased by four percent.

Some of the increase in URM STEM enrollment was fueled by an overall increase in URM enrollment. During the same period, URM non-STEM enrollment increased by 94 percent.[2]

[2] It should be noted that some of the increase in URM STEM enrollment for fall 2010 may be attributable to improvements in the accuracy with which the CSU Chancellor's Office describes student race and ethnicity. Beginning in fall 2010, race and ethnicity were measured separately and students were not restricted to selecting one racial category. This change appears to have decreased the percentage of students for whom ethnicity and race is unknown, from an average of 11 percent in prior years, to nine percent in fall 2010. Conceivably, in the past, some students who were being asked to choose just one category to describe their race and ethnicity may have left this information blank. Appendix B includes a more in-depth discussion of this issue.

Figure 5: Annual Undergraduate URM STEM Enrollment for All CSU Campuses and for 19 Phase III CSU-LSAMP Campuses, Fall 1994-Fall 2010



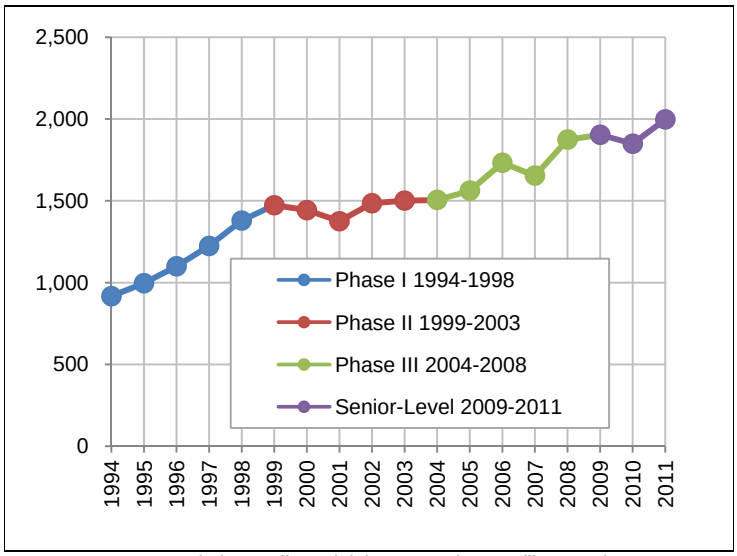
Sources: CSU Analytic Studies Division ERS enrollment files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports. Enrollment data for Fall 1993 (the first year of the Alliance) is not currently available. Excludes International Program and non-resident alien enrollment.

The number of CSU campuses participating in the CSU-LSAMP Alliance increased from 18 during Phase I to 22 during the Senior-Level. Figure 5 and Appendix Table 4 show URM STEM enrollment for the 19 campuses who have participated in CSU-LSAMP since Phase III. The contribution of the four additional Alliance campuses was relatively minor, and the trend was the same, regardless of the subset of campuses included. In fact, for the 19 Phase III through Senior-Level campuses, there was a 118 percent increase in URM STEM enrollment.

Appendix Table 5 also provides annual enrollment information that is limited to the campuses participating in the Alliance during a given year.

STEM Baccalaureate Degrees Awarded by the CSU to Students from Underrepresented Minority Groups

Figure 6: Annual Number of Baccalaureate STEM Degrees Awarded by All CSU Campuses to URM Students, 1993-1994 through 2010-2011



Sources: CSU Analytic Studies Division ERS degree files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports. Excludes degrees awarded to non-resident aliens.

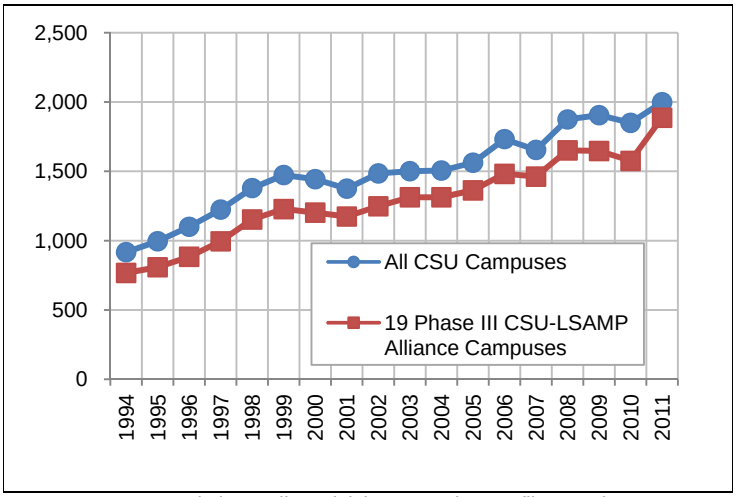
From the beginning of Phase I, to the third year of the Senior-Level project, annual URM STEM baccalaureate degree production more than doubled. There was an 118 percent increase in the number of STEM baccalaureate degrees awarded to URM students—from 917 in 1994 to 1,998 in 2011 (Figure 6 and Appendix Table 6).

Baccalaureate STEM degrees awarded by the CSU to non-URM students decreased by 15 percent during the same period.

From 1993-1994 through 2010-2011, the CSU awarded 26,971 STEM baccalaureate degrees to URM students. Of these degrees, 23,775 were awarded by campuses participating in CSU-LSAMP (Appendix Table 8).

Since the number of CSU campuses participating in the CSU-LSAMP Alliance increased from 18 during Phase I to 22 during the Senior-Level, Figure 7 and Appendix Table 7 show the number of STEM degrees awarded to URM students at the 19 campuses who have been part of the Alliance since Phase II.

Figure 7: Annual Number of Baccalaureate STEM Degrees Awarded to URM Students for All CSU Campuses and for the 19 Phase III CSU-LSAMP Campuses, 1993-1994 through 2010-2011



Sources: CSU Analytic Studies Division ERS degree files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports. Excludes International Program and non-resident alien enrollment.

The pattern remains the same for the 19 Phase III campuses, and in fact is slightly more pronounced. From the second year of Phase I, to the third year of the Senior-Level project, there was a 146 percent increase in annual URM STEM baccalaureate degree production at the 19 Phase III campuses. In 1994, 767 STEM baccalaureate degrees were awarded to URM students and in 2011, 1,887 STEM baccalaureate degrees were awarded to URM students.[3]

Appendix Table 8 also provides annual degree information that is limited to the campuses participating in the Alliance during a given year.

[3] It should be noted that some of the increase in URM STEM degrees for 2011 may be attributable to improvements in the accuracy with which the CSU Chancellor's Office describes student race and ethnicity.

STEM Discipline Persistence and Graduation Rates for 1996-2010 CSU-LSAMP Participant Cohorts

Data sources and methodology

The information presented in this section describes a subset of CSU-LSAMP participants—going back to the third year of Phase I (1996-1997) through year three of the Senior-level project (2010-2011)—who were matched on social security number to CSU ERS records.[4] In accordance with Consortium for Student Retention Data Exchange (CSRDE) criteria, the subset includes only participants entering the CSU system during a fall term as first time, full-time freshmen with declared majors in a STEM discipline. The analysis excludes CSU-LSAMP participants who do not meet these criteria; examples include participants who entered the CSU system as part-time students, those who did not matriculate during a fall term, those without a declared major in a STEM discipline, and students transferring from a California Community College. In addition, because matching to system records relied on social security number, participants whose WebAMP records did not include social security number and those with a data entry error in their social security number could not be included. Participant cohorts exclude all students who began their participation in CSU-LSAMP after their first year in the CSU system.

To assess the impact of CSU-LSAMP participation on persistence and graduation rates, this analysis compares persistence and graduation rates for annual cohorts of CSU-LSAMP Latino/Latina and African American participants with benchmark cohorts. Aggregate benchmark cohort information was obtained from the California State University Data for the Consortium for Student Retention Data Exchange.

CSRDE specifications for first time, full-time freshmen cohorts defined the subset of CSU-LSAMP participants that are included in the analysis. Both CSU-LSAMP participant and benchmark cohorts are comprised of students who entered the CSU system during a fall term as first time, full-time freshmen with declared majors in a STEM discipline. The benchmark cohorts for 1996-2006 include all students in the specified category who matriculated at one of the 19 CSU campuses participating in Phase III of the CSU-LSAMP program. The benchmark cohorts for 2007-2009 include all students in the specified category who matriculated at one of the 22 CSU campuses participating in the Senior-level CSU-LSAMP program.

The analysis includes persistence and graduation rates for cohorts of Latino/Latina and African-American LSAMP participants. Rates for Native Hawaiian or Other Pacific Islander CSU-LSAMP participants are not included because there is no corresponding benchmark available (the closest CSRDE racial/ethnic group is “Asian”). Although there are comparable benchmark data for Native American and Alaskan Native CSU-LSAMP participants, these rates have not been included in the analysis because the small numbers—both for participant and benchmark cohorts—would produce unstable rates. In some instances, the analysis makes comparisons to “non-URM” students, which includes CSRDE data for White non-Hispanic and Asian or Pacific Islander cohorts

The analysis describes average persistence and graduation rates across cohort years and CSU-LSAMP phases, making it easier to evaluate overall trends. The cohort years included in each average necessarily vary and are indicated in the figure and table headings. For example, the first year persistence average includes data from the 1996-2009 cohorts, while the sixth year average only includes data from the 1996-2004 cohorts. Similarly, the fourth year

[4] The CSU Analytic Studies Division performed the match and provided data files describing matriculation, graduation and longitudinal enrollment for each matched CSU-LSAMP participant.

graduation average includes data from the 1996-2006 cohorts, while the sixth year average only includes data from the 1996-2004 cohorts.

Seventh and eighth year persistence and graduation data is not available for 1996-1999 benchmark cohorts. To maintain comparability between benchmark and CSU-LSAMP participant averages, these cohort years were excluded from the computation of average rates for CSU-LSAMP participants. So while they are included in an effort to enhance the evaluation, the seven and eight-year rates currently available for this analysis should be interpreted cautiously. They lack the continuity and stability of fourth through sixth year rates, due to the gap in cohort years and the inclusion of fewer cohorts.

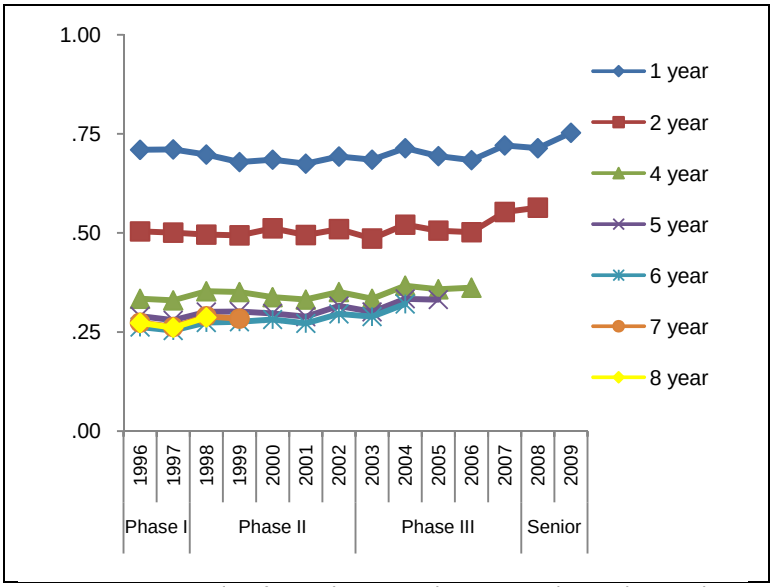
Appendix Table 9 provides first through eighth year STEM discipline persistence rates for each cohort and comparison group and includes one-year persistence rates for the fall 2010 participant cohorts. Appendix Table 11 provides fourth through eighth year STEM discipline graduation rates for each cohort and comparison group and includes four-year graduation rates for the fall 2007 participant cohort.

STEM discipline persistence rates

STEM discipline persistence rates reflect the percent of a cohort remaining or graduating in a STEM major. These rates are influenced by many factors, and it is helpful to begin with a look at STEM discipline persistence rates for CSU-LSAMP campuses and how these rates have changed over time.

Seventy-one percent of first-time full-time freshmen with declared STEM majors who entered one of the 19 CSU-LSAMP campuses in the fall of 1996 remained enrolled in a STEM discipline the following year. Aside from minor fluctuations, this rate has not changed significantly over time, although there is some indication of a subtle upward trend beginning with students who entered during the fall 2007 term (Figure 8 and Table 2).

Figure 8: Overall STEM Discipline Persistence Rates, 19 Phase III Campuses, 1996-2009 Cohorts



Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

Fifty percent of first-time full-time freshmen with declared STEM majors who entered a CSU-LSAMP campus in the fall of 1996 were still enrolled in a STEM discipline two years later. This percentage has also remained stable, with the same indication of an upward trend beginning with students who entered during the fall 2007 term.

Thirty three percent of the entering freshmen from the fall of 1996 were still enrolled in STEM or had graduated with a STEM degree four years later. Nearly all of the students who dropped out or changed to non-STEM majors did so by year four.

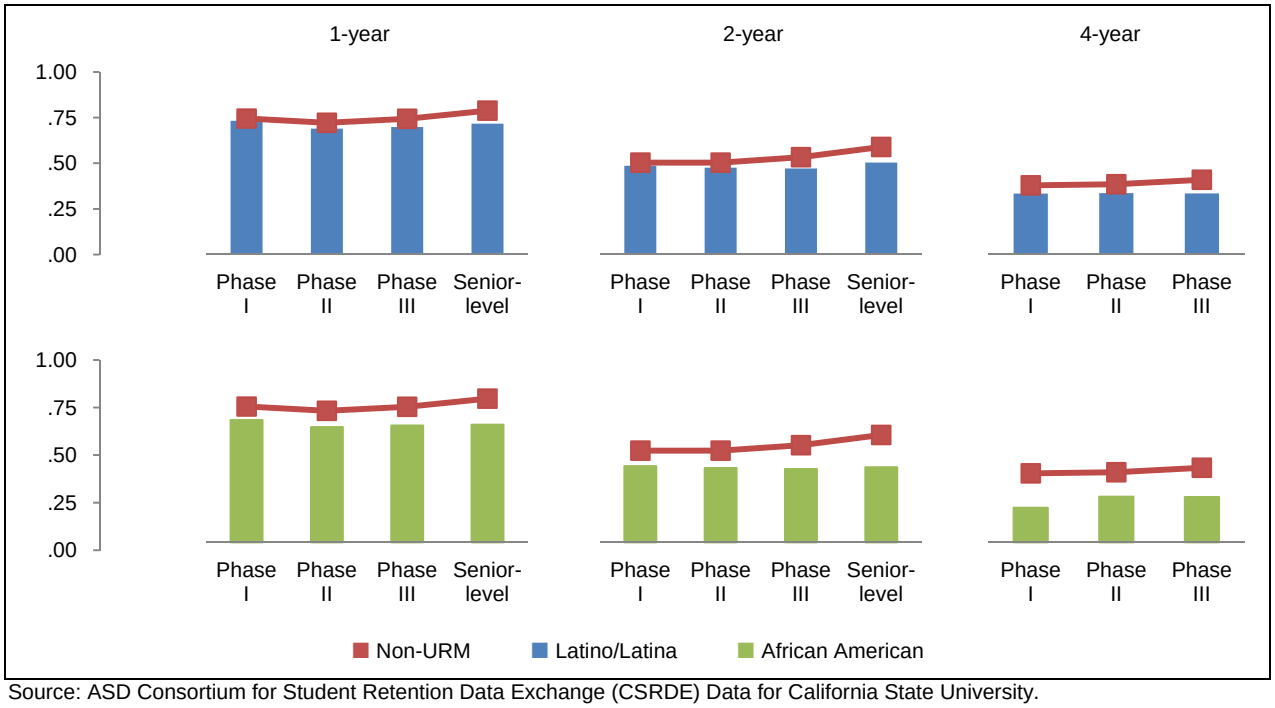
Table 2: Overall STEM Discipline Persistence Rates, 19 Phase III Campuses, 1996-2009 Cohorts

		1 year	2 year	4 year	5 year	6 year	7 year	8 year
Phase I	1996	.710	.504	.334	.290	.263	--	--
	1997	.711	.501	.330	.280	.254	--	--
Phase II	1998	.698	.496	.353	.301	.274	--	--
	1999	.679	.494	.351	.302	.276	--	--
	2000	.685	.512	.338	.297	.282	.274	.273
	2001	.675	.495	.332	.289	.272	.263	.261
	2002	.693	.510	.351	.316	.296	.290	.287
Phase III	2003	.685	.486	.334	.301	.289	.284	--
	2004	.714	.521	.367	.334	.321	--	--
	2005	.694	.506	.358	.332	--	--	--
	2006	.684	.502	.362	--	--	--	--
	2007	.721	.553	--	--	--	--	--
Senior	2008	.714	.564	--	--	--	--	--
	2009	.753	--	--	--	--	--	--

Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

There was a gap between persistence rates for URM and non-URM students at CSU-LSAMP campuses (Figure 9 and Table 3). This gap was wider for African American students than it was for Latino/Latina students. In general, STEM discipline persistence rates for non-URM students have improved slightly over time, but rates for URM students have remained the same. This means that in most cases, the gap between URM and non-URM students, although not large to begin with, has grown a little wider.

Figure 9: Average STEM Discipline Persistence Rates for Latino/Latina, African American and Non-URM Cohorts by Phase



Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.
The cohorts included in the phase averages vary based on the available data. Phase I averages include 1996-1997 cohorts. Phase II averages include 1998-2002 cohorts. Phase III one and two-year averages include 2003-2007 cohorts and four-year averages include 2003-2006 cohorts. Senior-level one-year averages include 2008-2009 cohorts, two-year averages include the 2009 cohort, and data is not yet available for four-year rates.

Table 3: Average STEM Discipline Persistence Rates for Latino/Latina, African American and Non-URM Cohorts by Phase

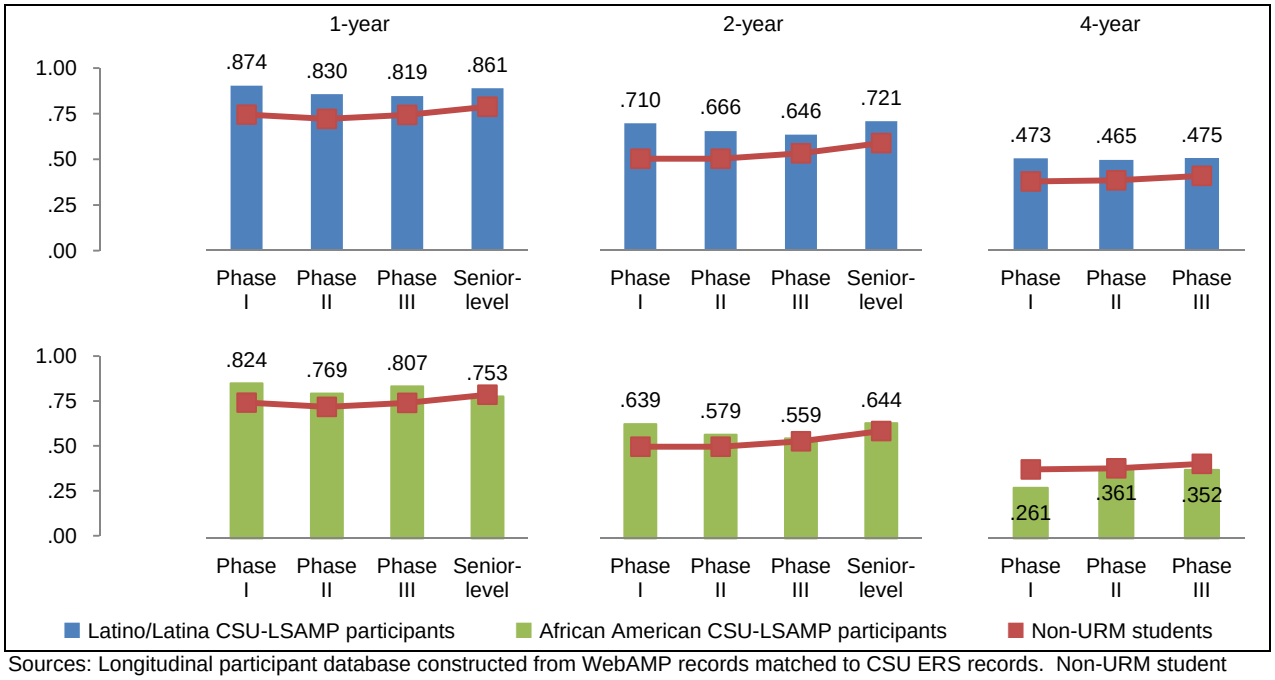
			Phase I	Phase II	Phase III	Senior-level
One year		Latino	.709	.667	.676	.693
		African American	.650	.612	.621	.625
		Non-URM	.721	.698	.719	.763
Two year		Latino	.495	.484	.479	.513
		African American	.425	.415	.410	.420
		Non-URM	.512	.512	.542	.600
Four year		Latino	.312	.314	.313	--
		African American	.178	.235	.233	--
		Non-URM	.355	.360	.383	--
Non-URM differential	One year	Latino/Latina and non-URM	1.02	1.05	1.06	1.10
		African American and. non-URM	1.11	1.14	1.16	1.22
	Two year	Latino/Latina and. non-URM	1.03	1.06	1.13	1.17
		African American and. non-URM	1.20	1.23	1.32	1.43
	Four year	Latino/Latina and. non-URM	1.14	1.15	1.22	--
		African American and non-URM	1.99	1.54	1.64	--

Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.
The cohorts included in the phase averages vary based on the available data, see Figure 9 for more detail.

STEM discipline persistence rates for CSU-LSAMP participants

Between the fall 1996 term and the fall 2010 term, there were 3,193 Latino/Latina students and 808 African American students who met the CSRDE criteria for STEM discipline cohorts and who participated in the CSU-LSAMP program during their first year at a CSU campus (Appendix Table 9). This translates to an average of 213 Latino/Latina participants and 54 African American participants in each annual cohort. Figure 10 shows first, second and fourth year persistence rates for Latino and African American participants entering the program during each phase.

Figure 10: Average One, Two and Four-Year STEM Discipline Persistence Rates by Phase for Latino/Latina and African American CSU-LSAMP Participants, 1996-2009 Cohorts



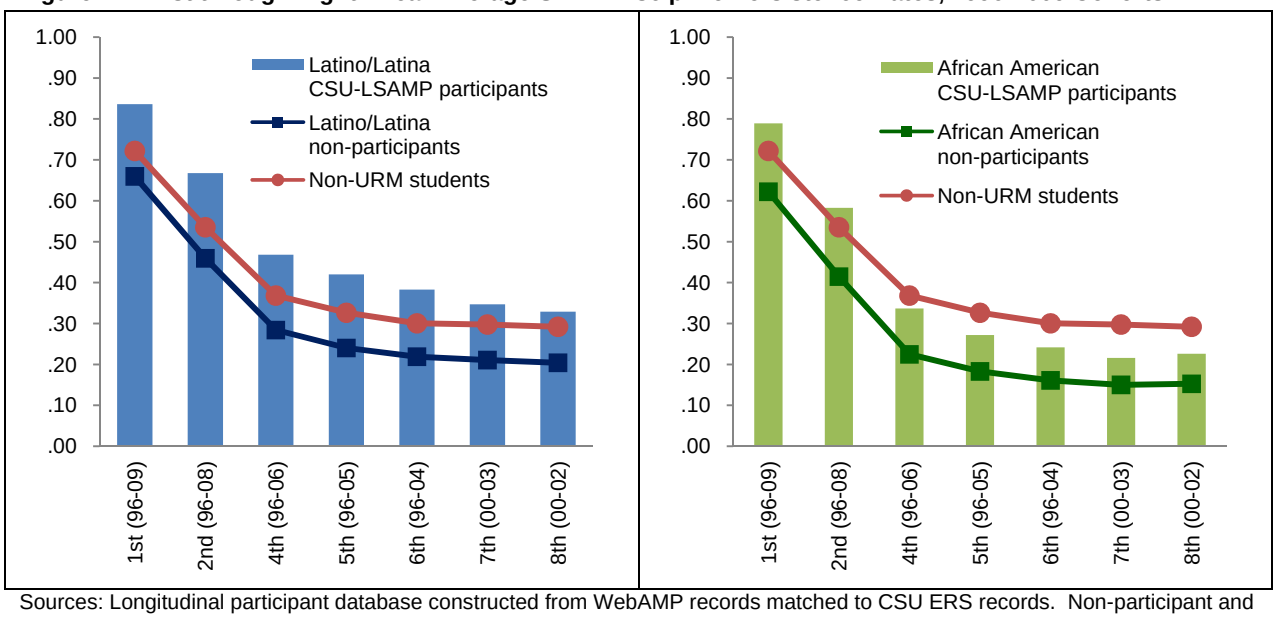
Sources: Longitudinal participant database constructed from WebAMP records matched to CSU ERS records. Non-URM student data is from the ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.
The cohorts included in the phase averages vary based on the available data, see Figure 9 for more detail.

Eighty-seven percent of Latino/Latina CSU-LSAMP participants who entered a CSU-LSAMP campus during the last two years of Phase I of the project remained enrolled as STEM majors one year later. For those entering during Phases II and III, the percentage declined slightly to between 82 and 83 percent, but returned to 86 percent for those entering during the first two years of the Senior-level project. The trends were similar for second and fourth year persistence rates. During all four project phases, persistence rates for Latino/Latina CSU-LSAMP participants were higher than rates for non-URM students at CSU-LSAMP campuses.

Eighty-two percent of African American CSU-LSAMP participants who entered a CSU-LSAMP campus during the last two years of Phase I of the project remained enrolled as STEM majors one year later. This percentage fluctuated between 75 and 81 percent during the remaining phases. During most phases of the project, persistence rates for African American CSU-LSAMP participants were similar to rates for non-URM students.

Setting aside the issue of the phase when participants entered the CSU-LSAMP program, Figure 11 and Table 4 show average first through eighth year STEM discipline rates for CSU-LSAMP participants in comparison to non-participants and non-URM students. Participation in CSU-LSAMP was associated with improved persistence of Latino/Latina and African American students in STEM disciplines and for URM CSU-LSAMP participants, the URM/non-URM gap is significantly narrowed, and in many instances, eliminated. Latino/Latina CSU-LSAMP participants had STEM discipline persistence rates that are higher than, or equivalent to, rates for non-URM students. African American CSU-LSAMP participants had first, second and fourth-year STEM discipline persistence rates that were equivalent to rates for non-URM students, but beginning in the fifth year, the gap returns, although it is narrowed substantially.

Figure 11: First through Eighth Year Average STEM Discipline Persistence Rates, 1996-2009 Cohorts



Sources: Longitudinal participant database constructed from WebAMP records matched to CSU ERS records. Non-participant and non-URM student data is from the ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

Controlling for race and ethnicity, the differences in first through seventh year persistence rates for Latino/Latina and African American participants and estimated rates for non-participants are substantial, ranging from 1.3 times higher for first year persistence rates to 1.9 times higher for seventh year persistence rates.

Table 4: Average STEM Discipline Persistence Rates, 1996-2009 Cohorts

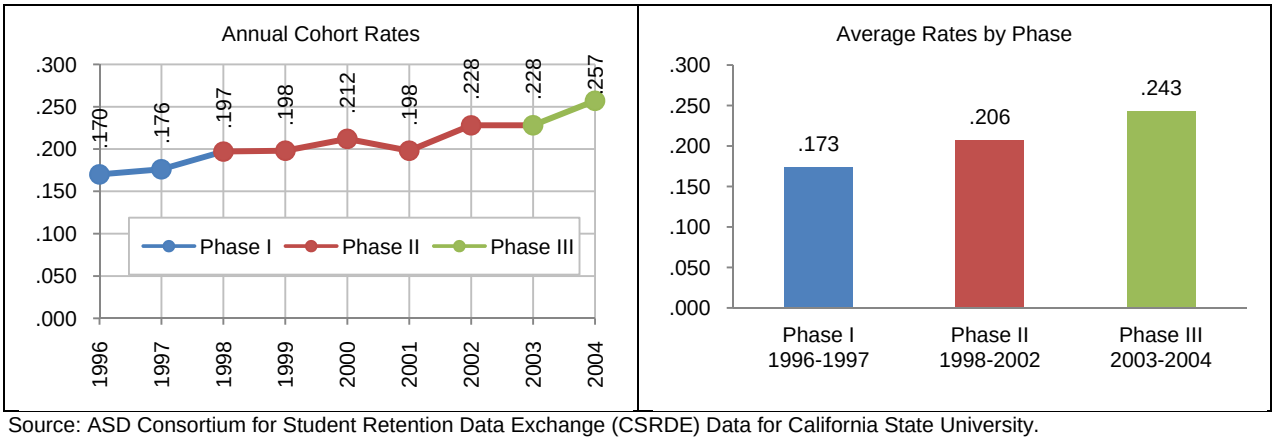
		Average STEM Discipline Persistence Rates						
		1st year (1996-2009	2nd year (1996-2008)	4th year (1996-2006)	5th year (1996-2005)	6th year (1996-2004)	7th year (2000-2003)	8th year (2000-2002)
Latino/ Latina	LSAMP	.836	.668	.468	.420	.383	.347	.329
	Non-LSAMP (estimated)	.660	.459	.284	.240	.219	.211	.204
	All (LSAMP & non-LSAMP)	.681	.487	.313	.271	.248	.233	.224
African American	LSAMP	.789	.583	.337	.272	.242	.216	.226
	Non-LSAMP (estimated)	.598	.390	.205	.167	.146	.138	.140
	All (LSAMP & non-LSAMP)	.622	.415	.225	.183	.161	.150	.153
Asian or Pacific Islander		.735	.557	.381	.328	.296	.285	.280
White		.711	.517	.356	.325	.305	.310	.305
All STEM first-time freshmen		.705	.516	.347	.305	.282	.278	.273
Differential between LSAMP & non-LSAMP	Latino/Latina	1.3	1.5	1.6	1.7	1.7	1.6	1.6
	African American	1.3	1.5	1.6	1.6	1.7	1.6	1.6

Sources: Longitudinal participant database constructed from WebAMP records matched to CSU ERS records. Non-participant and non-URM student data is from the ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

STEM discipline graduation rates

The following discussion examines STEM discipline graduation rates, which reflect the percent of a cohort graduating in a STEM major. Graduation rates are influenced by many factors, and as with persistence rates, it is helpful to begin with a look at STEM discipline graduation rates for CSU-LSAMP campuses and how these rates have changed over time. This analysis describes nine cohorts from fall 1996 through fall 2004. STEM discipline graduates rates for the last cohort were about 1.5 times higher than they were for the first cohort (Figure 12). Seventeen percent of first-time full-time freshmen with declared STEM majors who entered the CSU system in fall 1996 graduated with a STEM degree within six years. By the second year of Phase II, 26 percent of entering students meeting the same criteria graduated with a STEM degree within six years.

Figure 12: Overall Six-Year STEM Discipline Graduation Rates

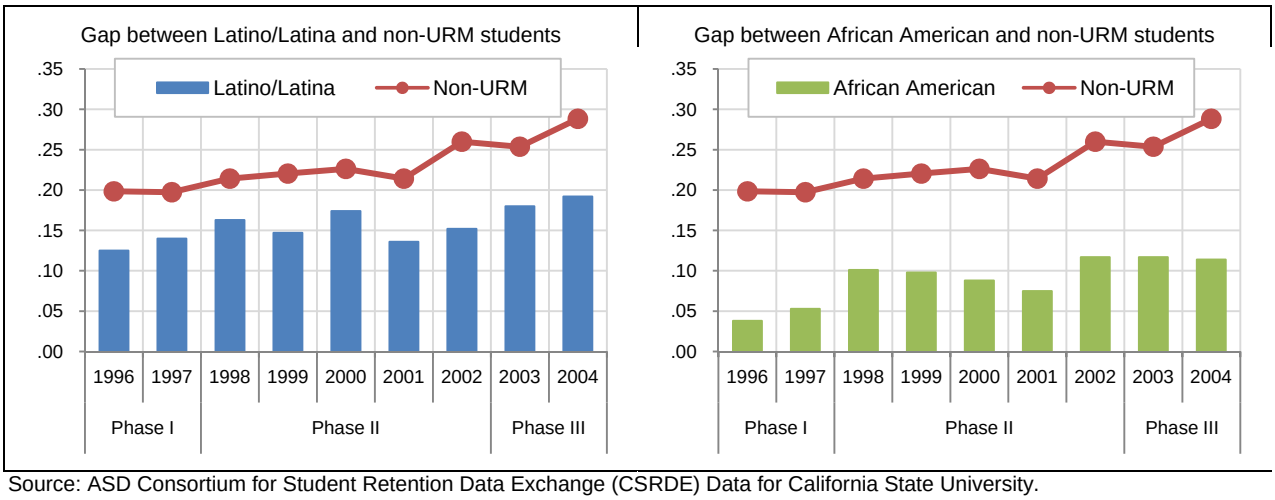


Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

There was a considerable gap between graduation rates for URM and non-URM students (Figure 13). STEM discipline graduation rates for non-URM students were about 1.5 times higher than for Latino/Latina students. During the nine-year period, graduation rates for both groups increased but the gap remained remarkably consistent, with a slight narrowing. For the

1996 cohort, 20 percent of non-URM students graduated with a STEM degree within six years, compared to 13 percent of Latino/Latina students. For the 2004 cohort, 29 percent of non-URM students graduated, compared to 19 percent of Latino/Latina students.

Figure 13: Six-Year STEM Discipline Graduation Rates for Latino/Latina, African American and Non-URM Cohorts

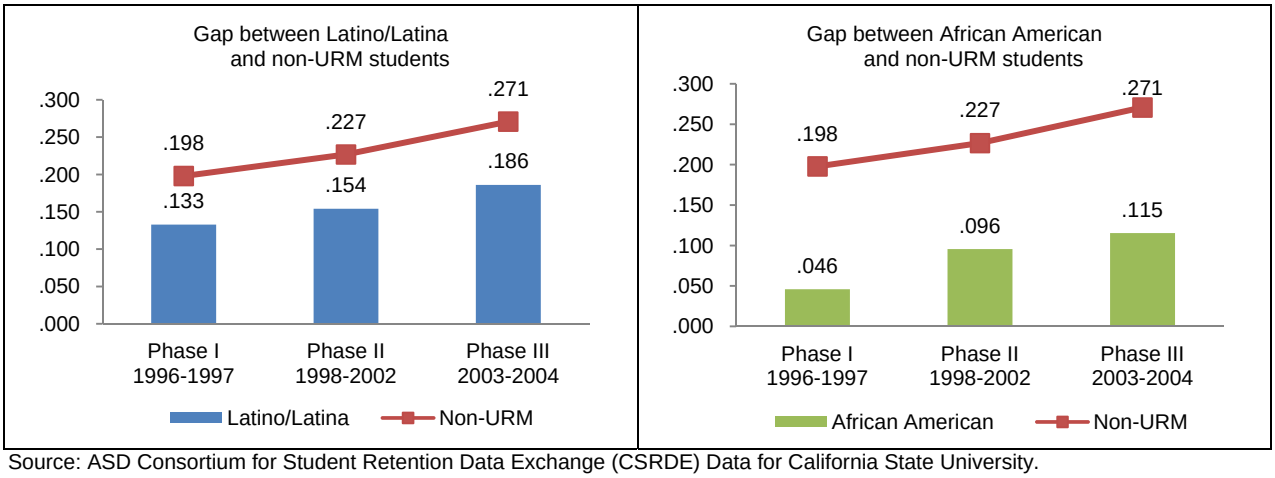


Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

The gap for African American students was even wider, although the good news is that the gap narrowed during the course of the project. For the 1996 cohort, just four percent of African American students graduated with a STEM degree within six years. By the end of the nine-year period, for the 2004 cohort, the STEM discipline graduation rate had risen to 11 percent.

Annual graduation rates are somewhat volatile and looking at average graduation rates by phase makes it easier to see trends (Figure 14 and Table 5). For cohorts matriculating during Phase I, six-year STEM discipline graduation rates were about 4.3 times higher for non-URM students than rates for African American students. However, for cohorts matriculating during Phases II and III, the gap narrowed considerably, and rates were about 2.4 times higher for non-URM students than rates for African American students.

Figure 14: Average Six-Year STEM Discipline Graduation Rates by Phase for Latino/Latina, African American and Non-URM Cohorts



Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

Table 5: Average Six-Year STEM Discipline Graduate Rates by Phase for Latino/Latina, African American and Non-URM Cohorts, 1996-2004

	Six-year STEM discipline graduation rates			URM to non-URM differential	
	Latino/Latina	African American	Non-URM	Latino/Latina	African American
Overall 1996-2004	.159	.089	.232	1.46	2.61
Phase I 1996-1997	.133	.046	.198	1.49	4.31
Phase II 1998- 2002	.154	.096	.227	1.47	2.37
Phase III 2003-2004	.186	.115	.271	1.46	2.35
Phase I to III differential	1.40	2.50	1.37	--	--

Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

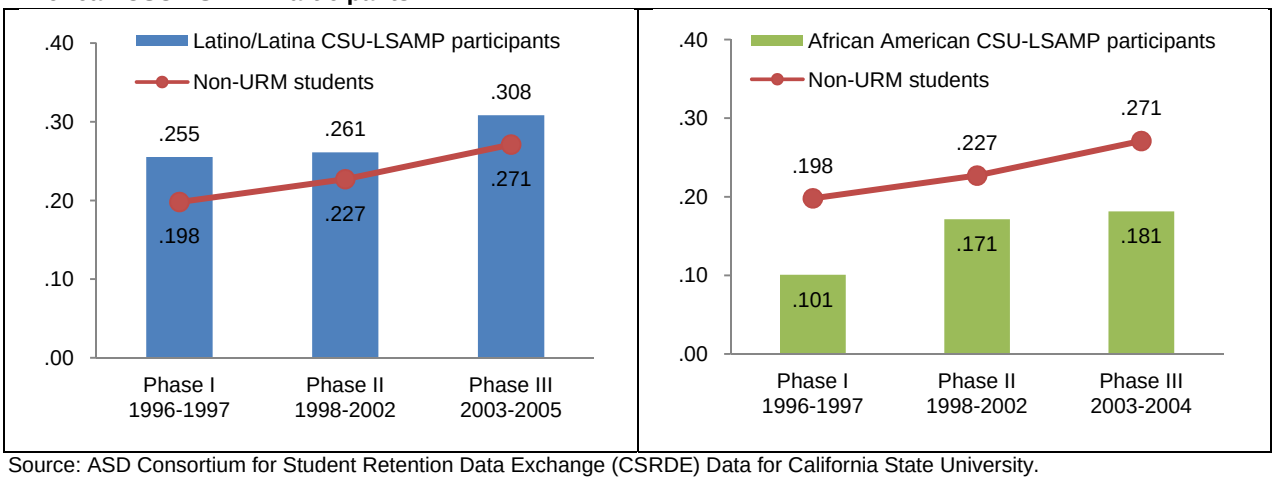
This approach also makes it easier to see the subtle narrowing of the gap between Latino/Latina students and non-URM students. For cohorts matriculating during Phase I, six-year STEM discipline graduation rates were 1.49 times higher for non-URM students than rates for Latino/Latina students. This differential decreased with each phase, and for cohorts matriculating during Phase III, STEM discipline graduation rates were 1.46 times higher for non-URM students than rates for Latino/Latina students.

STEM discipline graduation rates for CSU-LSAMP participants

Latino/Latina and African American CSU-LSAMP participants who entered a CSU-LSAMP campus during Phase III had higher STEM discipline graduation rates than participants who entered during Phase I (Figure 15). The percentage of CSU-LSAMP participants graduating increased from 26 to 31 percent for Latino/Latina participants and from 10 to 18 percent for African American participants.

During all three project phases, graduation rates for Latino/Latina CSU-LSAMP participants were higher than rates for non-URM students at CSU-LSAMP campuses. However, the rate of increase in graduation rates for Latino/Latino CSU-LSAMP participants did not quite keep pace with increases for non-URM students. For Latino/Latino participants, Phase III rates were 1.21 times higher than Phase I rates, compared to rates that were 1.37 times higher for non-URM students.

Figure 15: Average Six-Year STEM Discipline Graduation Rates by Phase for Latino/Latina and African American CSU-LSAMP Participants



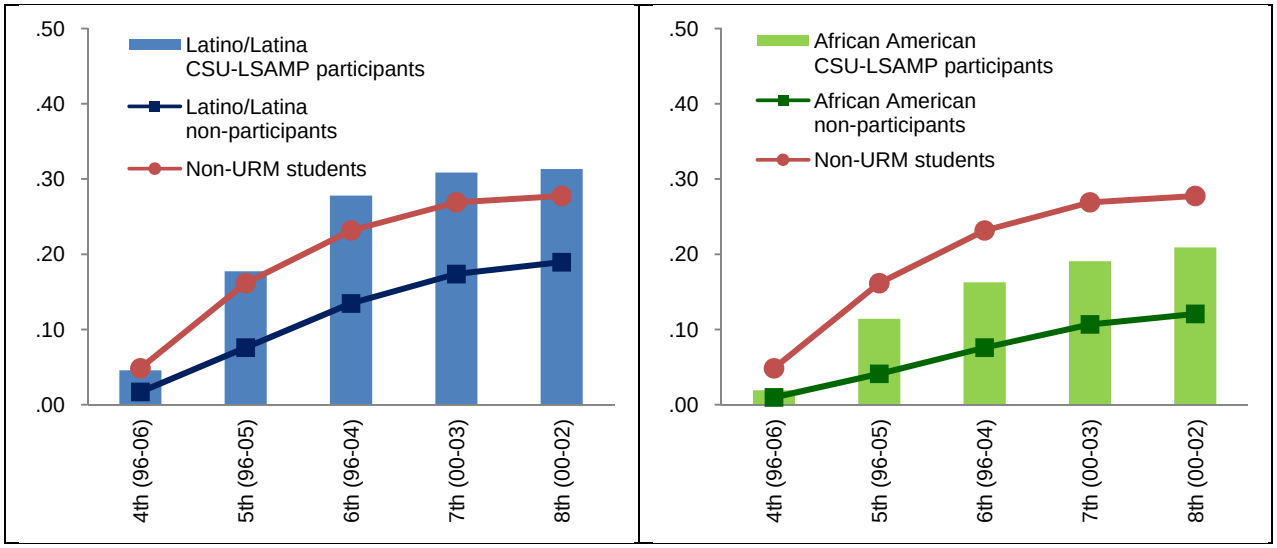
Source: ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

Throughout all three phases of the project, graduation rates for African American CSU-LSAMP participants were lower than rates for non-URM students at CSU-LSAMP campuses. But the rate of increase in graduation rates for African American CSU-LSAMP participants surpassed

increases for non-URM students. For African American participants, Phase III rates were 1.80 times higher than Phase I rates, compared to 1.37 times higher for non-URM students.

Setting aside the issue of the project phase during which participants entered, Figure 16 and Table 6 compare average fourth through eighth year STEM discipline graduation rates for CSU-LSAMP participants with rates for non-participants and non-URM students. Participation in CSU-LSAMP was associated with improved graduation rates of Latino/Latina and African American students in STEM disciplines. For URM CSU-LSAMP participants, the URM/non-URM gap was significantly narrowed, and for Latino/Latina CSU-LSAMP participants, the gap was eliminated: average graduation rates for Latino/Latina CSU-LSAMP participants were higher than or comparable to rates for non-URM students.

Figure 16: Fourth through Eighth Year Average STEM Discipline Graduation Rates, 1996-2006 Cohorts



Source: Longitudinal participant database constructed from WebAMP records matched to CSU ERS records. Non-participant and non-URM student data is from the ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

However, average graduation rates for African American participants were lower than non-URM comparison groups. Six-year graduation rates for African American participants were 1.4 times lower than rates for non-URM students.

Controlling for race and ethnicity, six-year graduation rates for Latino/Latina and African American participants are 2.1 times higher than estimated rates for non-participants. The average four-year graduation rate of Latino/Latina CSU-LSAMP participants is 2.7 times higher than that of Latino/Latina non-participants. The difference between Latino/Latina participant and non-participant rates narrows in subsequent years, with eight-year graduation rates of Latino/Latina participants 1.7 times higher than those of Latino/Latina non-participants.

Average graduation rates for African American CSU-LSAMP participants were substantially higher than rates for African American non-participants. It should be noted, however, that the average six-year rate for African American participants includes an unusually low rate of .038 for the 1996 cohort (compared to rates ranging from .097 to .255 for the 1997-2005 cohorts). It is also worth noting that the six-year rate for all African American students in the 1996 cohorts was also .038. If data from the 1996 cohort is excluded from the calculation, the average graduation rate of .172 for the remaining cohorts is closer to the overall six-year graduation rate of .209.

Table 6: Fourth through Eighth Year Average STEM Discipline Graduation Rates, 1996-2006 Cohorts

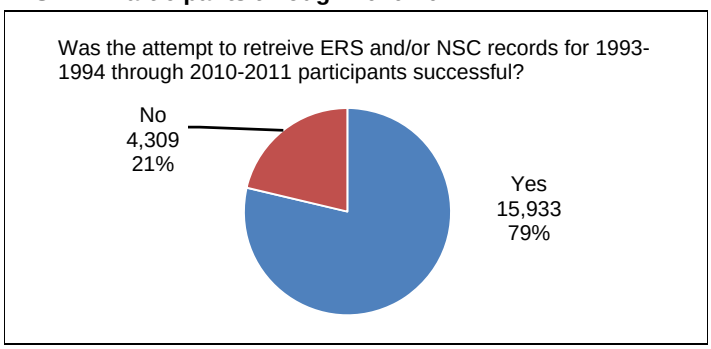
		Average STEM Discipline Graduation Rates				
		4th year (1996-2006)	5th year (1996-2005)	6th year (1996-2004)	7th year (2000-2003)	8th year (2000-2002)
Latino/ Latina	LSAMP	.046	.177	.278	.309	.313
	Non-LSAMP (estimated)	.017	.076	.135	.174	.190
	All (LSAMP & non-LSAMP)	.021	.092	.159	.194	.205
African American	LSAMP	.019	.114	.163	.191	.209
	Non-LSAMP (estimated)	.010	.041	.076	.107	.121
	All (LSAMP & non-LSAMP)	.011	.052	.089	.120	.134
Asian or Pacific Islander		.038	.135	.212	.250	.263
White		.058	.187	.250	.288	.293
All STEM first-time freshmen		.041	.141	.209	.247	.258
Differential between LSAMP & non-LSAMP	Latino/Latina	2.7	2.3	2.1	1.8	1.7
	African American	2.0	2.8	2.1	1.8	1.7

Source: Longitudinal participant database constructed from WebAMP records matched to CSU ERS records. Non-participant and non-URM student data is from the ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University.

Baccalaureate Degree Attainment for CSU-LSAMP Participants

The preceding description of STEM discipline persistence and graduation rates focused on a subset of 4,001 CSU-LSAMP participants who met specific criteria necessary for comparison with CSRDE benchmarks.[5] In contrast, the current section examines baccalaureate degree attainment for a larger group of 15,933 CSU-LSAMP participants and includes degrees earned outside the CSU system.

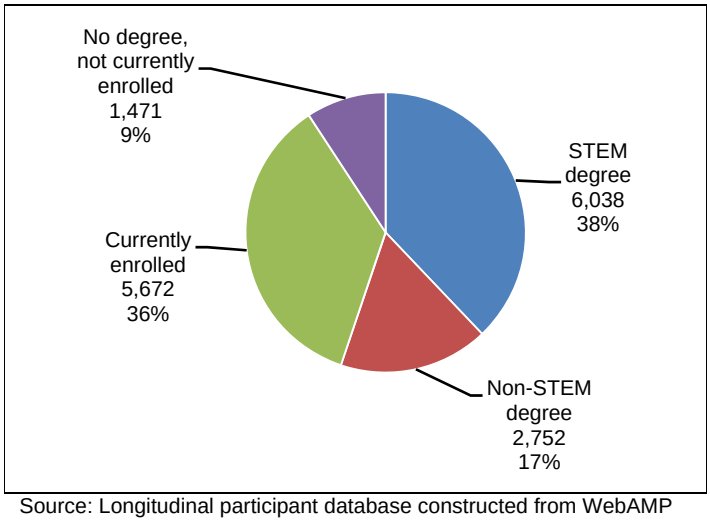
Figure 17: Results of Tracking Data Retrieval for CSU-LSAMP Participants through 2010-2011



See Appendix Table 12 for more detail

Information for these 15,933 participants is the result of an attempt to retrieve ERS and NSC records for the 20,242 students who participated in CSU-LSAMP at any time from 1993-1994 through 2010-2011 (Figure 17 and Appendix Table 12). These 15,933 participants include the 4,001 students who met the CSRDE criteria as well as those who did not. This includes students who entered the CSU system as part-time students, those who did not matriculate during a fall term, those without a declared major in a STEM discipline, students transferring from a California Community College, students who began their participation in CSU-LSAMP after their first year in the CSU system, and students from all racial and ethnic groups.

Figure 18: Baccalaureate Degree Attainment for CSU-LSAMP Participants through 2010-2011



Source: Longitudinal participant database constructed from WebAMP records matched to ERS and NSC records. See Appendix Table 13 for more detail.

ERS and NSC degree records show that of these 15,933 participants, 8,790 (55%) earned bachelor's degrees by spring 2011 and that 6,038 of these degrees were in STEM disciplines, for a STEM degree completion rate of 38 percent. Of the STEM degrees, 4,846 (80%) were awarded to students from URM groups, and the degree completion rate for URM students was 36 percent (4,486 URM STEM degrees out of the 13,434 participants for whom ERS and/or NSC records were retrieved) (Figure 18 and Appendix Table 13).

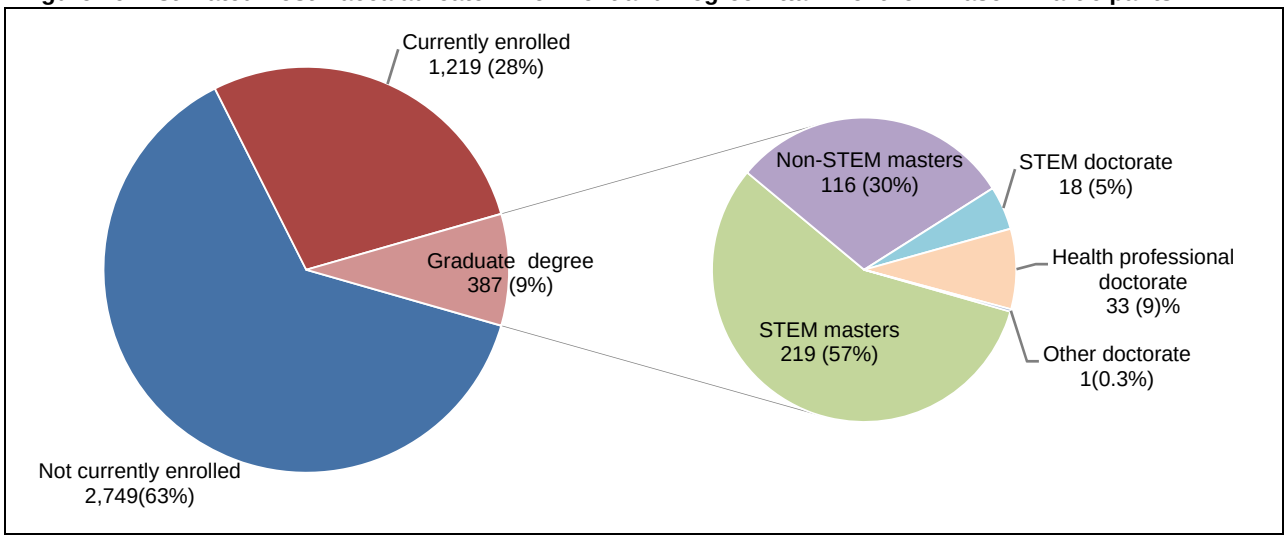
Assuming that the same degree completion rates also apply to the 21 percent of participants for whom ERS and NSC records could not be retrieved translates to an estimate that overall, 7,692 participants earned STEM bachelor's degrees by Spring 2011 and that 6,191 of these STEM degrees were awarded to URM participants.

[5] Latino/Latina and African American participants entering the CSU system during a fall term as first time, full-time freshmen with declared majors in a STEM discipline.

Advancement to Graduate Programs for CSU-LSAMP Phase III Participants

In Phase III, the CSU-LSAMP program began to increase emphasis on serving upper division students in research and other activities designed to motivate them to pursue graduate study and enhance their competitiveness. Based on analysis of NSC and ERS records for Phase III CSU-LSAMP participants, it is estimated that 4,355 students (58%) graduated with a bachelor's degree.[6] Thirty-seven percent of the graduates (1,258 out of 3,412) for whom tracking information is available either earned a post-baccalaureate degree or are currently enrolled (Figure 19 and Table 7).[7] This translates to an estimated 219 Phase III participants who obtained a STEM Master's degree and 18 who obtained a STEM doctorate degree.

Figure 19: Estimated Post-Baccalaureate Enrollment and Degree Attainment for Phase III Participants



Source: Longitudinal participant database constructed from WebAMP records matched to CSU ERS records.

Table 7: Post-Baccalaureate Enrollment and Degree Attainment for Phase III Participants

	Phase III participants who obtained a bachelor's degree and for whom tracking information is available		Estimated number of Phase III participants
	Number	Percent	
STEM masters	171	5.0%	219
Non-STEM masters	91	2.7%	116
STEM doctorate	14	.4%	18
Health professional doctorate*	26	.8%	33
Other doctorate	1	.03%	1
Currently enrolled	955	28.0%	1,219
Not currently enrolled	2,154	63.1%	2,749
Total	3,412	100.0%	4,355

Source: Longitudinal participant database constructed from WebAMP records matched to CSU ERS records.
* Medicine was the most prevalent health professional doctorate, followed by pharmacy and then dentistry.

[6] Of the 7,545 Phase III participants, tracking information was successfully retrieved for 5,911 students, and the records showed that 3,412 of them (or 57.72%) graduated with a bachelor's degree. Applying this graduation rate to the 7,545 Phase III participants produces an estimated 4,355 Phase III participants graduating with bachelor's degrees.

[7] It should be noted that many of these participants have not had enough time to complete their doctorate, so it is likely that the number of doctorate degrees will increase in the coming years. For S&E 2009 doctorate recipients, the median number of years from entry to graduate school to receipt of doctorate was 7.0 (Science and Engineering Indicators 2012S, National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, special tabulations [2010]).

SECTION 2: THE CURRENT SENIOR-LEVEL PROJECT

This section of the report examines measures for the first three years of the current Senior-Level CSU-LSAMP project period. The section describes Senior-level participants and activities and evaluates progress toward the eight short-term milestones and four long-term outcomes established for the Senior-level project.

Senior-Level CSU-LSAMP Participants

Senior-level CSU-LSAMP served a total of 4,665 unduplicated level-one participants during the project's first three years, including 4,170 students from URM groups. Most of these participants were also pursuing STEM degrees (4,158) (Table 8).

During year one, campuses reported that they served 2,835 unduplicated level-one students, including 2,632 from URM groups. In the first year of the project, 627 new participants entered the program. During year two, campuses reported that they served 2,946 unduplicated level-one students, including 2,702 students from URM groups. In the second year of the project, 896 new participants entered the program. During year three, campuses reported that they served 2,903 unduplicated level-one students, including 2,552 from URM groups. In the third year of the project, 864 new participants entered the program, bringing the total number of new students who entered the program during the first three years of Senior-level CSU-LSAMP to 2,387.

Table 8: Number of Senior-Level CSU-LSAMP Participants through 2010-2011 by URM-STEM Category[8]

	URM		Non-URM		Not reported		
	STEM	Non-STEM	STEM	Non-STEM	STEM	Non-STEM	Total
Year 1 (2008-2009) participants	2,631	1	180	0	23	0	2,835
Year 2 (2009-2010) participants	2,694	8	216	0	28	0	2,946
Year 3 (2010-2011) participants	2,548	4	309	1	41	0	2,903
New Senior-level year 1 participants	537	0	74	0	16	0	627
New Senior-level year 2 participants	782	8	95	0	11	0	896
New Senior-level year 3 participants	677	3	156	1	27	0	864
New participants entering during Senior-level	1,996	11	325	1	54	0	2,387
Participants continuing from Phase III	2,162	1	108	0	7	0	2,278
Unduplicated participants for years 1-3	4,158	12	433	1	61	0	4,665

Source: Longitudinal participant database constructed from WebAMP records

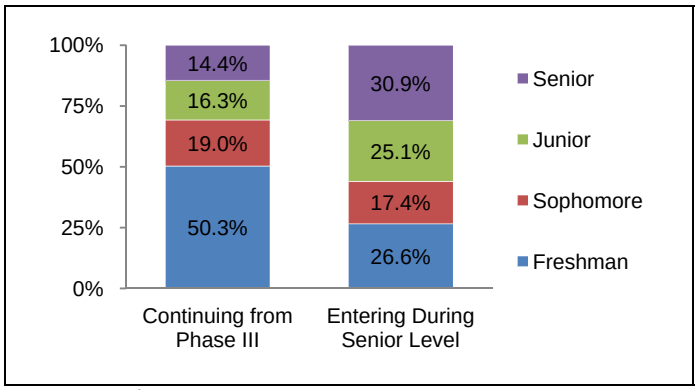
[8] The annual number of participants presented in this report differs slightly from the number of participants reported in the WebAMP system. Although WebAMP data is reviewed and edited prior to submission, additional data entry errors—many involving a student being reported by two different campuses for the same year—were identified following submission that slightly reduced the number of participants. The number of year one participants was reduced by three students (from 2,838 to 2,835). The number of year two participants was reduced by one student (from 2,947 to 2,946), and the number of year three participants was reduced by five (from 2,908 to 2,903). These errors were found during the process of merging the annual WebAMP data files for 1994-2011 to create the longitudinal participant file that describes the unduplicated number of participants throughout the project. The knowledge gained from this effort will be used to improve the data review process in future years.

It should also be noted that since a student may be a STEM major one year and a non-STEM major the next (or vice versa), in order to describe URM-STEM status across years, if a student was a STEM major at some point during their CSU-LSAMP participation, they are counted as a STEM major in Table 8.

Since the first section of this report includes an overall profile of CSU-LSAMP participants, this discussion will focus on changes in the characteristics of new participants entering the program during the first three years of the Senior-level project.

The percentage of new female participants increased slightly during the Senior-level, and was higher than the percentage of female STEM majors at CSU campuses overall (43 percent versus 36 percent, respectively) (Appendix Table 14). The largest two racial/ethnic groups were still Latino/Latina (68%) and African American (15%) but the percentage of participants who are not members of an underrepresented minority group increased.

Figure 20: Class Level at Program Entry for New and Continuing Senior-Level CSU-LSAMP Participants



Source: WebAMP

Purposeful changes in the program are evident in the increased proportion of overall students beginning the program as upper classmen compared to those continuing from Phase III. More than half (56%) of the Senior-level participants entered the program as upper division students. In contrast, 31 percent of participants continuing from Phase III entered as upper division students (Figure 20).

As during previous phases, there were more engineering majors than any other discipline category, followed by life/biological Sciences, mathematics, chemistry, and computer science. Three disciplines—agriculture, chemistry and environmental science—increased notably during the first three Senior-level years relative to continuing Phase III students. New participants majoring in agriculture increased from 0.3 percent of continuing Phase III students to 1.6 percent of students entering in the third year of Senior-level CSU-LSAMP. Similarly, chemistry students increased from 8.8 to 10 percent and environmental science students increased from 1.7 to 5.1 percent.

Two disciplines—computer science and mathematics—decreased relative to continuing Phase III students. Computer science majors decreased from 7.7 percent of continuing Phase III students to 4.9 percent of students entering during the third year of Senior-level CSU-LSAMP. Mathematics majors decreased from 10.2 percent of continuing Phase III students to 6.9 percent of students entering during the third year of Senior-Level CSU-LSAMP.

The three newly participating campuses of Channel Islands, San Luis Obispo, and San Marcos had a total of 40, 145, and 41 students respectively join their LSAMP programs over the first three years of Senior-level CSU-LSAMP. For nine of the 19 Phase III campuses (Bakersfield, Chico, East Bay, Fullerton, Humboldt, Pomona, San Diego, San Francisco, and Sonoma) the number of students who entered CSU-LSAMP during the first three years of the Senior-level exceeded the number continuing from Phase III.

Estimating the Level of Participation for URM-STEM Students

During the first two years of Senior-level CSU-LSAMP, 14 percent of all students identified as URM-STEM students enrolled at the 22 Alliance campuses participated in the CSU-LSAMP program. During year three, 12 percent of all URM-STEM students enrolled at the 22 Alliance campuses participated (Table 9).

Table 9: Estimated URM-STEM Participation Rate, Senior-Level CSU-LSAMP through 2010-2011

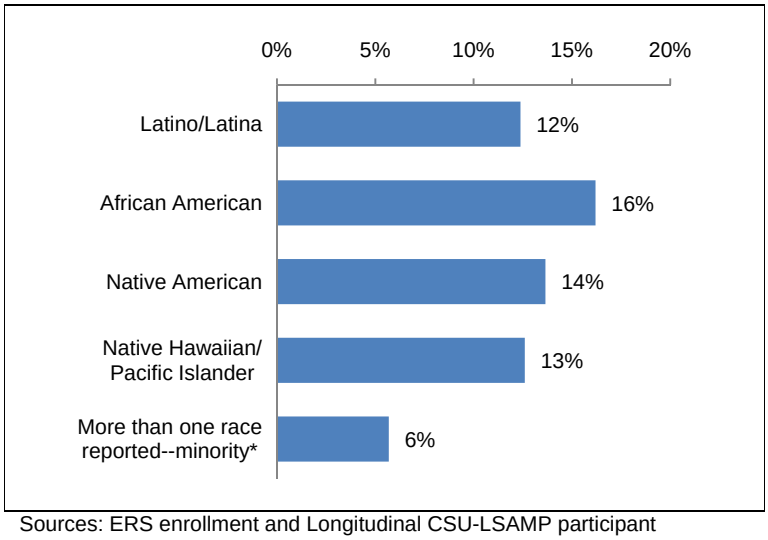
	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011
URM STEM enrollment*	18,497	19,519	22,017
URM STEM CSU-LSAMP participants†	2,606	2,668	2,542
Estimated participation rate	14%	14%	12%

* Source: CSU ERS Fall 2008, 2009, and 2010 enrollment
† Source: WebAMP. Reflects major for that year only, so the number of STEM majors is slightly lower than the number described in Table 8.

While this measure provides a useful indicator of the percent of CSU URM STEM students who participate in CSU-LSAMP, it is important to keep in mind several issues that affect the precision of this measure. This includes the fact that URM STEM enrollment can only identify those students who reported their race and/or ethnicity.[9] In addition, the data is coming from two different sources and student race and/or ethnicity may be reported differently in the ERS file than it is in the WebAMP system.

Averaging across the first three years of the Senior-level, participation rates for male and female students were both 13 percent (Appendix Table 16).

Figure 21: Average Estimated URM STEM Participation Rate by Race/Ethnicity, Senior-Level CSU-LSAMP through 2010-2011

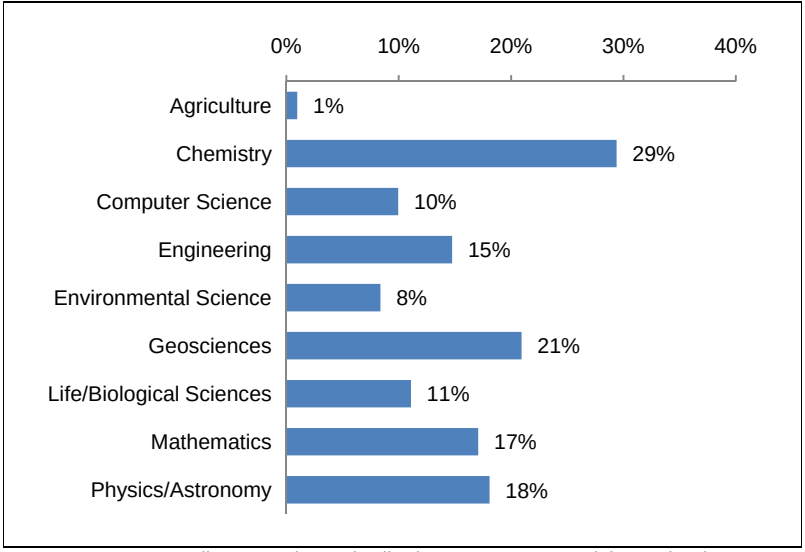


Sources: ERS enrollment and Longitudinal CSU-LSAMP participant database.
* This is a new category not present in the ERS enrollment data prior to Fall 2010.

Averaging across the first three years of the Senior-level, African American STEM majors had the highest participation rate (Figure 21 and Appendix Table 17). On average, there were 2,739 African American STEM majors enrolled and 444 of them participated in CSU-LSAMP, for a 16 percent participation rate. Aside from students who identified themselves as members of more than one underrepresented minority group (who may be more likely to be reported differently in ERS than in WebAMP), Latino STEM majors had the lowest participation rate. On average, there were 16,083 Latino STEM majors enrolled and 1,992 participated in CSU-LSAMP, for a 12 percent participation rate.

[9] See Appendix B for a discussion of the accuracy of the URM STEM enrollment data presented here.

Figure 22: Average Estimated URM STEM Participation Rate by Discipline, Senior-Level CSU-LSAMP through 2010-2011

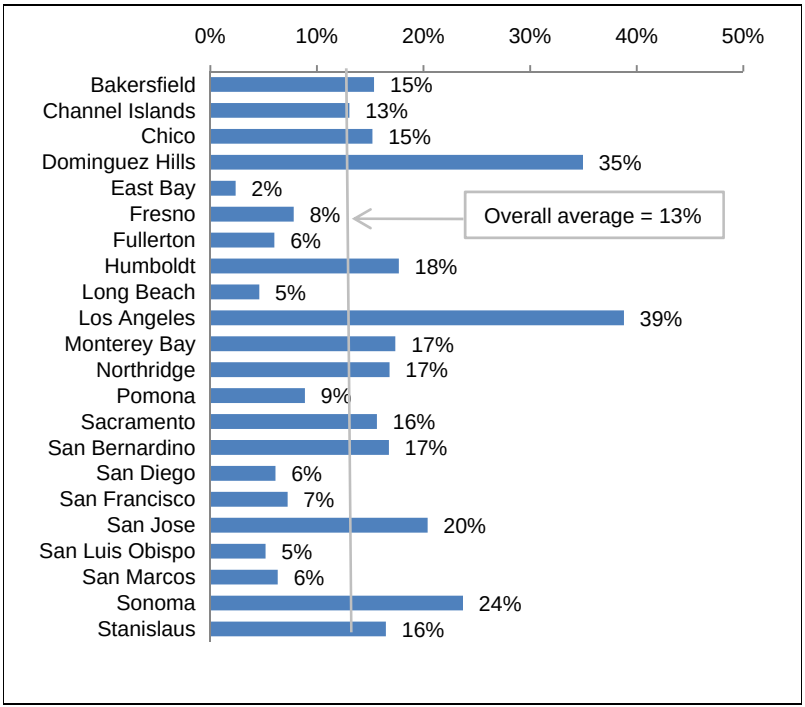


Sources: ERS enrollment and Longitudinal CSU-LSAMP participant database.

Estimated average URM STEM participation rates varied markedly depending on discipline (Figure 22 and Appendix Table 18). Chemistry majors—who made up nine percent of all participants—had the highest participation rate of 29%. Participation rates were also high for geosciences, physics/astronomy, and mathematics majors (21%, 18% and 17%, respectively).

The average participation rate for engineering majors, who made up 39 percent of all participants, was 15 percent. The second most prevalent group of participants—life/biological science majors, had an average participation rate of 11 percent. Agriculture majors had the lowest average participation of one percent.

Figure 23: Average Estimated URM STEM Participation Rate by Campus, Senior-Level CSU-LSAMP through 2010-2011



Sources: ERS enrollment and Longitudinal CSU-LSAMP participant database.

Estimated average URM STEM participation rates for Senior-level CSU-LSAMP varied widely from one campus to the next (Figure 23 and Appendix Table 19). CSU Los Angeles and CSU Dominguez Hills had the highest rates, with 39 and 35 percent, respectively, of URM STEM students participating in CSU-LSAMP.

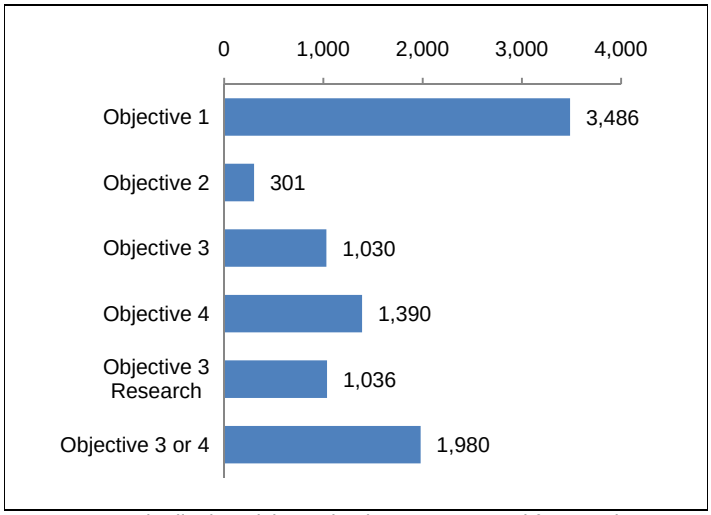
East Bay, Long Beach and San Luis Obispo had the lowest rates, with two and six percent, respectively, of URM STEM students participating in CSU-LSAMP.

Activity participation

The Senior-level project includes 30 different activities, with each activity supporting one of the four project objectives:

- *Objective 1: continue to enhance student performance, success, and retention in STEM disciplines, as well as maintain or increase baccalaureate degree production.*
- *Objective 2: facilitate the transition of community college students in their first year of transfer to a CSU campus through activities that improve the retention rates of transfer students.*
- *Objective 3: continue to enhance student interest in research and careers in STEM, as well as enhance the global awareness of CSU-LSAMP students.*
- *Objective 4: increase the number of students who are admitted to graduate programs and obtain doctoral degrees in STEM.*

Figure 24: Number of Level-One Students Participating in Activities Supporting the Four Senior-Level CSU-LSAMP Objectives, through 2010-2011



Source: Longitudinal participant database constructed from WebAMP records. See Appendix Table 20 for more detail.

Fourteen activities were offered supporting Objective 1, including: academic and career advising; freshman orientation courses; academic support for "gatekeeper" courses in STEM disciplines; peer mentoring; support of student clubs and social events.

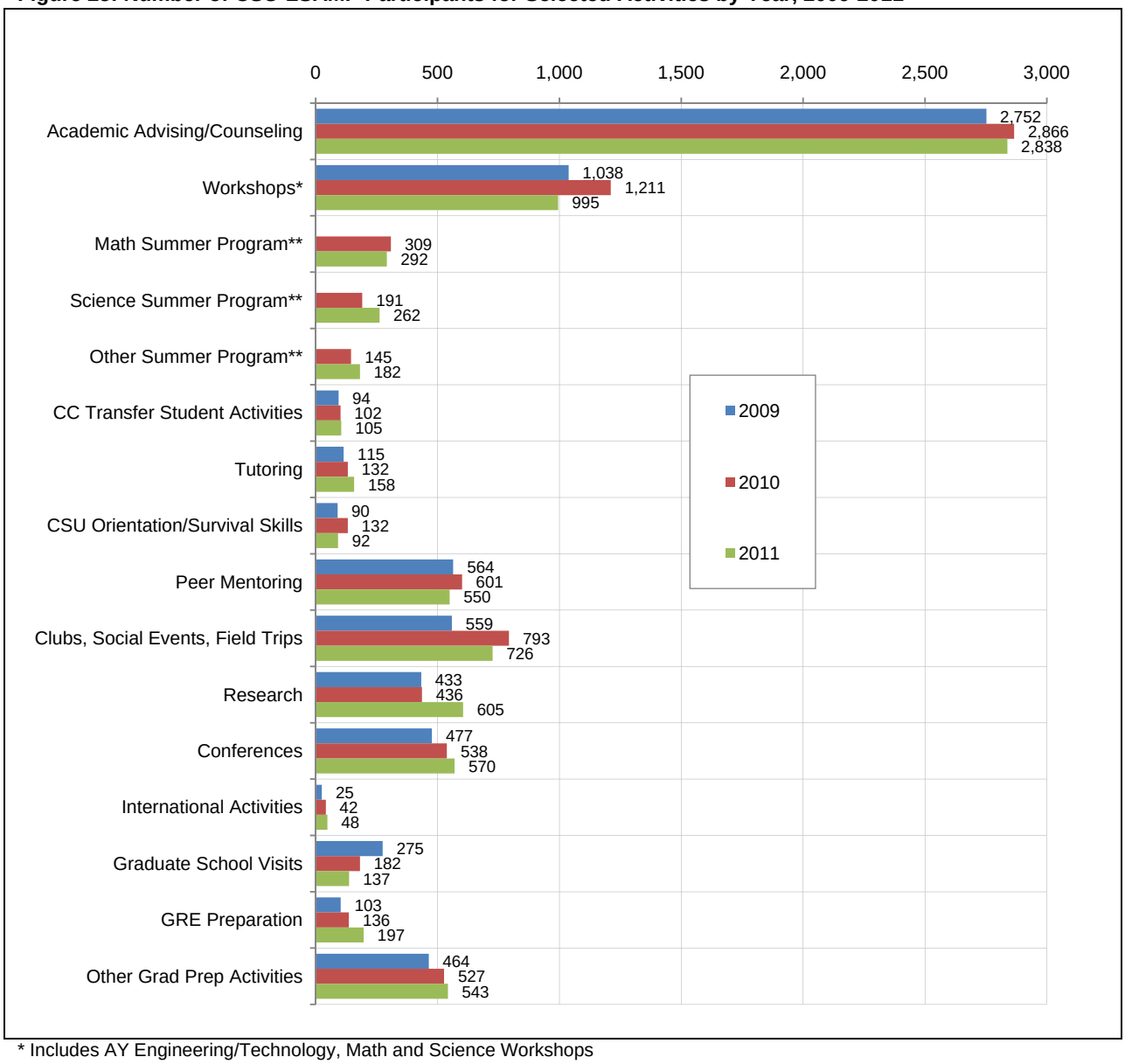
During the first three years of the Senior-level project, 3,486 students (74% of all level-one participants) participated in one or more Objective 1 activities (Figure 24 and Appendix Table 20). The top five Objective 1 activities in terms of the number of participants were: 1) Communication (1,652 participants); 2) Academic Year Science Workshops (1,462 participants); 3) Academic Year Math Workshops (1,275 participants), 4) Social Events (922 participants); and 5) Material Support (901 participants).

During the first three years of the Senior-level project, 301 students participated in Objective 2 activities specifically designed to facilitate the transition of community college students during their first year after transferring to a CSU campus. This included 178 "Community College Transfer Scholars" who were provided with a $1,000 stipend during their first year of enrollment in the CSU and required to participate in an individualized program of activities developed in conjunction with the campus coordinator. In addition, 123 students participated in transfer student orientation courses and workshops and peer and faculty mentoring programs.

Senior-level CSU-LSAMP offered five activities supporting Objective 3 and 1,030 students participated in one or more of these activities. The activities included three different research programs, funding for students to participate in conferences, providing international research experiences, and leveraging international opportunities provided by other programs. Conferences had the highest number of participants, with 1,091 participants.

Senior-level CSU-LSAMP offered seven activities in support of Objective 4. These activities included providing support services to assist students with the graduate school application process, providing opportunities to enhance student qualifications for graduate programs, and sponsoring student visits to graduate schools and presentations by speakers from graduate schools. In addition, the CSU-LSAMP Scholars program, which is an Alliance-wide activity, provides upper division students with a $2,000 stipend during the calendar year to carry out a graduate school preparation plan developed with a faculty mentor. There were 1,390 students who participated in one or more of these activities, including 161 Scholars.

Figure 25: Number of CSU-LSAMP Participants for Selected Activities by Year, 2009-2011



* Includes AY Engineering/Technology, Math and Science Workshops

** Not included in 2009 activities

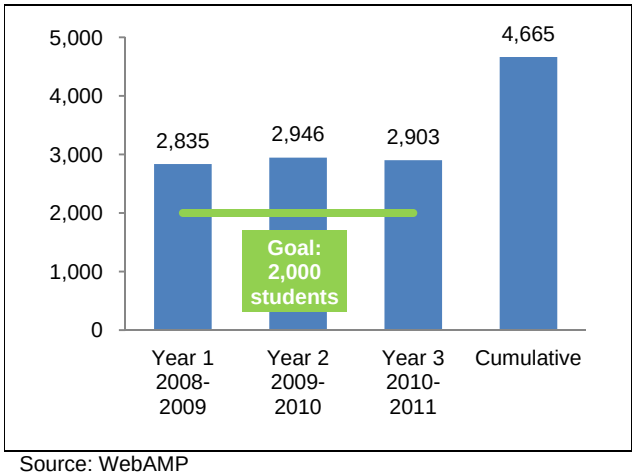
Appendix Table 20 provides detailed information for annual and cumulative Senior-level activity participation.

Findings Regarding Short-Term Milestones

Progress toward the goal of engaging at least 2,000 "level-one" students annually

Senior-level CSU-LSAMP surpassed this goal during all three project years. During year one, campuses reported that they served 2,835 unduplicated level-one students (Figure 26).

Figure 26: Number of Senior-Level CSU-LSAMP Participants through 2010-2011



Source: WebAMP

During year two, campuses reported that they served 2,946 unduplicated level-one students.

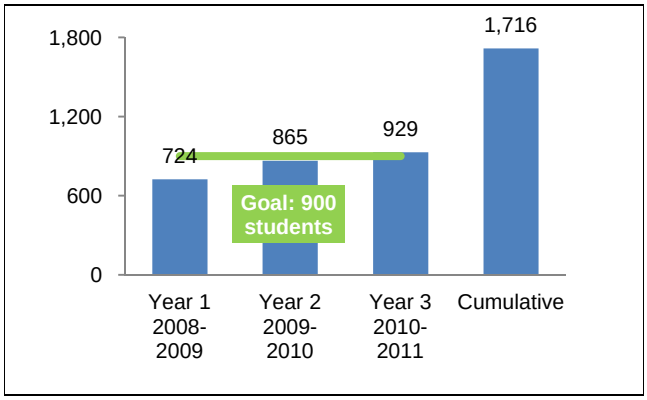
During year three, campuses reported that they served 2,903 unduplicated level-one students, bringing the total number of new students who entered the program during the first three years of Senior-level CSU-LSAMP to 2,387.

Senior-level CSU-LSAMP served a total of 4,665 unduplicated level-one participants during the project's first three years.

Progress toward the goal of engaging 900 upper division students annually in graduate preparation activities

CSU-LSAMP met this goal in the third year of the Senior-level project, with 929 upper division students participating in one or more activities specifically designed to improve preparation for graduate studies. The number of upper division students participating in these activities had been steadily increasing during prior Senior-level years.

Figure 27: Number of Upper Division Students Participating in Graduate Preparation Activities, Senior-Level CSU-LSAMP through 2010-2011



Source: WebAMP

Of the 2,835 year one participants, 2,072 (73%) were upper division students. In year one, 867 students participated in one or more activities specifically designed to improve preparation for graduate studies and 724 of these participants were upper division students (Figure 27 and Table 10).[10]

Of the 2,946 year two participants, 2,119 (75%) were upper division students. In year two, 1,009 students participated in one or more activities specifically designed to improve preparation for graduate studies and 865 of these participants were upper division students.

[10] Graduate preparation activities include those designed to enhance student interest in research and careers in STEM, as well as enhance the global awareness of CSU-LSAMP students (Objective 3) in addition to those activities designed to increase the number of students who are admitted to graduate programs and obtain doctoral degrees in STEM (Objective 4).

Of the 2,903 year three participants, 2,271 (78%) were upper division students. In year three, 1,118 students participated in one or more activities specifically designed to improve preparation for graduate studies and 929 of these participants were upper division students.

Senior-level CSU-LSAMP served a total of 3,660 upper division students during the project's first three years and 1,980 students participated in one or more activities specifically designed to improve preparation for graduate studies. This included 1,716 upper division students.

Table 10: Upper and Lower Division Participants, Senior-Level CSU-LSAMP through 2010-2011

		Year 1 2008-2009		Year 2 2009-2010		Year 3 2010-2011		Unduplicated Participants for Years 1-3	
		N	%	N	%	N	%	N	%
All CSU-LSAMP participants	Lower division	763	27%	747	25%	632	22%	1,005	22%
	Upper division	2,072	73%	2,199	75%	2,271	78%	3,660	78%
	Total	2,835	100%	2,946	100%	2,903	100%	4,665	100%
Students participating in graduate preparation activities	Lower division	143	16%	144	14%	189	17%	264	13%
	Upper division	724	84%	865	86%	929	83%	1,716	87%
	Total	867	100%	1,009	100%	1,118	100%	1,980	100%

Source: WebAMP. The unduplicated count for years one through three reflects student class level during their most recent year of participation. As noted in Table 1, because many students participated in the program during both year one and year two, the number of unduplicated participants for both years is less than the total for the two years.

Table 11: Estimated Upper Division URM-STEM Participation Rate, Senior-Level CSU-LSAMP through 2010-2011

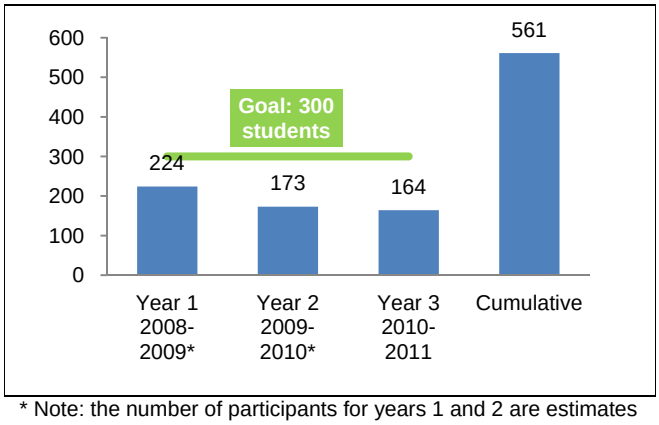
	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011
Upper division URM STEM enrollment	9,631	10,097	11,149
Upper division URM STEM CSU-LSAMP participants	1,789	1,788	2,271
Estimated upper division participation rate	19%	18%	20%

Sources: ERS enrollment and Longitudinal CSU-LSAMP participant database.

Estimating the level of participation for upper division URM-STEM students. During the first three years of Senior-level CSU-LSAMP, 19 percent, on average, of all upper division URM-STEM students enrolled at the 22 Alliance campuses participated in the CSU-LSAMP program. The fact that the participation rate for upper division students is higher than the overall 14 percent participation rate reflects the intentional shift of the Senior-level project toward an increased emphasis on upper division students and activities (Table 11).

Progress toward the goal of engaging at least 300 first-time transfer students annually

Figure 28: Number of First-Time Transfer Students Participating in Senior-Level CSU-LSAMP through 2010-2011



* Note: the number of participants for years 1 and 2 are estimates based on characteristics of participants matched to Fall 2008 and 2009 CSU ERS records. Year 3 data is from WebAMP.

At the beginning of year three of Senior-level CSU-LSAMP, in order to more accurately measure the number of first-time transfer students participating in CSU-LSAMP activities, campus coordinators were asked to identify all first year community college transfer students who participated in their programs and a WebAMP reporting category was added to record this information. Prior to the addition of this category, this information was not collected at the campus program level and the number of first time transfer student who participated in the CSU-LSAMP program was estimated using the characteristics of participants who were matched to CSU enrollment data.[11]

During year one, an estimated 224 first-time transfer students participated in the CSU-LSAMP program, and 94 students participated in activities specifically designed to meet the needs of transfer students during their first year of enrollment (Figure 28 and Table 12).

During year two, an estimated 173 first-time transfer students participated in the CSU-LSAMP program, and 102 students participated in activities specifically designed to meet the needs of transfer students during their first year of enrollment.

During year three, campus coordinators reported that 164 first-time transfer students participated in the CSU-LSAMP program, and 105 participated in activities specifically designed to meet the needs of transfer students during their first year of enrollment.

Senior-level CSU-LSAMP served an estimated total of 561 first-time transfer students during the project's first three years and 301 students participated in activities specifically designed to meet the needs of transfer students during their first year of enrollment.

Table 12: First-Year Transfer Student Participants and Activities, Senior-Level CSU-LSAMP through 2010-2011

	Year 1 2008-2009*	Year 2 2009-2010*	Year 2 2009-2010	Unduplicated for Years 1-3
Number of participants who were first-year transfer students*	224	173	164	561
Number of students participating in activities specifically designed to meet the needs of transfer students during their first year of enrollment	94	102	105	301

* Note: the number of participants for years 1 and 2 are estimates based on characteristics of participants matched to Fall 2008 and 2009 CSU ERS records. Year 3 data is from WebAMP.

[11] A detailed description of the methods used to calculate the estimates for years one and two is provided in the Senior-Level CSU-LSAMP year two report (March 2011).

Estimating the level of participation for first-year URM-STEM transfer students. During the first three years of the Senior-level project, the CSU-LSAMP program engaged approximately ten percent of all URM-STEM first-year transfer students enrolled at CSU-LSAMP Alliance campuses (Table 13). This is lower than the overall participation rate of 14 percent for all URM-STEM students.

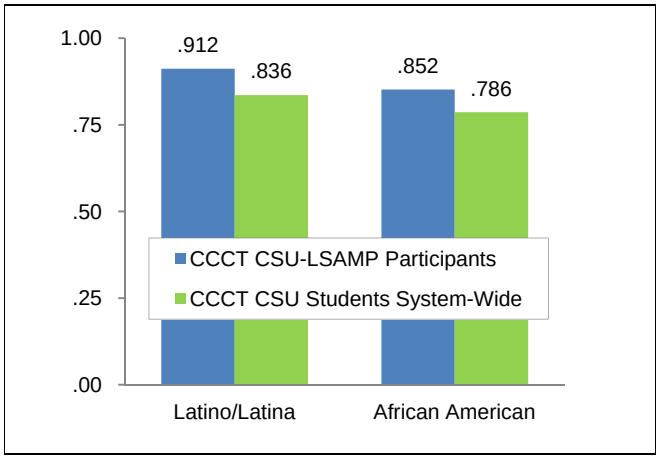
Table 13: URM-STEM First-Year Transfer Student Participants, Senior-Level CSU-LSAMP through 2010-2011

		Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Unduplicated for Years 1-3
Total number of URM-STEM first-year transfer students enrolled at CSU-LSAMP Alliance campuses*		1,131	1,155	1,543	3,829
Estimated number of participants who were first-year transfer students†	Total	224	173	164	561
	URM students	161	121	142	424
	URM students with a declared STEM major at matriculation	137	100	142	379
Estimated first-year transfer student participation rate		12%	9%	9%	10%

* Source: fall 2008, 2009 and 2010 ERS data. The official CSRDE definition of a California Community College Transfer student requires that students matriculate as sophomores or higher. Because students who transferred as freshmen participated in transfer-student activities, this criterion was not applied for this portion of the analysis.
† The number of participants for years one and two are estimates based on characteristics of participants matched to Fall 2008 and 2009 CSU ERS records.

Looking beyond engagement to retention: first-year retention rates for URM CCCT students. An evaluation of first-year retention rates for California Community College Transfer (CCCT) students indicates that Senior-level CSU-LSAMP activities were effective in meeting the needs of transfer students during their first year of enrollment.

Figure 29: First-Year Retention Rates for CCCT Students, Senior-Level CSU-LSAMP through 2010-2011



Source: Participant rates are computed from WebAMP data matched to CSU ERS records. System-wide student rates are Fall 2008 and 2009 cohort CCCT retention rates from the ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University. Table 14 shows how these rates were computed.

The first-year retention rate for Latino/Latina CCCT students who participated in Senior-level CSU-LSAMP during their first year at a CSU campus was .912. The first-year retention rate for African American CCCT students who participated during their first year at a CSU campus was .852 (Figure 29 and Table 14).

First-year retention rates for Latino/Latina and African American CCCT participants were 1.1 times higher than rates for Latino/Latina and African American CCCT students system-wide.

Table 14: First-Year Retention Rates for CCCT Students, Senior-Level CSU-LSAMP through 2010-2011

		CCCT CSU-LSAMP Participants*			All CSU CCCT students†		
		Number of students:			Number of students:		
		In cohort	Still enrolled the following year	First-year retention rate	In cohort	Still enrolled the following year	First-year retention rate
Latino/ Latina	Year 1 2008-2009	48	45	.938	8,000	6,600	.825
	Year 2 2009-2010	54	48	.889	9,522	8,046	.845
	Year 3 2010-2011	75	68	.907	--	--	--
	Years 1-3	177	161	.910	--	--	--
	Years 1-2	102	93	.912	17,522	14,646	.836
African American	Year 1 2008-2009	13	11	.846	1,766	1,388	.786
	Year 2 2009-2010	14	12	.857	1,689	1,329	.787
	Year 3 2010-2011	11	11	1.000	--	--	--
	Years 1-3	38	34	.895	--	--	--
	Years 1-2	27	23	.852	3,455	2,717	.786

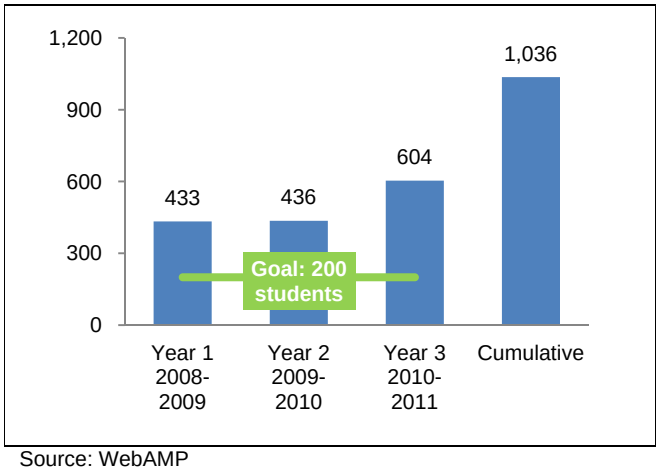
* Source: WebAMP data matched CSU ERS records. To provide the most comparable information relative to CSU system-wide data, this includes only those participants meeting established Consortium for Student Retention Data Exchange (CSRDE) CCCT cohort criteria (matriculated in fall 2008 [year 1], fall 2009 [year 2] or fall 2010 [year 3] and transferred from a California Community College as sophomore or above). The number of participants in the ethnic and racial groups not shown here was too small to provide useful rates.

† Source: fall 2008 and fall 2009 cohort CCCT retention rates, ASD Consortium for Student Retention Data Exchange (CSRDE) Data for California State University. The fall 2009 cohort was the most recent cohort for which data was available at the time the report was prepared.

Progress toward the goal of supporting 200 students annually in research activities

CSU-LSAMP surpassed this goal by supporting more than twice the proposed number of students in research each year and most of these students were supported directly by CSU-LSAMP. In year three, three times the proposed number of students participated in research activities.

Figure 30: Research Activity Participants, Senior-Level CSU-LSAMP through 2010-2011



Source: WebAMP

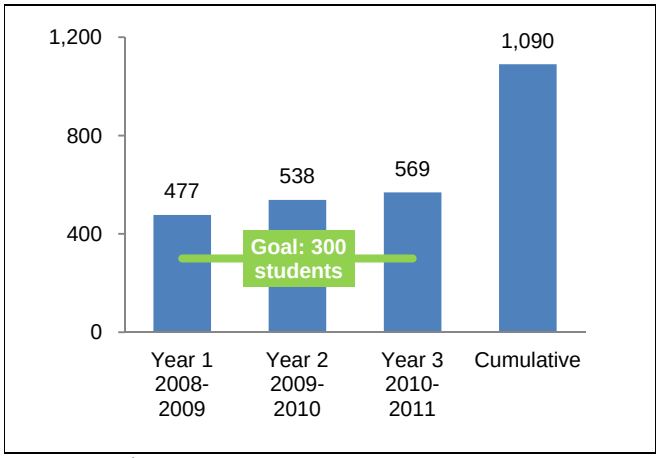
In year one, 433 students participated in research activities during the abbreviated reporting period of September 1, 2008 to May 30, 2009. In year two, 436 students participated in research activities. In year three, the number increased significantly, and 604 students participated in research activities (Figure 30).[12]

Senior-level CSU-LSAMP supported a total of 1,036 unduplicated students in research activities during the project's first three years.

[12] This information can also be found in Appendix Table 20, which provides annual and unduplicated counts for all activities.

Progress toward the goal of supporting 300 students annually in scientific conferences

Figure 31: Conference Participants, Senior-Level CSU-LSAMP through 2010-2011



Source: WebAMP

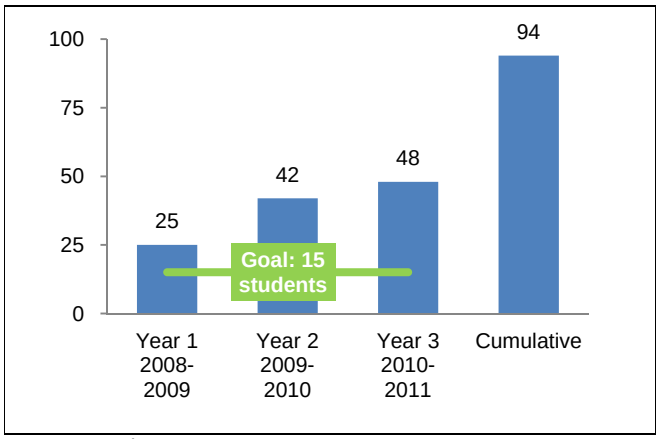
CSU-LSAMP surpassed this goal in its first year and continued to significantly increase participation in scientific conferences during the second and third years of the program.

During year one, 477 unduplicated level-one students participated in one or more conferences. During year two, 538 unduplicated students participated in conferences. During year three, 569 unduplicated students participated in conferences (Figure 31).

Senior-level CSU-LSAMP supported a total of 1,090 unduplicated students in scientific conferences during the project's first three years.

Progress toward the goal of providing travel/stipend awards to at least 15 students participating in international conferences or projects annually

Figure 32: International Activity Participants, Senior-Level CSU-LSAMP through 2010-2011



Source: WebAMP

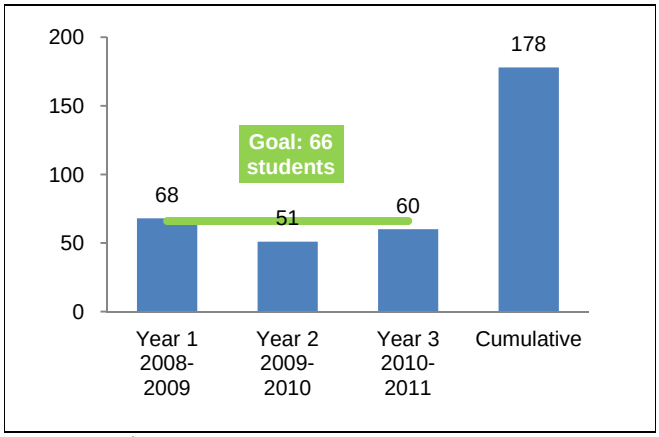
CSUS-LSAMP surpassed this goal in its first year and continued to further increase participation in international activities during its second and third years.

During year one, 25 students participated in international activities. During year two, 42 students participated in international activities. During year three, 48 students participated in international activities (Figure 32).

During the project's first three years, CSU-LSAMP supported a total of 94 unduplicated students in international activities.

Progress toward funding 66 students annually as Community College Merit Awardees

Figure 33: Community College Merit Awardees, Senior-Level CSU-LSAMP through 2010-2011



Source: WebAMP

During year one, a total of 94 new transfer students participated in activities for first-year transfer students and 68 of these students were selected as Community College Merit Awardees. During year two, 102 new transfer students participated in activities for first-year transfer students and 51 of these students were selected as Community College Merit Awardees. During year three, 105 new transfer students participated in activities for first-year transfer students and 60 of these students were selected as Community College Merit Awardees (Figure 33 and Table 15).

CSU-LSAMP funded a total of 178 unduplicated students as Community College Merit Awardees during the first three years of the Senior-Level project.

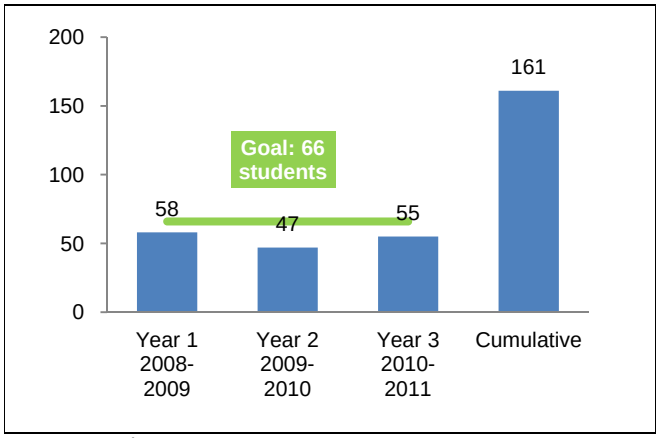
Table 15: Participation in Activities Designed to Meet the Needs of First-Year Transfer Students, Senior-Level CSU-LSAMP through 2010-2011

		Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Unduplicated Participants for Years 1-3
Unduplicated number of first-year transfer activity participants		94	102	105	301
Types of transfer-student activities	CC Transfer Student Merit Awardees	68	51	60	178
	Other CC Orientation/Transfer Activities	54	70	68	192

Source: WebAMP

Progress toward funding 66 students annually as CSU-LSAMP Scholars

Figure 34: CSU-LSAMP Scholars, Senior-Level CSU-LSAMP through 2010-2011



Source: WebAMP

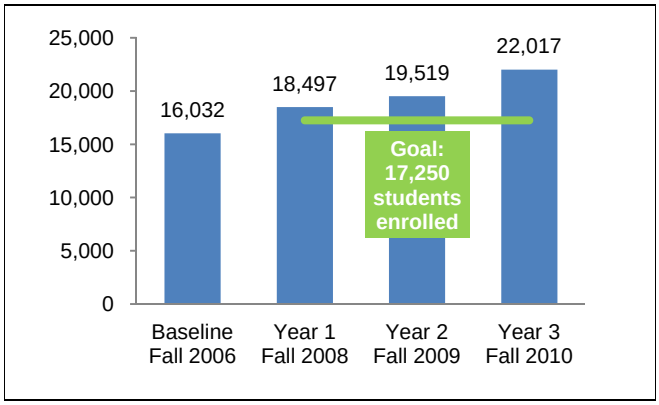
During year one, 58 new CSU-LSAMP Scholars were selected. During year two, 47 new CSU-LSAMP Scholars were selected. During year three, 55 new CSU-LSAMP Scholars were selected, bringing the total number of Scholars selected since 2004 to 291 (Figure 34).

There were a total of 161 unduplicated Scholars during the first three years of Senior-level CSU-LSAMP.

Findings Regarding Long-Term Outcomes

Progress toward increasing URM-STEM enrollment

Figure 35: System-Wide Undergraduate URM-STEM Enrollment (22 Senior-Level Campuses)



Source: CSU ERS records

CSU-LSAMP proposed that URM-STEM enrollment would increase from a fall 2006 baseline of 14,523 for the 19 Phase III campuses to 17,250 for the 22 campuses in Senior-level CSU-LSAMP. This goal was met in year one and URM-STEM has continued to increase in subsequent years (Figure 35 and Table 16). Undergraduate URM STEM enrollment exceeded the proposed goal by 1,247 students in year one, 2,269 students in year two, and 4,767 students in year three.[13]

During year one of Senior CSU-LSAMP, undergraduate URM STEM enrollment for the 22 Senior-Level CSU-LSAMP campuses increased from 16,032 in 2006 to 18,497 in 2008 (a 15.4% increase). During year two of Senior CSU-LSAMP, undergraduate URM STEM enrollment increased from 16,032 in 2006 to 18,497 in 2009 (a 21.8% increase) During year three of Senior CSU-LSAMP, undergraduate URM STEM enrollment increased from 16,032 in 2006 to 22,017 in 2010 (a 37.3% increase).

Table 16: CSU System-Wide Undergraduate URM-STEM Enrollment, Fall 2006-2010

	Phase III		Senior-level		
	Baseline (Fall 2006)	Fall 2007	Year 1 (Fall 2008)	Year 2 (Fall 2009)	Year 3 (Fall 2010)
URM-STEM enrollment	16,032	17,373	18,497	19,519	22,017
Percent increase from baseline	n/a	8.4%	15.4%	21.8%	37.3%

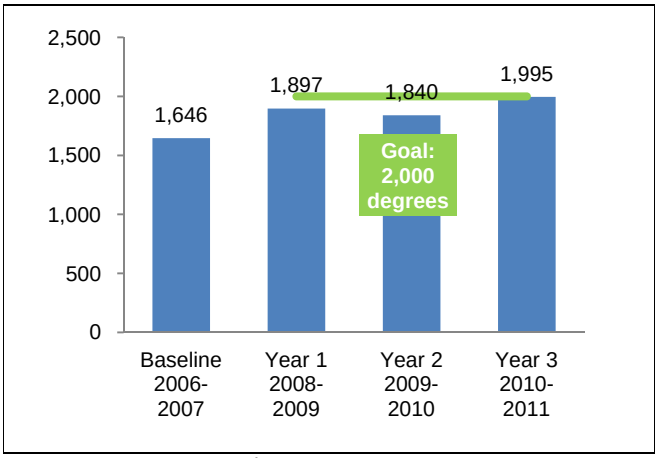
Source: CSU ERS records.

[13] Because about ten percent of enrollment records do not have race or ethnicity reported, the URM-STEM enrollment numbers presented here understate actual URM-STEM enrollment to some degree. Please see Appendix B for more detail.

Progress toward increasing URM-STEM baccalaureate degree production

CSU-LSAMP proposed that URM-STEM baccalaureate degree production would increase from the baseline of 1,462 per year in 2006-2007 for the 19 Phase III campuses to 2,000 per year for the 22 Senior-level campuses. Substantial progress toward this goal was made during the first two years of Senior-level CSU-LSAMP and by year three, the number of URM-STEM degrees was just five short of the goal.[14]

Figure 36: CSU System-Wide URM-STEM Baccalaureate Degree Production (22 Senior-Level Campuses)



Source: CSU ERS records

During year one of Senior CSU-LSAMP, for the 22 campuses participating in the Senior-level Alliance, URM-STEM baccalaureate degree production increased from 1,646 in 2006-2007 to 1,897 in 2008-2009 (a 15.2% increase) (Figure 36 and Table 17). During year two of Senior CSU-LSAMP, URM-STEM baccalaureate degree production increased from 1,646 in 2006-2007 to 1,840 in 2009-2010 (an 11.8% increase). During year three of Senior CSU-LSAMP, URM-STEM baccalaureate degree production increased from 1,646 in 2006-2007 to 1,995 in 2010-2011 (a 21.2% increase).

Table 17: CSU System-Wide URM-STEM Baccalaureate Degrees, 2006- 2007 through 2010-2011

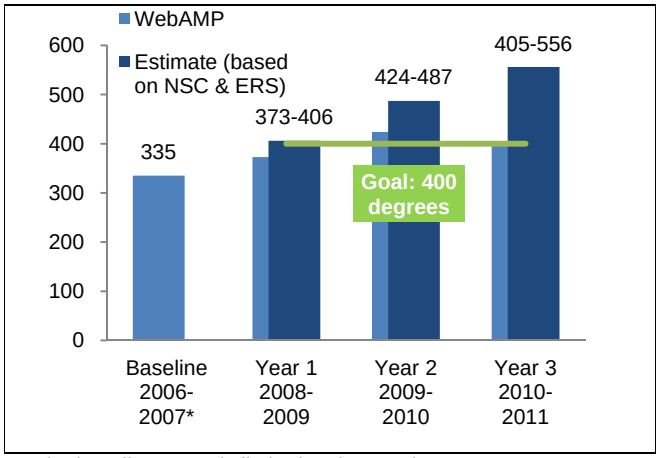
	Phase III		Senior-level		
	Baseline (2006-2007)	2007-2008	Year 1 (2008-2009)	Year 2 (2009-2010)	Year 3 (2010-2011)
URM-STEM degrees	1,646	1,863	1,897	1,840	1,995
Percent increase from baseline	n/a	15.2%	15.2%	11.8%	21.2%

Source: CSU ERS records

[14] Because about 20 percent of STEM degree records do not have race or ethnicity reported, the number of URM-STEM degrees presented here understates actual URM-STEM degrees. Please see Appendix A for more detail.

Progress toward increasing the number of CSU-LSAMP students who graduate each year

Figure 37: Estimated Number of CSU-LSAMP Participants who Graduated, Senior-Level CSU-LSAMP through 2010-2011 (22 Senior-Level Campuses)



* The baseline count is limited to the 19 Phase III campuses because there were no 2006-2007 participants at the three new Senior-Level campuses.
Table 18 shows the computation of the estimates

CSU-LSAMP proposed to increase the number of participants who graduate each year from 300 to 400. Even using the most conservative measure of the number of graduates—the number reported by campuses through WebAMP—progress toward this goal was made in the first year of Senior-level CSU-LSAMP, and the goal was exceeded in the second and third years.

During year one, campuses reported through WebAMP that 373 CSU-LSAMP participants (344 of whom were URM participants) earned a bachelor's degree in a STEM discipline. This was a gain of 38 graduates over the 335 reported during the 2006-2007 baseline year (Figure 37).

During year two, campuses reported that 424 CSU-LSAMP participants (381 of these students were URM participants) earned a bachelor's degree in a STEM discipline. This is a gain of 51 graduates over the 373 reported during the previous year.

During year three, campuses reported that 405 CSU-LSAMP participants (338 of these students were URM participants) earned a bachelor's degree in a STEM discipline. This is a decrease of 19 graduates from the 424 reported during the previous year.

One of the reasons the number of graduates reported in WebAMP each year provides a conservative measure of progress toward this goal is that it may undercount the actual number of participants graduating. The availability of graduation data in time for WebAMP reporting deadlines varies by campus, and it is cumbersome and time consuming for campus program coordinators to verify and enter each student's graduation status, particularly for programs with large numbers of students.

In addition, the graduates reported in WebAMP only reflect the number of *current* participants graduating. For example, a student who participated only during year one and who graduated during year three would not be recorded as a graduate in WebAMP. In order to supplement the graduation data entered into WebAMP, an attempt was made to retrieve NSC and ERS records for the 4,665 students who participated in Senior-level CSU-LSAMP. Data was found in one or both systems for 4,069 (87%) of these students, and their records showed that 8.7 percent graduated during year one, 10.4 percent graduated during year two, and 11.9 percent graduated during year three (Table 18). Based on these results, it is estimated that 406 CSU-LSAMP Senior-Level participants graduated during year one, 487 graduated during year two, and 556 graduated during year three.[15]

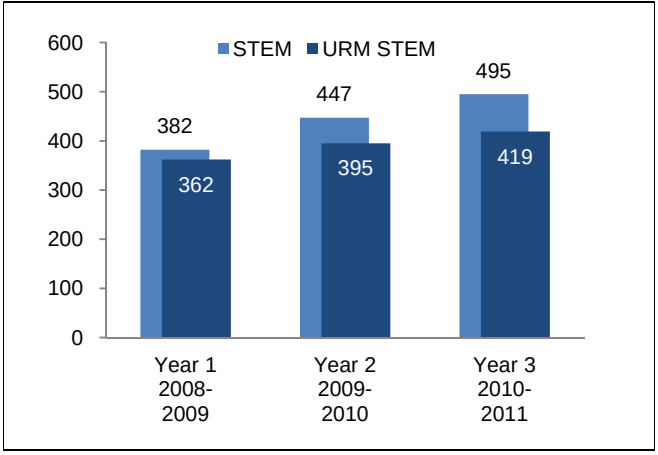
[15] NSC records also include degrees obtained outside the CSU system, which is another factor contributing to the difference between these estimates of the number of graduates and those reported in WebAMP. Seven of the bachelor's degrees earned during the first three years of Senior-level CSU-LSAMP were from non-CSU campuses (one degree during year one, two degrees during year two, and four degrees during year three).

Table 18: Estimated Baccalaureate Degree Attainment for Senior-Level CSU-LSAMP Participants

		Senior-Level CSU-LSAMP participants for whom tracking information was available:		Estimated number of Senior-Level CSU-LSAMP participants[16]
		Number	Percent	
Graduates[17]	Year 1 2008-2009	354	8.7%	406
	Year 2 2009-2010	425	10.4%	487
	Year 3 2010-2011	485	11.9%	556
	Year 4 2011-2012	58	1.4%	66
Currently enrolled		2,726	67.0%	3,125
No degree, not enrolled		21	.5%	24
Total		4,069	100.0%	4,665

Source: WebAMP participant data matched to CSU ERS and NSC records.

Figure 38: Estimated Number STEM and URM STEM Graduates, Senior-Level CSU-LSAMP Participants through 2010-2011 (22 Senior-Level Campuses)



Source: WebAMP participant data matched to CSU ERS and NSC records. Appendix Table 21 shows the computation of these estimates, as well as estimates for other subgroups.

Since these estimates include *all* Senior-level participants, not just those participating during a specific year, they are notably higher than the number of graduates reported in WebAMP for years two and three. Some students who "drop out" of the CSU-LSAMP program move into non-STEM disciplines.

Figure 38 shows the estimated number of STEM degrees earned by Senior-level participants. An estimated 382 participants graduated with STEM degrees during year one, 447 graduated with STEM degrees during year two, and 495 graduated with STEM degrees during year three. Figure 38 also shows the estimated number of STEM bachelor's degrees earned by URM students.

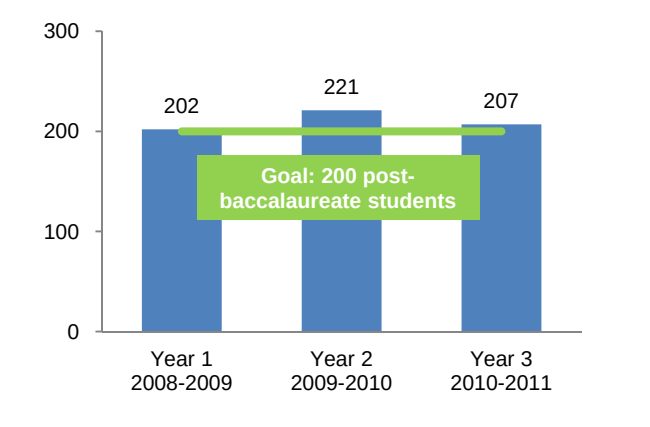
[16] The estimated number of participants in each category was obtained by applying the percentages for participants for whom follow-up tracking information is available (e.g., those whose CSU-ERS and/or NSC records were successfully retrieved) to the total number of participants. For example, of the 4,069 participants with tracking information, 354 (8.7%) graduated with a bachelor's degree during year one. The estimated number of participants who graduated during year one (406) was obtained by multiplying the total number of participants (4,665) by .087. Totals for these estimates may not sum due to rounding.

[17] Tracking information was collapsed to describe the number of degrees awarded annually. The CSU ERS system records the year and term in which a degree was awarded and the NSC system records the date. The categories shown here reflect the number of degrees awarded between the summer and spring terms (CSU-ERS data) or the number of degrees awarded between July 1 and June 30 (NSC data). It should also be noted that while the currently available CSU ERS data includes degrees earned through spring 2011, the NSC system also includes a partial count of degrees earned up through December of 2012. These degrees are included here only in the interest of giving the most up-to-date snapshot available on participant progress.

Progress toward increasing the number of participants enrolling in graduate programs

CSU-LSAMP proposed to increase the number of graduates progressing to graduate school from the current baseline of approximately 125 per year to 200 per year.

Figure 39: Estimated Post-Baccalaureate Enrollment, Senior-Level CSU-LSAMP Participants through 2010-2011 (22 Senior-Level Campuses)



Source: WebAMP participant data matched to CSU ERS and NSC records. See Table 19 for computation details.

Based on analysis of NSC and ERS records for Senior-level CSU-LSAMP participants who graduated during the first three years of the program, it is estimated that 202 of the year one graduates, 221 of the year two graduates, and 207 of the year three graduates were enrolled following receipt of their degree (Figure 39). Unfortunately, we cannot be certain that all these students were enrolled in graduate programs. NSC enrollment data—the source of information regarding enrollment outside the CSU system—does not indicate a student's level of enrollment or discipline (that information is only reflected in NSC records when a degree is awarded).

The estimated number of participants continuing in higher education is derived from NSC and ERS records for the 1,264 Senior-level participants who graduated during the first three years of the program. These records show that 550 of these Senior-level participants (44%) were enrolled subsequent to the receipt of their bachelor's degree (Table 19).

Table 19: Post-Baccalaureate Enrollment for Senior-Level CSU-LSAMP Participants

	Senior-Level CSU-LSAMP participants for whom tracking information is available			Estimated number of Senior-Level CSU-LSAMP participants	
Year bachelor's degree was awarded	Number graduating	Number enrolled after graduating	Percent enrolled after graduating	Graduating	Enrolled after graduating*
Year 1 2008-2009	354	176	49.7%	406	202
Year 2 2009-2010	425	193	45.4%	487	221
Year 3 2010-2011	485	181	37.3%	556	207
Total	1,264	550	43.5%	1,449	630

Source: WebAMP participant data matched to CSU ERS and NSC records.

* Obtained by applying the percentages for participants for whom follow-up tracking information is available to the estimated number of graduates from Table 18. For example, of the 354 participants with tracking information who graduated with a bachelor's degree during year one, 176 (49.7%) were enrolled following receipt of their degree. The estimated number of participants enrolled after graduating in year (202) was obtained by multiplying the estimated number of graduates by .497.

There are at least two factors contributing to the higher enrollment rates for year one graduates (50%) relative to year two and three graduates (45% and 37%, respectively). First, there is no set deadline for campuses to report data to NSC. Consequently, the reporting timeline varies by campus and year and NSC provides data as it becomes available. Since most of the year three graduates obtained their degrees during the Spring 2011 term, that would put the majority of post-graduate enrollment in Fall 2011. While the CSU-ERS records available for this analysis go through fall 2011 for all CSU campuses, the same may not be true for the NSC records (which were retrieved February 1, 2012).

A second consideration is the fact that the window of opportunity for post-graduate enrollment is greater for year one graduates than it is for year three graduates. There may be gaps between the time participants obtain their bachelor's degree and their enrollment in a graduate program. Both factors make it likely that the percentage of year three graduates (and possibly year two graduates as well) who are enrolled following graduation will have increase when it is measured again next year, which will increase the estimated number of participants enrolled subsequent to graduation.

APPENDIX A: ADDITIONAL TABLES

Appendix Table 1: Participant Characteristics by Entry Phase, 1994-2011

		Phase I 1994-1998		Phase II 1999-2003		Phase III 2004-2008		Senior-Level 2009-2011		Total	
		N	%	N	%	N	%	N	%	N	%
Gender	Male	2,753	59%	4,056	55%	3,244	56%	1,303	55%	11,356	56%
	Female	1,884	41%	3,349	45%	2,537	44%	1,084	45%	8,854	44%
	Not reported	2	0%	25	0%	5	0%	0	0%	32	0%
	Total	4,639	100%	7,430	100%	5,786	100%	2,387	100%	20,242	100%
Race/ Ethnicity	Latino/Latina	3,007	65%	3,781	51%	4,174	72%	1,517	64%	12,479	62%
	African American	832	18%	1,134	15%	1,020	18%	320	13%	3,306	16%
	Native American/Alaska Native	101	2%	126	2%	141	2%	57	2%	425	2%
	Native Hawaiian/Pacific Islander	350	8%	259	3%	137	2%	49	2%	795	4%
	More than one URM group	6	0%	30	0%	93	2%	64	3%	193	1%
	Non-minority	285	6%	1,622	22%	207	4%	326	14%	2,440	12%
	Race/ethnicity not reported	58	1%	478	6%	14	0%	54	2%	604	3%
	Total	4,639	100%	7,430	100%	5,786	100%	2,387	100%	20,242	100%
Class level at program entry	Freshman	2,260	49%	3,845	52%	2,447	42%	634	27%	9,186	45%
	Sophomore	881	19%	1,580	21%	1,259	22%	415	17%	4,135	20%
	Junior	327	7%	979	13%	867	15%	600	25%	2,773	14%
	Senior	500	11%	804	11%	1,140	20%	738	31%	3,182	16%
	Unknown	671	14%	222	3%	73	1%	0	0%	966	5%
	Total	4,639	100%	7,430	100%	5,786	100%	2,387	100%	20,242	100%
Division at program entry	Lower	3,141	68%	5,425	73%	3,706	64%	1,049	44%	13,321	66%
	Upper	827	18%	1,783	24%	2,007	35%	1,338	56%	5,955	29%
	Unknown	671	14%	222	3%	73	1%	0	0%	966	5%
	Total	4,639	100%	7,430	100%	5,786	100%	2,387	100%	20,242	100%
Discipline during most recent year of partic-ipation	Agriculture	4	0%	22	0%	26	0%	28	1%	80	0%
	Chemistry	263	6%	407	5%	533	9%	232	10%	1,435	7%
	Computer Science	597	13%	999	13%	459	8%	132	6%	2,187	11%
	Engineering	1,711	37%	2,228	30%	2,002	35%	855	36%	6,796	34%
	Environmental Science	9	0%	99	1%	179	3%	85	4%	372	2%
	Geosciences	35	1%	74	1%	66	1%	46	2%	221	1%
	Life/Biological Sciences	1,209	26%	2,336	31%	1,618	28%	728	30%	5,891	29%
	Mathematics	391	8%	505	7%	765	13%	211	9%	1,872	9%
	Physics/Astronomy	54	1%	92	1%	89	2%	55	2%	290	1%
	Non-STEM, undeclared	366	8%	668	9%	49	1%	15	1%	1,098	5%
	Total	4,639	100%	7,430	100%	5,786	100%	2,387	100%	20,242	100%
Campus during most recent year of partic-ipation	Bakersfield	248	5%	178	2%	146	3%	47	2%	619	3%
	Channel Islands	0	0%	0	0%	0	0%	40	2%	40	0%
	Chico	97	2%	920	12%	177	3%	86	4%	1,280	6%
	Dominguez Hills	243	5%	1,121	15%	497	9%	132	6%	1,993	10%
	East Bay	111	2%	48	1%	58	1%	31	1%	248	1%
	Fresno	283	6%	439	6%	295	5%	103	4%	1,120	6%
	Fullerton	149	3%	102	1%	126	2%	73	3%	450	2%
	Humboldt	146	3%	584	8%	321	6%	223	9%	1,274	6%
	Long Beach	375	8%	301	4%	178	3%	52	2%	906	4%
	Los Angeles	690	15%	1,230	17%	851	15%	316	13%	3,087	15%
	Monterey Bay	0	0%	0	0%	375	6%	41	2%	416	2%
	Northridge	376	8%	411	6%	495	9%	134	6%	1,416	7%
	Pomona	472	10%	569	8%	584	10%	242	10%	1,867	9%
	Sacramento	161	3%	139	2%	241	4%	122	5%	663	3%
	San Bernardino	164	4%	118	2%	286	5%	118	5%	686	3%
	San Diego	212	5%	205	3%	129	2%	97	4%	643	3%
	San Francisco	215	5%	202	3%	206	4%	95	4%	718	4%
	San Jose	452	10%	606	8%	373	6%	159	7%	1,590	8%
	San Luis Obispo	0	0%	0	0%	0	0%	145	6%	145	1%
	San Marcos	0	0%	0	0%	0	0%	41	2%	41	0%
	Sonoma	104	2%	103	1%	236	4%	57	2%	500	2%
	Stanislaus	141	3%	152	2%	213	4%	34	1%	540	3%
	Total	4,639	100%	7,430	100%	5,786	100%	2,387	100%	20,242	100%

Source: Longitudinal participant database constructed from WebAMP records.

Appendix Table 2: Annual Number of CSU-LSAMP Participants, 1994-2011

		Number
Phase I	1993-1994	641
	1994-1995	924
	1995-1996	1411
	1996-1997	1415
	1997-1998	2,091
Phase II	1998-1999	1,708
	1999-2000	1,937
	2000-2001	2,333
	2001-2002	2,436
	2002-2003	2,751
Phase III	2003-2004	3,418
	2004-2005	3,476
	2005-2006	2,959
	2006-2007	3,025
	2007-2008	3,070
Senior-Level	2008-2009	2,838
	2009-2010	2,947
	2010-2011	2,908

Data source: WebAMP ExACT Reports.

Appendix Table 3: CSU Undergraduate Enrollment for All CSU Campuses by URM and STEM Categories, Fall 1994-Fall 2010

		STEM					Non-STEM					Total				
			Non-URM and not reported					Non-URM and not reported					Non-URM and not reported			
		URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total
Phase I	Fall 1994	10,580	39,783	3,370	43,153	53,733	54,293	131,689	14,178	145,867	200,160	64,873	171,472	17,548	189,020	253,893
	Fall 1995	11,637	37,269	3,622	40,891	52,528	59,392	129,989	15,047	145,036	204,428	71,029	167,258	18,669	185,927	256,956
	Fall 1996	12,337	36,222	5,720	41,942	54,279	63,306	124,423	22,776	147,199	210,505	75,643	160,645	28,496	189,141	264,784
	Fall 1997	13,028	39,805	4,448	44,253	57,281	64,856	127,819	17,918	145,737	210,593	77,884	167,624	22,366	189,990	267,874
Phase II	Fall 1998	13,000	41,100	4,772	45,872	58,872	65,328	126,688	19,362	146,050	211,378	78,328	167,788	24,134	191,922	270,250
	Fall 1999	13,232	39,527	7,612	47,139	60,371	66,467	121,144	27,571	148,715	215,182	79,699	160,671	35,183	195,854	275,553
	Fall 2000	13,264	39,623	7,765	47,388	60,652	67,876	123,416	29,268	152,684	220,560	81,140	163,039	37,033	200,072	281,212
	Fall 2001	13,968	40,716	8,231	48,947	62,915	72,268	129,057	32,052	161,109	233,377	86,236	169,773	40,283	210,056	296,292
	Fall 2002	13,989	40,112	8,466	48,578	62,567	74,775	133,075	35,161	168,236	243,011	88,764	173,187	43,627	216,814	305,578
Phase III	Fall 2003	13,962	38,149	8,260	46,409	60,371	76,958	134,764	36,404	171,168	248,126	90,920	172,913	44,664	217,577	308,497
	Fall 2004	14,328	37,490	7,782	45,272	59,600	79,312	136,663	33,827	170,490	249,802	93,640	174,153	41,609	215,762	309,402
	Fall 2005	15,168	37,395	7,358	44,753	59,921	84,820	142,247	32,931	175,178	259,998	99,988	179,642	40,289	219,931	319,919
	Fall 2006	16,084	38,254	7,224	45,478	61,562	90,984	147,721	31,991	179,712	270,696	107,068	185,975	39,215	225,190	332,258
	Fall 2007	17,428	39,651	7,367	47,018	64,446	96,168	152,109	33,014	185,123	281,291	113,596	191,760	40,381	232,141	345,737
Senior	Fall 2008	18,542	40,488	7,160	47,648	66,190	99,417	151,179	32,471	183,650	283,067	117,959	191,667	39,631	231,298	349,257
	Fall 2009	19,578	41,003	7,794	48,797	68,375	101,461	144,963	32,375	177,338	278,799	121,039	185,966	40,169	226,135	347,174
	Fall 2010	22,081	41,408	5,889	47,297	69,378	105,528	136,052	23,794	159,846	265,374	127,609	177,460	29,683	207,143	334,752
Percent change	Phase I	23%	0%	32%	3%	7%	19%	-3%	26%	0%	5%	20%	-2%	27%	1%	6%
	Phase II	8%	-2%	77%	6%	6%	14%	5%	82%	15%	15%	13%	3%	81%	13%	13%
	Phase III	25%	4%	-11%	1%	7%	25%	13%	-9%	8%	13%	25%	11%	-10%	7%	12%
	Senior-Level	19%	2%	-18%	-1%	5%	6%	-10%	-27%	-13%	-6%	8%	-7%	-25%	-10%	-4%
Percent change from the first year of Phase I to the third year of the Senior-Level		109%	4%	75%	10%	29%	94%	3%	68%	10%	33%	97%	3%	69%	10%	32%

Data sources: CSU Analytic Studies Division ERS enrollment files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports. Enrollment data for fall 1993 (the first year of the Alliance) is not currently available.

Note: Excludes International Program and non-resident alien enrollment. The percent change for each phase reflects changes from the first to last year of each phase.

Appendix Table 4: CSU Undergraduate Enrollment for the 19 Phase III CSU-LSAMP Alliance Campuses by URM and STEM Categories, Fall 1994-Fall 2010

		STEM					Non-STEM					Total				
			Non-URM and not reported					Non-URM and not reported					Non-URM and not reported			
		URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total
Phase I	Fall 1994	9,234	33,696	2,829	36,525	45,759	52,677	125,631	13,535	139,166	191,843	61,911	159,327	16,364	175,691	237,602
	Fall 1995	10,143	30,855	3,036	33,891	44,034	57,481	123,348	14,286	137,634	195,115	67,624	154,203	17,322	171,525	239,149
	Fall 1996	10,792	29,498	4,775	34,273	45,065	61,129	117,207	21,644	138,851	199,980	71,921	146,705	26,419	173,124	245,045
	Fall 1997	11,426	32,903	3,729	36,632	48,058	62,676	120,290	17,074	137,364	200,040	74,102	153,193	20,803	173,996	248,098
Phase II	Fall 1998	11,623	34,097	4,041	38,138	49,761	63,222	119,096	18,491	137,587	200,809	74,845	153,193	22,532	175,725	250,570
	Fall 1999	11,984	33,139	6,178	39,317	51,301	64,377	113,512	25,834	139,346	203,723	76,361	146,651	32,012	178,663	255,024
	Fall 2000	12,005	32,957	6,258	39,215	51,220	65,798	115,532	27,473	143,005	208,803	77,803	148,489	33,731	182,220	260,023
	Fall 2001	12,679	33,467	6,758	40,225	52,904	70,182	120,429	30,233	150,662	220,844	82,861	153,896	36,991	190,887	273,748
	Fall 2002	12,762	32,621	6,955	39,576	52,338	72,540	123,809	33,024	156,833	229,373	85,302	156,430	39,979	196,409	281,711
Phase III	Fall 2003	12,667	30,382	6,807	37,189	49,856	74,265	124,816	34,256	159,072	233,337	86,932	155,198	41,063	196,261	283,193
	Fall 2004	12,951	29,518	6,524	36,042	48,993	76,562	126,902	31,942	158,844	235,406	89,513	156,420	38,466	194,886	284,399
	Fall 2005	13,733	29,360	6,184	35,544	49,277	81,686	131,328	30,995	162,323	244,009	95,419	160,688	37,179	197,867	293,286
	Fall 2006	14,523	29,849	6,031	35,880	50,403	87,309	135,888	30,081	165,969	253,278	101,832	165,737	36,112	201,849	303,681
	Fall 2007	15,629	30,580	6,165	36,745	52,374	92,119	139,531	31,128	170,659	262,778	107,748	170,111	37,293	207,404	315,152
Senior	Fall 2008	16,757	31,567	6,052	37,619	54,376	95,098	138,538	30,618	169,156	264,254	111,855	170,105	36,670	206,775	318,630
	Fall 2009	17,694	32,155	6,567	38,722	56,416	96,830	132,534	30,296	162,830	259,660	114,524	164,689	36,863	201,552	316,076
	Fall 2010	20,116	32,864	4,832	37,696	57,812	100,804	124,710	21,180	145,890	246,694	120,920	157,574	26,012	183,586	304,506
Percent change	Phase I	24%	-2%	32%	0%	5%	19%	-4%	26%	-1%	4%	20%	-4%	27%	-1%	4%
	Phase II	10%	-4%	72%	4%	5%	15%	4%	79%	14%	14%	14%	2%	77%	12%	12%
	Phase III	23%	1%	-9%	-1%	5%	24%	12%	-9%	7%	13%	24%	10%	-9%	6%	11%
	Senior-Level	20%	4%	-20%	0%	6%	6%	-10%	-31%	-14%	-7%	8%	-7%	-29%	-11%	-4%
Percent change from the first year of Phase I to the third year of the Senior-Level		118%	-2%	71%	3%	26%	91%	-1%	56%	5%	29%	95%	-1%	59%	4%	28%

Data sources: CSU Analytic Studies Division ERS enrollment files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports. Enrollment data for fall 1993 (the first year of the Alliance) is not currently available.

Note: Excludes International Program and non-resident alien enrollment, as well as the four CSU campuses not participating in the CSU-LSAMP Alliance during Phases I-III (CSU Channel Islands, Cal Poly San Luis Obispo, CSU San Marcos and the California Maritime Academy). The percent change for each phase reflects changes from the first to last year of each phase.

Appendix Table 5: CSU Undergraduate Enrollment for Participating CSU-LSAMP Alliance Campuses by URM and STEM Categories, Fall 1994-Fall 2010

		STEM					Non-STEM					Total				
			Non-URM and not reported					Non-URM and not reported					Non-URM and not reported			
		URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total
Phase I	Fall 1994	9,234	33,696	2,829	36,525	45,759	52,677	125,631	13,535	139,166	191,843	61,911	159,327	16,364	175,691	237,602
	Fall 1995	10,143	30,855	3,036	33,891	44,034	57,313	122,982	14,225	137,207	194,520	67,456	153,837	17,261	171,098	238,554
	Fall 1996	10,763	29,363	4,749	34,112	44,875	60,807	116,718	21,507	138,225	199,032	71,570	146,081	26,256	172,337	243,907
	Fall 1997	11,396	32,735	3,702	36,437	47,833	62,252	119,661	16,922	136,583	198,835	73,648	152,396	20,624	173,020	246,668
Phase II	Fall 1998	11,623	34,097	4,041	38,138	49,761	63,222	119,096	18,491	137,587	200,809	74,845	153,193	22,532	175,725	250,570
	Fall 1999	11,984	33,139	6,178	39,317	51,301	64,377	113,512	25,834	139,346	203,723	76,361	146,651	32,012	178,663	255,024
	Fall 2000	12,005	32,957	6,258	39,215	51,220	65,798	115,532	27,473	143,005	208,803	77,803	148,489	33,731	182,220	260,023
	Fall 2001	12,679	33,467	6,758	40,225	52,904	70,182	120,429	30,233	150,662	220,844	82,861	153,896	36,991	190,887	273,748
	Fall 2002	12,762	32,621	6,955	39,576	52,338	72,540	123,809	33,024	156,833	229,373	85,302	156,430	39,979	196,409	281,711
Phase III	Fall 2003	12,667	30,382	6,807	37,189	49,856	74,265	124,816	34,256	159,072	233,337	86,932	155,198	41,063	196,261	283,193
	Fall 2004	12,951	29,518	6,524	36,042	48,993	76,562	126,902	31,942	158,844	235,406	89,513	156,420	38,466	194,886	284,399
	Fall 2005	13,733	29,360	6,184	35,544	49,277	81,686	131,328	30,995	162,323	244,009	95,419	160,688	37,179	197,867	293,286
	Fall 2006	14,523	29,849	6,031	35,880	50,403	87,309	135,888	30,081	165,969	253,278	101,832	165,737	36,112	201,849	303,681
	Fall 2007	15,629	30,580	6,165	36,745	52,374	92,119	139,531	31,128	170,659	262,778	107,748	170,111	37,293	207,404	315,152
Senior	Fall 2008	18,497	40,267	7,132	47,399	65,896	99,342	150,809	32,373	183,182	282,524	117,839	191,076	39,505	230,581	348,420
	Fall 2009	19,519	40,778	7,759	48,537	68,056	101,389	144,601	32,335	176,936	278,325	120,908	185,379	40,094	225,473	346,381
	Fall 2010	22,017	41,186	5,866	47,052	69,069	105,425	135,686	23,751	159,437	264,862	127,442	176,872	29,617	206,489	333,931
Percent change	Phase I	23%	-3%	31%	0%	5%	18%	-5%	25%	-2%	4%	19%	-4%	26%	-2%	4%
	Phase II	10%	-4%	72%	4%	5%	15%	4%	79%	14%	14%	14%	2%	77%	12%	12%
	Phase III	23%	1%	-9%	-1%	5%	24%	12%	-9%	7%	13%	24%	10%	-9%	6%	11%
	Senior-Level	19%	2%	-18%	-1%	5%	6%	-10%	-27%	-13%	-6%	8%	-7%	-25%	-10%	-4%
Percent change from the first year of Phase I to the third year of the Senior-Level		138%	22%	107%	29%	51%	100%	8%	75%	15%	38%	106%	11%	81%	18%	41%

Data sources: CSU Analytic Studies Division ERS enrollment files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports. Enrollment data for fall 1993 (the first year of the Alliance) is not currently available.

Note: Excludes International Program and non-resident alien enrollment. Since the number of CSU campuses joining the CSU-LSAMP Alliance has increased over time, this table provides enrollment only for campuses participating during each phase. During Phase I, there were 18 participating campuses. CSU Monterey Bay joined the Alliance at the beginning of Phase III, bringing the number of participating campuses to 19 for Phase III. CSU Channel Islands, Cal Poly San Luis Obispo and CSU San Marcos joined the Alliance at the beginning of the Senior-level program, bringing the number of Senior-Level campuses to 22. Of the 23 CSU campuses, the California Maritime Academy is the only campus that does not currently participate in the CSU-LSAMP Alliance. The percent change for each phase reflects changes from the first to last year of each phase.

Appendix Table 6: Annual Number of Baccalaureate Degrees Awarded by URM and STEM Categories, All CSU Campuses 1993-1994 through 2010-2011

		STEM					Non-STEM					Total				
			Non-URM and not reported					Non-URM and not reported					Non-URM and not reported			
		URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total
Phase I	1993-1994	917	6,359	528	6,887	7,804	8,190	34,494	2,983	37,477	45,667	9,107	40,853	3,511	44,364	53,471
	1994-1995	996	6,279	550	6,829	7,825	8,771	32,091	2,976	35,067	43,838	9,767	38,370	3,526	41,896	51,663
	1995-1996	1,100	5,921	844	6,765	7,865	9,427	29,389	4,361	33,750	43,177	10,527	35,310	5,205	40,515	51,042
	1996-1997	1,224	5,719	853	6,572	7,796	10,111	28,025	4,496	32,521	42,632	11,335	33,744	5,349	39,093	50,428
	1997-1998	1,379	5,993	959	6,952	8,331	10,720	27,815	4,673	32,488	43,208	12,099	33,808	5,632	39,440	51,539
Phase II	1998-1999	1,473	5,852	969	6,821	8,294	11,505	27,877	5,219	33,096	44,601	12,978	33,729	6,188	39,917	52,895
	1999-2000	1,443	5,721	1,018	6,739	8,182	12,350	27,755	5,312	33,067	45,417	13,793	33,476	6,330	39,806	53,599
	2000-2001	1,375	5,478	988	6,466	7,841	12,510	28,512	5,929	34,441	46,951	13,885	33,990	6,917	40,907	54,792
	2001-2002	1,485	5,826	1,164	6,990	8,475	14,080	29,882	6,631	36,513	50,593	15,565	35,708	7,795	43,503	59,068
	2002-2003	1,501	5,793	1,245	7,038	8,539	14,137	29,041	7,295	36,336	50,473	15,638	34,834	8,540	43,374	59,012
Phase III	2003-2004	1,505	5,717	1,417	7,134	8,639	14,769	31,427	8,179	39,606	54,375	16,274	37,144	9,596	46,740	63,014
	2004-2005	1,562	5,845	1,399	7,244	8,806	15,488	31,530	8,243	39,773	55,261	17,050	37,375	9,642	47,017	64,067
	2005-2006	1,732	6,211	1,345	7,556	9,288	16,366	32,714	8,137	40,851	57,217	18,098	38,925	9,482	48,407	66,505
	2006-2007	1,654	6,068	1,372	7,440	9,094	17,189	33,626	8,032	41,658	58,847	18,843	39,694	9,404	49,098	67,941
	2007-2008	1,874	6,504	1,271	7,775	9,649	18,510	35,410	7,625	43,035	61,545	20,384	41,914	8,896	50,810	71,194
Senior-Level	2008-2009	1,904	6,300	1,374	7,674	9,578	18,402	35,983	8,159	44,142	62,544	20,306	42,283	9,533	51,816	72,122
	2009-2010	1,849	5,948	2,039	7,987	9,836	17,759	34,102	11,219	45,321	63,080	19,608	40,050	13,258	53,308	72,916
	2010-2011	1,998	5,398	2,477	7,875	9,873	20,732	35,174	9,121	44,295	65,027	22,730	40,572	11,598	52,170	74,900
Total		26,971	106,932	21,812	128,744	155,715	251,016	564,847	118,590	683,437	934,453	277,987	671,779	140,402	812,181	1,090,168
Percent change	Phase I	50%	-6%	82%	1%	7%	31%	-19%	57%	-13%	-5%	33%	-17%	60%	-11%	-4%
	Phase II	2%	-1%	28%	3%	3%	23%	4%	40%	10%	13%	20%	3%	38%	9%	12%
	Phase III	25%	14%	-10%	9%	12%	25%	13%	-7%	9%	13%	25%	13%	-7%	9%	13%
	Senior-Level	5%	-14%	80%	3%	3%	13%	-2%	12%	0%	4%	12%	-4%	22%	1%	4%
Percent change from the first year of Phase I to the third year of the Senior-Level		118%	-15%	369%	14%	27%	153%	2%	206%	18%	42%	150%	-1%	230%	18%	40%

Data sources: CSU Analytic Studies Division ERS degree files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports.

Note: Excludes degrees awarded to non-resident aliens. The percent change for each phase reflects changes from the first to last year of each phase.

Appendix Table 7: Annual Number of Baccalaureate Degrees Awarded by URM and STEM Categories, 19 Phase III CSU-LSAMP Alliance Campuses 1993-1994 through 2010-2011

		STEM					Non-STEM					Total				
			Non-URM and not reported					Non-URM and not reported					Non-URM and not reported			
		URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total
Phase I	1993-1994	767	4,964	430	5,394	6,161	7,853	32,803	2,859	35,662	43,515	8,620	37,767	3,289	41,056	49,676
	1994-1995	808	4,995	467	5,462	6,270	8,398	30,567	2,826	33,393	41,791	9,206	35,562	3,293	38,855	48,061
	1995-1996	884	4,739	702	5,441	6,325	9,066	27,903	4,167	32,070	41,136	9,950	32,642	4,869	37,511	47,461
	1996-1997	995	4,641	698	5,339	6,334	9,747	26,594	4,283	30,877	40,624	10,742	31,235	4,981	36,216	46,958
	1997-1998	1,153	4,885	803	5,688	6,841	10,305	26,149	4,424	30,573	40,878	11,458	31,034	5,227	36,261	47,719
Phase II	1998-1999	1,228	4,637	776	5,413	6,641	11,050	26,113	4,951	31,064	42,114	12,278	30,750	5,727	36,477	48,755
	1999-2000	1,202	4,437	805	5,242	6,444	11,869	25,813	5,025	30,838	42,707	13,071	30,250	5,830	36,080	49,151
	2000-2001	1,174	4,453	842	5,295	6,469	11,971	26,560	5,581	32,141	44,112	13,145	31,013	6,423	37,436	50,581
	2001-2002	1,248	4,515	959	5,474	6,722	13,545	27,906	6,261	34,167	47,712	14,793	32,421	7,220	39,641	54,434
	2002-2003	1,313	4,544	1,009	5,553	6,866	13,683	27,194	6,852	34,046	47,729	14,996	31,738	7,861	39,599	54,595
Phase III	2003-2004	1,313	4,388	1,047	5,435	6,748	14,161	28,453	7,475	35,928	50,089	15,474	32,841	8,522	41,363	56,837
	2004-2005	1,363	4,585	1,149	5,734	7,097	14,887	29,190	7,692	36,882	51,769	16,250	33,775	8,841	42,616	58,866
	2005-2006	1,482	4,587	1,069	5,656	7,138	15,669	30,090	7,657	37,747	53,416	17,151	34,677	8,726	43,403	60,554
	2006-2007	1,462	4,604	1,114	5,718	7,180	16,507	31,033	7,534	38,567	55,074	17,969	35,637	8,648	44,285	62,254
	2007-2008	1,651	4,979	1,048	6,027	7,678	17,707	32,596	7,119	39,715	57,422	19,358	37,575	8,167	45,742	65,100
Senior-Level	2008-2009	1,647	4,821	1,145	5,966	7,613	17,590	33,034	7,701	40,735	58,325	19,237	37,855	8,846	46,701	65,938
	2009-2010	1,575	4,357	1,763	6,120	7,695	16,945	31,059	10,590	41,649	58,594	18,520	35,416	12,353	47,769	66,289
	2010-2011	1,887	5,035	1,130	6,165	8,052	20,035	33,540	7,443	40,983	61,018	21,922	38,575	8,573	47,148	69,070
Total		23,152	84,166	16,956	101,122	124,274	240,988	526,597	110,440	637,037	878,025	264,140	610,763	127,396	738,159	1,002,299
Percent change	Phase I	50%	-2%	87%	5%	11%	31%	-20%	55%	-14%	-6%	33%	-18%	59%	-12%	-4%
	Phase II	7%	-2%	30%	3%	3%	24%	4%	38%	10%	13%	22%	3%	37%	9%	12%
	Phase III	26%	13%	0%	11%	14%	25%	15%	-5%	11%	15%	25%	14%	-4%	11%	15%
	Senior-Level	15%	4%	-1%	3%	6%	14%	2%	-3%	1%	5%	14%	2%	-3%	1%	5%
Percent change from the first year of Phase I to the third year of the Senior-Level		146%	1%	163%	14%	31%	155%	2%	160%	15%	40%	154%	2%	161%	15%	39%

Data sources: CSU Analytic Studies Division ERS degree files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports.

Note: Excludes degrees awarded to non-resident aliens, as well degrees awarded by the four CSU campuses not participating in the CSU-LSAMP Alliance during Phases I- III (CSU Channel Islands, Cal Poly San Luis Obispo, CSU San Marcos and the California Maritime Academy). The percent change for each phase reflects changes from the first to last year of each phase.

Appendix Table 8: Annual Number of Baccalaureate Degrees Awarded by URM and STEM Categories, Participating CSU-LSAMP Alliance Campuses 1993-1994 through 2010-2011

		STEM					Non-STEM					Total				
			Non-URM and not reported					Non-URM and not reported					Non-URM and not reported			
		URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total	URM	Non-URM	Not reported	Subtotal	Total
Phase I	1993-1994	767	4,964	430	5,394	6,161	7,853	32,803	2,859	35,662	43,515	8,620	37,767	3,289	41,056	49,676
	1994-1995	808	4,995	467	5,462	6,270	8,398	30,567	2,826	33,393	41,791	9,206	35,562	3,293	38,855	48,061
	1995-1996	884	4,739	702	5,441	6,325	9,066	27,903	4,167	32,070	41,136	9,950	32,642	4,869	37,511	47,461
	1996-1997	995	4,641	698	5,339	6,334	9,747	26,594	4,283	30,877	40,624	10,742	31,235	4,981	36,216	46,958
	1997-1998	1,153	4,885	803	5,688	6,841	10,305	26,149	4,424	30,573	40,878	11,458	31,034	5,227	36,261	47,719
Phase II	1998-1999	1,228	4,637	776	5,413	6,641	11,050	26,113	4,951	31,064	42,114	12,278	30,750	5,727	36,477	48,755
	1999-2000	1,202	4,437	805	5,242	6,444	11,869	25,813	5,025	30,838	42,707	13,071	30,250	5,830	36,080	49,151
	2000-2001	1,174	4,453	842	5,295	6,469	11,971	26,560	5,581	32,141	44,112	13,145	31,013	6,423	37,436	50,581
	2001-2002	1,248	4,515	959	5,474	6,722	13,545	27,906	6,261	34,167	47,712	14,793	32,421	7,220	39,641	54,434
	2002-2003	1,313	4,544	1,009	5,553	6,866	13,683	27,194	6,852	34,046	47,729	14,996	31,738	7,861	39,599	54,595
Phase III	2003-2004	1,313	4,388	1,047	5,435	6,748	14,161	28,453	7,475	35,928	50,089	15,474	32,841	8,522	41,363	56,837
	2004-2005	1,363	4,585	1,149	5,734	7,097	14,887	29,190	7,692	36,882	51,769	16,250	33,775	8,841	42,616	58,866
	2005-2006	1,482	4,587	1,069	5,656	7,138	15,669	30,090	7,657	37,747	53,416	17,151	34,677	8,726	43,403	60,554
	2006-2007	1,462	4,604	1,114	5,718	7,180	16,507	31,033	7,534	38,567	55,074	17,969	35,637	8,648	44,285	62,254
	2007-2008	1,651	4,979	1,048	6,027	7,678	17,707	32,596	7,119	39,715	57,422	19,358	37,575	8,167	45,742	65,100
Senior-Level	2008-2009	1,897	6,261	1,371	7,632	9,529	18,383	35,903	8,152	44,055	62,438	20,280	42,164	9,523	51,687	71,967
	2009-2010	1,840	5,898	2,033	7,931	9,771	17,747	34,029	11,217	45,246	62,993	19,587	39,927	13,250	53,177	72,764
	2010-2011	1,995	5,369	2,472	7,841	9,836	20,719	35,099	9,095	44,194	64,913	22,714	40,468	11,567	52,035	74,749
Total		23,775	87,481	18,794	106,275	130,050	243,267	533,995	113,170	647,165	890,432	267,042	621,476	131,964	753,440	1,020,482
Percent change	Phase I	50%	-2%	87%	5%	11%	31%	-20%	55%	-14%	-6%	33%	-18%	59%	-12%	-4%
	Phase II	7%	-2%	30%	3%	3%	24%	4%	38%	10%	13%	22%	3%	37%	9%	12%
	Phase III	26%	13%	0%	11%	14%	25%	15%	-5%	11%	15%	25%	14%	-4%	11%	15%
	Senior-Level	5%	-14%	80%	3%	3%	13%	-2%	12%	0%	4%	12%	-4%	21%	1%	4%
Percent change from the first year of Phase I to the third year of the Senior-Level		160%	8%	475%	45%	60%	164%	7%	218%	24%	49%	164%	7%	252%	27%	50%

Data sources: CSU Analytic Studies Division ERS degree files, WebAMP Reverse Site Reports, and WebAMP ExACT Reports.

Note: Excludes degrees awarded to non-resident aliens. The number of CSU campuses joining the CSU-LSAMP Alliance has increased from 18 during Phase I to 22 during the Senior-Level. This table describes degrees awarded only by campuses participating during each phase. CSU Monterey Bay joined the Alliance at the beginning of Phase III, bringing the number of participating campuses to 19. CSU Channel Islands, Cal Poly San Luis Obispo and CSU San Marcos joined the Alliance at the beginning of the Senior-level program. Of the 23 CSU campuses, the California Maritime Academy is the only campus that does not currently participate in the CSU-LSAMP Alliance. The percent change for each phase reflects changes from the first to last year of each phase.

Appendix Table 9: STEM Discipline Persistence Rates for CSU-LSAMP Participant Cohorts (1996-2010), Non-LSAMP, and Benchmark Cohorts (1996-2009)

				Number continuing or graduating in STEM major after:							STEM discipline persistence rate after:						
		Cohort	Number matric-ulating	1 yr	2 yr	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	1 yr	2 yr	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs
Latino	CSU-LSAMP participants	1996	244	212	172	110	100	87	80	65	.869	.705	.451	.410	.357	.328	.266
		1997	242	213	173	120	108	98	89	78	.880	.715	.496	.446	.405	.368	.322
		1998	216	188	134	100	88	75	67	66	.870	.620	.463	.407	.347	.310	.306
		1999	258	211	178	126	114	103	91	88	.818	.690	.488	.442	.399	.353	.341
		2000	202	164	135	89	80	74	69	66	.812	.668	.441	.396	.366	.342	.327
		2001	219	179	145	99	88	78	72	70	.817	.662	.452	.402	.356	.329	.320
		2002	208	173	143	99	88	80	75	71	.832	.688	.476	.423	.385	.361	.341
		2003	288	234	169	122	116	106	102	102	.813	.587	.424	.403	.368	.354	.354
		2004	213	184	157	114	105	99	96	--	.864	.737	.535	.493	.465	.451	--
		2005	216	170	134	90	82	73	--	--	.787	.620	.417	.380	.338	--	--
		2006	212	177	140	110	97	--	--	--	.835	.660	.519	.458	--	--	--
		2007	177	141	115	89	--	--	--	--	.797	.650	.503	--	--	--	--
		2008	157	134	109	--	--	--	--	--	.854	.694	--	--	--	--	--
		2009	166	144	124	--	--	--	--	--	.867	.747	--	--	--	--	--
		2010	175	150	--	--	--	--	--	--	.857	--	--	--	--	--	--
	Non-CSU-LSAMP participants (estimated) †	1996	825	533	350	220	185	171	--	--	.646	.424	.267	.224	.207	--	--
		1997	873	591	386	232	185	168	--	--	.677	.442	.266	.212	.192	--	--
		1998	930	593	419	314	253	230	--	--	.638	.451	.338	.272	.247	--	--
		1999	1,046	649	448	284	253	234	--	--	.620	.428	.272	.242	.224	--	--
		2000	1,077	703	509	328	292	274	261	254	.653	.473	.305	.271	.254	.242	.236
		2001	1,177	731	508	298	239	227	222	218	.621	.432	.253	.203	.193	.189	.185
		2002	1,119	715	502	291	245	222	221	216	.639	.449	.260	.219	.198	.197	.193
		2003	1,219	791	554	331	286	270	264	--	.649	.454	.272	.235	.221	.217	--
		2004	1,389	939	650	391	336	318	--	--	.676	.468	.281	.242	.229	--	--
		2005	1,684	1,080	757	484	450	--	--	--	.641	.450	.287	.267	--	--	--
		2006	1,896	1,236	863	586	--	--	--	--	.652	.455	.309	--	--	--	--
		2007	2,602	1,733	1,204	--	--	--	--	--	.666	.463	--	--	--	--	--
		2008	2,913	1,907	1,465	--	--	--	--	--	.655	.503	--	--	--	--	--
		2009	3,233	2,300	--	--	--	--	--	--	.711	--	--	--	--	--	--
	Benchmark	1996	1,069	745	522	330	285	258	--	--	.697	.488	.309	.267	.241	--	--
		1997	1,115	804	559	352	293	266	--	--	.721	.501	.316	.263	.239	--	--
		1998	1,146	781	553	414	341	305	--	--	.682	.483	.361	.298	.266	--	--
		1999	1,304	860	626	410	367	337	--	--	.660	.480	.314	.281	.258	--	--
		2000	1,279	867	644	417	372	348	330	320	.678	.504	.326	.291	.272	.258	.250
		2001	1,396	910	653	397	327	305	294	288	.652	.468	.284	.234	.218	.211	.206
		2002	1,327	888	645	390	333	302	296	287	.669	.486	.294	.251	.228	.223	.216
		2003	1,507	1,025	723	453	402	376	366	--	.680	.480	.301	.267	.250	.243	--
		2004	1,602	1,123	807	505	441	417	--	--	.701	.504	.315	.275	.260	--	--
		2005	1,900	1,250	891	574	532	--	--	--	.658	.469	.302	.280	--	--	--
		2006	2,108	1,413	1,003	696	--	--	--	--	.670	.476	.330	--	--	--	--
		2007	2,779	1,874	1,319	--	--	--	--	--	.674	.475	--	--	--	--	--
		2008	3,070	2,041	1,574	--	--	--	--	--	.665	.513	--	--	--	--	--
		2009	3,399	2,444	--	--	--	--	--	--	.719	--	--	--	--	--	--

Appendix Table 9 (continued): STEM Discipline Persistence Rates for CSU-LSAMP Participant Cohorts (1996-2010), Non-LSAMP, and Benchmark Cohorts (1996-2009)

				Number continuing or graduating in STEM major after:							STEM discipline persistence rate after:						
		Cohort	Number matric-ulating	1 yr	2 yr	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	1 yr	2 yr	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs
African American	CSU-LSAMP participants	1996	53	44	31	13	9	8	7	4	.830	.585	.245	.170	.151	.132	.075
		1997	66	54	45	18	14	14	13	11	.818	.682	.273	.212	.212	.197	.167
		1998	62	45	33	16	13	13	13	12	.726	.532	.258	.210	.210	.210	.194
		1999	82	68	54	36	30	28	26	24	.829	.659	.439	.366	.341	.317	.293
		2000	47	38	27	16	15	13	13	12	.809	.574	.340	.319	.277	.277	.255
		2001	68	50	35	24	20	18	14	14	.735	.515	.353	.294	.265	.206	.206
		2002	62	46	37	24	19	15	15	14	.742	.597	.387	.306	.242	.242	.226
		2003	64	50	32	17	13	10	10	10	.781	.500	.266	.203	.156	.156	.156
		2004	55	46	31	20	18	16	15	--	.836	.564	.364	.327	.291	.273	--
		2005	63	54	33	24	18	16	--	--	.857	.524	.381	.286	.254	--	--
		2006	55	43	33	20	17	--	--	--	.782	.600	.364	.309	--	--	--
		2007	33	25	22	14	--	--	--	--	.758	.667	.424	--	--	--	--
		2008	35	26	21	--	--	--	--	--	.743	.600	--	--	--	--	--
		2009	38	29	26	--	--	--	--	--	.763	.684	--	--	--	--	--
		2010	25	20	--	--	--	--	--	--	.800	--	--	--	--	--	--
	Non-CSU-LSAMP participants (estimated) †	1996	339	220	126	59	53	48	--	--	.649	.372	.174	.156	.142	--	--
		1997	327	192	132	50	35	28	--	--	.587	.404	.153	.107	.086	--	--
		1998	313	188	126	70	61	55	--	--	.601	.403	.224	.195	.176	--	--
		1999	307	185	124	71	58	46	--	--	.603	.404	.231	.189	.150	--	--
		2000	339	205	130	64	47	41	43	45	.605	.383	.189	.139	.121	.127	.133
		2001	347	179	120	63	49	46	40	42	.516	.346	.182	.141	.133	.115	.121
		2002	330	193	126	75	63	56	55	55	.585	.382	.227	.191	.170	.167	.167
		2003	330	185	117	64	53	53	48	--	.561	.355	.194	.161	.161	.145	--
		2004	357	223	158	83	68	63	--	--	.625	.443	.232	.190	.176	--	--
		2005	466	289	186	98	90	--	--	--	.620	.399	.210	.193	--	--	--
		2006	473	279	183	109	--	--	--	--	.590	.387	.230	--	--	--	--
		2007	555	327	209	--	--	--	--	--	.589	.377	--	--	--	--	--
		2008	570	330	233	--	--	--	--	--	.579	.409	--	--	--	--	--
		2009	455	301	--	--	--	--	--	--	.662	--	--	--	--	--	--
	Benchmark‡	1996	392	264	157	72	62	56	--	--	.673	.401	.184	.158	.143	--	--
		1997	393	246	177	68	49	42	--	--	.626	.450	.173	.125	.107	--	--
		1998	375	233	159	86	74	68	--	--	.621	.424	.229	.197	.181	--	--
		1999	389	253	178	107	88	74	--	--	.650	.458	.275	.226	.190	--	--
		2000	386	243	157	80	62	54	56	57	.630	.407	.207	.161	.140	.145	.148
		2001	415	229	155	87	69	64	54	56	.552	.373	.210	.166	.154	.130	.135
		2002	392	239	163	99	82	71	70	69	.610	.416	.253	.209	.181	.179	.176
		2003	394	235	149	81	66	63	58	--	.596	.378	.206	.168	.160	.147	--
		2004	412	269	189	103	86	79	--	--	.653	.459	.250	.209	.192	--	--
		2005	529	343	219	122	108	--	--	--	.648	.414	.231	.204	--	--	--
		2006	528	322	216	129	--	--	--	--	.610	.409	.244	--	--	--	--
		2007	588	352	231	--	--	--	--	--	.599	.393	--	--	--	--	--
		2008	605	356	254	--	--	--	--	--	.588	.420	--	--	--	--	
		2009	493	330	--	--	--	--	--	--	.669	--	--	--	--	--	--

Appendix Table 9 (continued): STEM Discipline Persistence Rates for CSU-LSAMP Participant Cohorts (1996-2010), Non-LSAMP, and Benchmark Cohorts (1996-2009)

				Number continuing or graduating in STEM major after:							STEM discipline persistence rate after:						
		Cohort	Number matric-ulating	1 yr	2 yr	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	1 yr	2 yr	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs
Non-URM benchmark‡	Asian or Pacific Islander	1996	1,340	1,010	769	528	451	401	--	--	.754	.574	.394	.337	.299	--	--
		1997	1,669	1,271	925	623	507	453	--	--	.762	.554	.373	.304	.271	--	--
		1998	1,832	1,380	1,018	728	596	526	--	--	.753	.556	.397	.325	.287	--	--
		1999	2,059	1,482	1,123	833	680	603	--	--	.720	.545	.405	.330	.293	--	--
		2000	2,146	1,514	1,181	760	670	620	606	597	.705	.550	.354	.312	.289	.282	.278
		2001	2,179	1,534	1,149	754	640	591	577	568	.704	.527	.346	.294	.271	.265	.261
		2002	1,811	1,323	981	680	613	572	554	551	.731	.542	.375	.338	.316	.306	.304
		2003	1,679	1,175	864	587	529	501	489	--	.700	.515	.350	.315	.298	.291	--
		2004	1,704	1,259	937	675	613	587	--	--	.739	.550	.396	.360	.344	--	--
		2005	1,894	1,381	1,055	773	700	--	--	--	.729	.557	.408	.370	--	--	--
		2006	1,913	1,365	1,051	771	--	--	--	--	.714	.549	.403	--	--	--	--
		2007	2,438	1,832	1,462	--	--	--	--	--	.751	.600	--	--	--	--	--
		2008	2,434	1,789	1,460	--	--	--	--	--	.735	.600	--	--	--	--	--
		2009	2,255	1,785	--	--	--	--	--	--	.792	--	--	--	--	--	--
	White	1996	1,452	1,008	675	470	415	384	--	--	.694	.465	.323	.286	.265	--	--
		1997	1,595	1,075	733	526	477	443	--	--	.674	.460	.330	.299	.278	--	--
		1998	1,722	1,150	790	560	517	479	--	--	.668	.459	.325	.300	.278	--	--
		1999	1,934	1,261	870	646	582	547	--	--	.652	.450	.334	.301	.283	--	--
		2000	1,855	1,244	894	626	556	545	532	538	.671	.482	.337	.300	.294	.287	.290
		2001	2,048	1,390	998	718	661	620	602	607	.679	.487	.351	.323	.303	.294	.296
		2002	1,968	1,372	1,015	742	685	653	648	644	.697	.516	.377	.348	.332	.329	.327
		2003	2,197	1,514	1,057	794	733	724	717	--	.689	.481	.361	.334	.330	.326	--
		2004	2,120	1,501	1,091	828	774	756	--	--	.708	.515	.391	.365	.357	--	--
		2005	2,187	1,525	1,115	841	799	--	--	--	.697	.510	.385	.365	--	--	--
		2006	2,370	1,608	1,173	887	--	--	--	--	.678	.495	.374	--	--	--	--
		2007	4,235	3,190	2,527	--	--	--	--	--	.753	.597	--	--	--	--	--
		2008	4,157	3,110	2,493	--	--	--	--	--	.748	.600	--	--	--	--	--
		2009	3,988	3,103	--	--	--	--	--	--	.778	--	--	--	--	--	--
	Overall	1996	4,865	3,454	2,453	1,624	1,413	1,278	--	--	.710	.504	.334	.290	.263	--	--
		1997	5,484	3,899	2,748	1,810	1,533	1,395	--	--	.711	.501	.330	.280	.254	--	--
		1998	5,940	4,144	2,948	2,097	1,790	1,628	--	--	.698	.496	.353	.301	.274	--	--
		1999	6,606	4,484	3,266	2,317	1,998	1,822	--	--	.679	.494	.351	.302	.276	--	--
		2000	6,576	4,507	3,365	2,221	1,951	1,852	1,805	1,794	.685	.512	.338	.297	.282	.274	.273
		2001	7,026	4,744	3,478	2,335	2,034	1,908	1,845	1,831	.675	.495	.332	.289	.272	.263	.261
		2002	6,430	4,459	3,278	2,257	2,034	1,903	1,866	1,846	.693	.510	.351	.316	.296	.290	.287
		2003	6,585	4,510	3,203	2,202	1,985	1,906	1,871	--	.685	.486	.334	.301	.289	.284	--
		2004	6,628	4,734	3,454	2,430	2,211	2,126	--	--	.714	.521	.367	.334	.321	--	--
		2005	7,351	5,100	3,717	2,635	2,439	--	--	--	.694	.506	.358	.332	--	--	--
		2006	7,866	5,384	3,950	2,851	--	--	--	--	.684	.502	.362	--	--	--	--
		2007	11,441	8,248	6,323	--	--	--	--	--	.721	.553	--	--	--	--	--
		2008	11,551	8,249	6,514	--	--	--	--	--	.714	.564	--	--	--	--	--
		2009	11,626	8,755	--	--	--	--	--	--	.753	--	--	--	--	--	--

* Note: STEM discipline persistence rates reflect the percent of a cohort remaining or graduating in a STEM major.

† The number of non-LSAMP participants was estimated by subtracting the number of students in the LSAMP participant cohort from the number of students in the corresponding benchmark cohort.

‡ Benchmark cohort information was obtained from the California State University Data for the Consortium for Student Retention Data Exchange (CSRDE). Benchmark cohorts for 1996-2006 include all students in the specified category at the 19 CSU campuses participating in Phase III of the CSU-LSAMP program. The 2007-2009 benchmark cohorts include students at the 22 CSU campuses participating in Senior-level CSU-LSAMP. Seventh and eighth year persistence data is not available for 1996-1999 benchmark cohorts.

Appendix Table 10: Estimated Percent of Benchmark Cohort Students Participating in CSU-LSAMP Program, 1996-2009

		Number of Students			Percent Distribution		
	Cohort	CSU-LSAMP Participants	Non-CSU-LSAMP Participants*	Total	CSU-LSAMP Participants	Non-CSU-LSAMP Participants*	Total
Latino first-time freshmen with declared STEM majors on entry	1996	244	825	1,069	23%	77%	100%
	1997	242	873	1,115	22%	78%	100%
	1998	216	930	1,146	19%	81%	100%
	1999	258	1,046	1,304	20%	80%	100%
	2000	202	1,077	1,279	16%	84%	100%
	2001	219	1,177	1,396	16%	84%	100%
	2002	208	1,119	1,327	16%	84%	100%
	2003	288	1,219	1,507	19%	81%	100%
	2004	213	1,389	1,602	13%	87%	100%
	2005	216	1,684	1,900	11%	89%	100%
	2006	212	1,896	2,108	10%	90%	100%
	2007	177	2,602	2,779	6%	94%	100%
	2008	157	2,913	3,070	5%	95%	100%
	2009	166	3,233	3,399	5%	95%	100%
African American first-time freshmen with declared STEM majors on entry	1996	53	339	392	14%	86%	100%
	1997	66	327	393	17%	83%	100%
	1998	62	313	375	17%	83%	100%
	1999	82	307	389	21%	79%	100%
	2000	47	339	386	12%	88%	100%
	2001	68	347	415	16%	84%	100%
	2002	62	330	392	16%	84%	100%
	2003	64	330	394	16%	84%	100%
	2004	55	357	412	13%	87%	100%
	2005	63	466	529	12%	88%	100%
	2006	55	473	528	10%	90%	100%
	2007	33	555	588	6%	94%	100%
	2008	35	570	605	6%	94%	100%
	2009	38	455	493	8%	92%	100%

* The number of non-LSAMP students in a cohort was estimated by subtracting the number of students in the LSAMP participant cohort from the number of students in the corresponding benchmark cohort. LSAMP participant cohorts were created by matching student SSN as entered into the WebAMP system to CSU system records. LSAMP participants with missing or incorrectly entered SSNs could not be included in a cohort. It should be noted that this difference would understate the estimated percent of a cohort participating in the LSAMP program.

Appendix Table 11: STEM Discipline Graduation Rates for CSU-LSAMP Participant Cohorts (1996-2007), Non-LSAMP, and Benchmark Cohorts (1996-2006)

				Number graduating in a STEM major after:					STEM discipline graduation rate after:*				
		Cohort	Number matric-ulating	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs
Latino	CSU-LSAMP participants	1996	244	5	33	59	65	65	.020	.135	.242	.266	.266
		1997	242	4	36	65	75	78	.017	.149	.269	.310	.322
		1998	216	12	38	57	61	64	.056	.176	.264	.282	.296
		1999	258	3	31	66	79	86	.012	.120	.256	.306	.333
		2000	202	9	40	58	63	64	.045	.198	.287	.312	.317
		2001	219	5	33	54	62	64	.023	.151	.247	.283	.292
		2002	208	8	32	53	68	69	.038	.154	.255	.327	.332
		2003	288	21	64	82	90	93	.073	.222	.285	.313	.323
		2004	213	18	60	87	90	--	.085	.282	.408	.423	--
		2005	216	13	42	52	--	--	.060	.194	.241	--	--
		2006	212	17	44	--	--	--	.080	.208	--	--	--
		2007	177	4	--	--	--	--	.023	--	--	--	--
	Non-CSU-LSAMP participants (estimated) †	1996	825	6	27	75	--	--	.007	.033	.091	--	--
		1997	873	7	38	91	--	--	.008	.044	.104	--	--
		1998	931	12	74	130	--	--	.013	.079	.140	--	--
		1999	1060	14	72	134	--	--	.013	.068	.126	--	--
		2000	1097	15	97	180	225	248	.014	.088	.164	.205	.226
		2001	1,177	15	81	136	172	194	.013	.069	.116	.146	.165
		2002	1,119	23	81	149	178	201	.021	.072	.133	.159	.180
		2003	1,219	20	112	189	226	--	.016	.092	.155	.185	--
		2004	1,389	35	128	220	--	--	.025	.092	.158	--	--
		2005	1,684	35	152	--	--	--	.021	.090	--	--	--
		2006	1,896	42	--	--	--	--	.022	--	--	--	--
	Benchmark‡	1996	1,069	11	60	134	--	--	.010	.056	.125	--	--
		1997	1,115	11	74	156	--	--	.010	.066	.140	--	--
		1998	1,146	24	112	187	--	--	.021	.098	.163	--	--
		1999	1,304	17	98	192	--	--	.013	.075	.147	--	--
		2000	1,279	21	123	223	270	294	.016	.096	.174	.211	.230
		2001	1,396	20	114	190	234	258	.014	.082	.136	.168	.185
		2002	1,327	31	113	202	246	270	.023	.085	.152	.185	.203
		2003	1,507	41	176	271	316	--	.027	.117	.180	.210	--
		2004	1,602	53	188	307	--	--	.033	.117	.192	--	--
		2005	1,900	48	194	--	--	--	.025	.102	--	--	--
		2006	2,108	59	--	--	--	--	.028	--	--	--	--

Appendix Table 11 (continued): STEM Discipline Graduation Rates for CSU-LSAMP Participant Cohorts (1996-2007), Non-LSAMP, and Benchmark Cohorts (1996-2006)

				Number graduating in a STEM major after:					STEM discipline graduation rate after:*				
		Cohort	Number matric-ulating	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs
African American	CSU-LSAMP participants	1996	53	1	2	2	4	4	.019	.038	.038	.075	.075
		1997	66	0	8	10	11	11	.000	.121	.152	.167	.167
		1998	62	0	2	6	8	11	.000	.032	.097	.129	.177
		1999	82	2	11	19	21	23	.024	.134	.232	.256	.280
		2000	47	1	7	10	11	11	.021	.149	.213	.234	.234
		2001	68	0	7	10	13	13	.000	.103	.147	.191	.191
		2002	62	1	7	10	12	13	.016	.113	.161	.194	.210
		2003	64	2	7	10	10	10	.031	.109	.156	.156	.156
		2004	55	1	11	14	15	--	.018	.200	.255	.273	--
		2005	63	4	9	9	--	--	.063	.143	.143	--	--
		2006	55	1	2	--	--	--	.018	.036	--	--	--
		2007	33	0	--	--	--	--	.000	--	--	--	--
	Non-CSU-LSAMP participants (estimated) †	1996	339	0	4	13	--	--	.000	.012	.038	--	--
		1997	327	1	2	11	--	--	.003	.006	.034	--	--
		1998	314	5	16	32	--	--	.016	.051	.102	--	--
		1999	309	2	11	21	--	--	.006	.036	.068	--	--
		2000	342	2	9	24	32	36	.006	.026	.070	.094	.105
		2001	347	1	9	21	27	35	.003	.026	.061	.078	.101
		2002	330	6	22	36	44	52	.018	.067	.109	.133	.158
		2003	330	4	20	36	41	--	.012	.061	.109	.124	--
		2004	357	9	20	33	--	--	.025	.056	.092	--	--
		2005	466	2	29	--	--	--	.004	.062	--	--	--
		2006	473	6	--	--	--	--	.013	--	--	--	--
	Benchmark‡	1996	392	1	6	15	--	--	.003	.015	.038	--	--
		1997	393	1	10	21	--	--	.003	.025	.053	--	--
		1998	375	5	18	38	--	--	.013	.048	.101	--	--
		1999	389	3	20	38	--	--	.008	.051	.098	--	--
		2000	386	3	16	34	43	47	.008	.041	.088	.111	.122
		2001	415	1	16	31	40	48	.002	.039	.075	.096	.116
		2002	392	7	29	46	56	65	.018	.074	.117	.143	.166
		2003	394	6	27	46	51	--	.015	.069	.117	.129	--
		2004	412	10	31	47	--	--	.024	.075	.114	--	--
		2005	529	6	38	--	--	--	.011	.072	--	--	--
		2006	528	7	--	--	--	--	.013	--	--	--	--

Appendix Table 11 (continued): STEM Discipline Graduation Rates for CSU-LSAMP Participant Cohorts (1996-2007), Non-LSAMP, and Benchmark Cohorts (1996-2006)

				Number graduating in a STEM major after:					STEM discipline graduation rate after:*				
		Cohort	Number matric-ulating	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs
Non-URM benchmark‡	Asian or Pacific Islander	1996	1,340	34	171	258	--	--	.025	.128	.193	--	--
		1997	1,669	45	177	301	--	--	.027	.106	.180	--	--
		1998	1,832	75	234	373	--	--	.041	.128	.204	--	--
		1999	2,059	88	262	425	--	--	.043	.127	.206	--	--
		2000	2,146	79	273	460	533	569	.037	.127	.214	.248	.265
		2001	2,179	62	238	411	491	523	.028	.109	.189	.225	.240
		2002	1,811	77	274	423	493	520	.043	.151	.234	.272	.287
		2003	1,679	65	245	376	435	--	.039	.146	.224	.259	--
		2004	1,704	88	306	459	--	--	.052	.180	.269	--	--
		2005	1,894	83	301	--	--	--	.044	.159	--	--	--
		2006	1,913	73	--	--	--	--	.038	--	--	--	--
	White	1996	1,452	51	208	296	--	--	.035	.143	.204	--	--
		1997	1,595	65	252	343	--	--	.041	.158	.215	--	--
		1998	1,722	95	283	388	--	--	.055	.164	.225	--	--
		1999	1,934	96	324	455	--	--	.050	.168	.235	--	--
		2000	1,855	88	325	445	499	520	.047	.175	.240	.269	.280
		2001	2,048	110	365	494	550	576	.054	.178	.241	.269	.281
		2002	1,968	123	390	559	602	624	.063	.198	.284	.306	.317
		2003	2,197	143	446	607	671	--	.065	.203	.276	.305	--
		2004	2,120	164	475	643	--	--	.077	.224	.303	--	--
		2005	2,187	175	491	--	--	--	.080	.225	--	--	--
		2006	2,370	134	--	--	--	--	.057	--	--	--	--
Overall benchmark†		1996	4,865	127	528	827	--	--	.026	.109	.170	--	--
		1997	5,484	154	614	968	--	--	.028	.112	.176	--	--
		1998	5,940	236	774	1,169	--	--	.040	.130	.197	--	--
		1999	6,606	249	846	1,305	--	--	.038	.128	.198	--	--
		2000	6,576	245	897	1,391	1,601	1,696	.037	.136	.212	.243	.258
		2001	7,026	262	932	1,393	1,601	1,709	.037	.133	.198	.228	.243
		2002	6,430	286	977	1,463	1,666	1,766	.044	.152	.228	.259	.275
		2003	6,585	310	1,035	1,504	1,695	--	.047	.157	.228	.257	--
		2004	6,628	374	1,183	1,702	--	--	.056	.178	.257	--	--
		2005	7,351	360	1,190	--	--	--	.049	.162	--	--	--
		2006	7,866	332	--	--	--	--	.042	--	--	--	--

* Note: STEM discipline graduation rates reflect the percent of a cohort graduating in a STEM major.

† The number of non-LSAMP participants was estimated by subtracting the number of students in the LSAMP participant cohort from the number of students in the corresponding benchmark cohort.

‡ Benchmark cohort information was obtained from the California State University Data for the Consortium for Student Retention Data Exchange (CSRDE). The benchmark cohort includes all students in the specified category at the 19 CSU campuses that participate in the LSAMP program. Seventh and eighth year graduation data is not available for 1996-1999 benchmark cohorts.

Appendix Table 12: Results of Attempt to Retrieve CSU-ERS and/or NSC Enrollment and Graduation Records for CSU-LSAMP Participants, 1994-2011

		Entered CSU-LSAMP during:				
		Phase I 1994-1998	Phase II 1999-2003	Phase III 2004-2008	Senior level 2009-2011	Total
Number	Data retrieved	3,742	5,769	4,360	2,062	15,933
	Data not retrieved	897	1,661	1,426	325	4,309
	Total	4,639	7,430	5,786	2,387	20,242
Percent	Data retrieved	80.7%	77.6%	75.4%	86.4%	78.7%
	Data not retrieved	19.3%	22.4%	24.6%	13.6%	21.3%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

Appendix Table 13: Baccalaureate Degree Attainment for CSU-LSAMP Participants by Entry Phase, 1994-2011

			Entered CSU-LSAMP during:				
			Phase I 1994-1998	Phase II 1999-2003	Phase III 2004-2008	Senior level 2009-2011	Total
Number	URM	STEM degree	1,374	1,584	1,645	243	4,846
		Non-STEM degree	724	967	570	22	2,283
		Currently enrolled	302	1,321	1,910	1,461	4,994
		No degree, not currently enrolled	1,054	197	54	6	1,311
		Total	3,454	4,069	4,179	1,732	13,434
	Non-URM	STEM degree	123	652	90	78	943
		Non-STEM degree	47	306	11	5	369
		Currently enrolled	14	280	67	208	569
		No degree, not currently enrolled	54	70	1	1	126
		Total	238	1,308	169	292	2,007
	Not reported	STEM degree	24	210	6	9	249
		Non-STEM degree	9	91	0	0	100
		Currently enrolled	1	74	6	28	109
		No degree, not currently enrolled	16	17	0	1	34
		Total	50	392	12	38	492
	Total	STEM degree	1,521	2,446	1,741	330	6,038
		Non-STEM degree	780	1,364	581	27	2,752
		Currently enrolled	317	1,675	1,983	1,697	5,672
		No degree, not currently enrolled	1,124	284	55	8	1,471
		Total	3,742	5,769	4,360	2,062	15,933
Percent	URM	STEM degree	39.8%	38.9%	39.4%	14.0%	36.1%
		Non-STEM degree	21.0%	23.8%	13.6%	1.3%	17.0%
		Currently enrolled	8.7%	32.5%	45.7%	84.4%	37.2%
		No degree, not currently enrolled	30.5%	4.8%	1.3%	0.3%	9.8%
		Total	100.0%	100.0%	100.0%	100.0%	100.0%
	Non-URM	STEM degree	51.7%	49.8%	53.3%	26.7%	47.0%
		Non-STEM degree	19.7%	23.4%	6.5%	1.7%	18.4%
		Currently enrolled	5.9%	21.4%	39.6%	71.2%	28.4%
		No degree, not currently enrolled	22.7%	5.4%	0.6%	0.3%	6.3%
		Total	100.0%	100.0%	100.0%	100.0%	100.0%
	Not reported	STEM degree	48.0%	53.6%	50.0%	23.7%	50.6%
		Non-STEM degree	18.0%	23.2%	0.0%	0.0%	20.3%
		Currently enrolled	2.0%	18.9%	50.0%	73.7%	22.2%
		No degree, not currently enrolled	32.0%	4.3%	0.0%	2.6%	6.9%
		Total	100.0%	100.0%	100.0%	100.0%	100.0%
	Total	STEM degree	40.6%	42.4%	39.9%	16.0%	37.9%
		Non-STEM degree	20.8%	23.6%	13.3%	1.3%	17.3%
		Currently enrolled	8.5%	29.0%	45.5%	82.3%	35.6%
		No degree, not currently enrolled	30.0%	4.9%	1.3%	0.4%	9.2%

Data source: Longitudinal CSU-LSAMP participant database constructed from WebAMP records and matched to ERS and NSC records.

Appendix Table 14: Participant Characteristics, Senior-Level CSU-LSAMP through 2010-2011

		Number			Percent		
		Continuing from Phase III	Entering During Senior Level	Total	Continuing from Phase III	Entering During Senior Level	Total
Gender	Male	1,363	1,303	2,666	59.8%	54.6%	57.1%
	Female	915	1,084	1,999	40.2%	45.4%	42.9%
	Total	2,278	2,387	4,665	100.0%	100.0%	100.0%
Race/ Ethnicity	Latino/Latina	1,644	1,517	3,161	72.2%	63.6%	67.8%
	African American	395	320	715	17.3%	13.4%	15.3%
	Native American/Alaska Native	36	57	93	1.6%	2.4%	2.0%
	Native Hawaiian/Pacific Islander	38	49	87	1.7%	2.1%	1.9%
	More than one URM group	50	64	114	2.2%	2.7%	2.4%
	Non-minority	108	326	434	4.7%	13.7%	9.3%
	Race not reported	7	54	61	0.3%	2.3%	1.3%
	Total	2,278	2,387	4,665	100.0%	100.0%	100.0%
Class Level at Program Entry	Freshman	1,145	634	1,779	50.3%	26.6%	38.1%
	Sophomore	433	415	848	19.0%	17.4%	18.2%
	Junior	372	600	972	16.3%	25.1%	20.8%
	Senior	328	738	1,066	14.4%	30.9%	22.9%
	Total	2,278	2,387	4,665	100.0%	100.0%	100.0%
Division at Program Entry	Lower	1,578	1,049	2,627	69.3%	43.9%	56.3%
	Upper	700	1,338	2,038	30.7%	56.1%	43.7%
	Total	2,278	2,387	4,665	100.0%	100.0%	100.0%
Discipline*	Agriculture	7	28	35	.3%	1.2%	0.8%
	Chemistry	201	232	433	8.8%	9.7%	9.3%
	Computer Science	176	132	308	7.7%	5.5%	6.6%
	Engineering	952	855	1,807	41.8%	35.8%	38.7%
	Environmental Science	38	85	123	1.7%	3.6%	2.6%
	Geosciences	26	46	72	1.1%	1.9%	1.5%
	Life/Biological Sciences	597	728	1,325	26.2%	30.5%	28.4%
	Mathematics	233	211	444	10.2%	8.8%	9.5%
	Physics/Astronomy	41	55	96	1.8%	2.3%	2.1%
	Non-STEM, undeclared	7	15	22	.3%	.6%	0.5%
	Total	2,278	2,387	4,665	100.0%	100.0%	100.0%
Campus*	Bakersfield	44	47	91	1.9%	2.0%	2.0%
	Channel Islands	0	40	40	0.0%	1.7%	0.9%
	Chico	70	86	156	3.1%	3.6%	3.3%
	Dominguez Hills	155	132	287	6.8%	5.5%	6.2%
	East Bay	9	31	40	0.4%	1.3%	0.9%
	Fresno	126	103	229	5.5%	4.3%	4.9%
	Fullerton	55	73	128	2.4%	3.1%	2.7%
	Humboldt	44	223	267	1.9%	9.3%	5.7%
	Long Beach	115	52	167	5.0%	2.2%	3.6%
	Los Angeles	410	316	726	18.0%	13.2%	15.6%
	Monterey Bay	73	41	114	3.2%	1.7%	2.4%
	Northridge	258	134	392	11.3%	5.6%	8.4%
	Pomona	192	242	434	8.4%	10.1%	9.3%
	Sacramento	158	122	280	6.9%	5.1%	6.0%
	San Bernardino	155	118	273	6.8%	4.9%	5.9%
	San Diego	64	97	161	2.8%	4.1%	3.5%
	San Francisco	52	95	147	2.3%	4.0%	3.2%
	San Jose	193	159	352	8.5%	6.7%	7.5%
	San Luis Obispo	1	144	145	0.0%	6.0%	3.1%
	San Marcos	0	41	41	0.0%	1.7%	0.9%
	Sonoma	33	57	90	1.4%	2.4%	1.9%
	Stanislaus	71	34	105	3.1%	1.4%	2.3%
	Total	2,278	2,387	4,665	100.0%	100.0%	100.0%

Source: WebAMP

* Discipline and campus for most recent participation year.

Appendix Table 15: Selected Participant Characteristics by First Year of Participation, Senior-Level CSU-LSAMP through 2010-2011

		Number				Percent			
		Continuing from Phase III	First Year of CSU-LSAMP Participation			Continuing from Phase III	First Year of CSU-LSAMP Participation		
			Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011		Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011
Gender	Male	1,363	331	518	454	59.8%	52.8%	57.8%	52.5%
	Female	915	296	378	410	40.2%	47.2%	42.2%	47.5%
	Total	2,278	627	896	864	100.0%	100.0%	100.0%	100.0%
Race/ Ethnicity	Latino/Latina	1,644	392	594	531	72.2%	62.5%	66.3%	61.5%
	African American	395	87	127	106	17.3%	13.9%	14.2%	12.3%
	Native American/Alaska Native	36	35	19	3	1.6%	5.6%	2.1%	0.3%
	Native Hawaiian/Pacific Islander	38	11	19	19	1.7%	1.8%	2.1%	2.2%
	More than one URM group	50	12	31	21	2.2%	1.9%	3.5%	2.4%
	Non-minority	108	74	95	157	4.7%	11.8%	10.6%	18.2%
	Race not reported	7	16	11	27	0.3%	2.6%	1.2%	3.1%
	Total	2,278	627	896	864	100.0%	100.0%	100.0%	100.0%
Class Level at Program Entry	Freshman	1,145	125	305	204	50.3%	19.9%	34.0%	23.6%
	Sophomore	433	114	156	145	19.0%	18.2%	17.4%	16.8%
	Junior	372	166	195	239	16.3%	26.5%	21.8%	27.7%
	Senior	328	222	240	276	14.4%	35.4%	26.8%	31.9%
	Unknown	2,278	627	896	864	100.0%	100.0%	100.0%	100.0%
	Total	1,145	125	305	204	50.3%	19.9%	34.0%	23.6%
Discipline*	Agriculture	7	5	9	14	.3%	.8%	1.0%	1.6%
	Chemistry	201	57	89	86	8.8%	9.1%	9.9%	10.0%
	Computer Science	176	41	49	42	7.7%	6.5%	5.5%	4.9%
	Engineering	952	204	351	300	41.8%	32.5%	39.2%	34.7%
	Environmental Science	38	17	24	44	1.7%	2.7%	2.7%	5.1%
	Geosciences	26	15	18	13	1.1%	2.4%	2.0%	1.5%
	Life/Biological Sciences	597	195	248	285	26.2%	31.1%	27.7%	33.0%
	Mathematics	233	77	74	60	10.2%	12.3%	8.3%	6.9%
	Physics/Astronomy	41	16	23	16	1.8%	2.6%	2.6%	1.9%
	Non-STEM, Undeclared	7	0	11	4	.3%	.0%	1.2%	.5%
	Total	2,278	627	896	864	100.0%	100.0%	100.0%	100.0%
Campus*	Bakersfield	44	15	22	10	1.9%	2.4%	2.5%	1.2%
	Channel Islands	0	23	11	6	0.0%	3.7%	1.2%	0.7%
	Chico	70	35	21	30	3.1%	5.6%	2.3%	3.5%
	Dominguez Hills	155	34	63	35	6.8%	5.4%	7.0%	4.1%
	East Bay	9	6	9	16	0.4%	1.0%	1.0%	1.9%
	Fresno	126	15	40	48	5.5%	2.4%	4.5%	5.6%
	Fullerton	55	23	21	29	2.4%	3.7%	2.3%	3.4%
	Humboldt	44	53	63	107	1.9%	8.5%	7.0%	12.4%
	Long Beach	115	8	22	22	5.0%	1.3%	2.5%	2.5%
	Los Angeles	410	82	129	105	18.0%	13.1%	14.4%	12.2%
	Monterey Bay	73	15	14	12	3.2%	2.4%	1.6%	1.4%
	Northridge	258	57	54	23	11.3%	9.1%	6.0%	2.7%
	Pomona	192	48	110	84	8.4%	7.7%	12.3%	9.7%
	Sacramento	158	6	64	52	6.9%	1.0%	7.1%	6.0%
	San Bernardino	155	27	48	43	6.8%	4.3%	5.4%	5.0%
	San Diego	64	16	38	43	2.8%	2.6%	4.2%	5.0%
	San Francisco	52	25	34	36	2.3%	4.0%	3.8%	4.2%
	San Jose	193	44	57	58	8.5%	7.0%	6.4%	6.7%
	San Luis Obispo	1	40	52	52	0.0%	6.4%	5.8%	6.0%
	San Marcos	0	22	9	10	0.0%	3.5%	1.0%	1.2%
	Sonoma	33	22	7	28	1.4%	3.5%	0.8%	3.2%
	Stanislaus	71	11	8	15	3.1%	1.8%	0.9%	1.7%
	Total	2,278	627	896	864	100.0%	100.0%	100.0%	100.0%

Source: WebAMP

* Discipline and campus for most recent participation year.

Appendix Table 16: Estimated URM-STEM Participation Rate by Gender, Senior-Level CSU-LSAMP through 2010-2011

	URM STEM enrollment				URM STEM participants				Estimated participation rate			
	Fall 2008	Fall 2009	Fall 2010	Aver-age	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Aver-age	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Aver-age
Male	11,247	11,868	13,233	12,116	1,547	1,618	1,495	1,553	14%	14%	11%	13%
Female	7,250	7,651	8,784	7,895	1,059	1,050	1,047	1,052	15%	14%	12%	13%
Total	18,497	19,519	22,017	20,011	2,606	2,668	2,542	2,605	14%	14%	12%	13%

Data sources: CSU Analytic Studies Division ERS enrollment files and Longitudinal CSU-LSAMP participant database, constructed from WebAMP records

Appendix Table 17: Estimated URM-STEM Participation Rate by Race/Ethnicity, Senior-Level CSU-LSAMP through 2010-2011

	URM STEM enrollment				URM STEM participants				Estimated participation rate			
	Fall 2008	Fall 2009	Fall 2010	Aver-age	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Aver-age	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Aver-age
Latino/Latina	14,605	15,962	17,682	16,083	1,955	2,036	1,985	1,992	13%	13%	11%	12%
African American	2,921	2,742	2,554	2,739	487	451	393	444	17%	16%	15%	16%
Native American	472	378	351	400	69	65	30	55	15%	17%	9%	14%
Native Hawaiian/ Pacific Islander	499	437	381	439	52	52	62	55	10%	12%	16%	13%
More than one race reported—minority*	n/a	n/a	1,049	1,049	43	64	72	60	n/a	n/a	7%	6%
Total	18,497	19,519	22,017	20,011	2,606	2,668	2,542	2,605	14%	14%	12%	13%

Data sources: CSU Analytic Studies Division ERS enrollment files and Longitudinal CSU-LSAMP participant database, constructed from WebAMP records

* This is a new category not present in the ERS enrollment data prior to Fall 2010.

Appendix Table 18: Estimated URM-STEM Participation Rate by Discipline, Senior-Level CSU-LSAMP through 2010-2011

	URM STEM enrollment				URM STEM participants				Estimated participation rate			
	Fall 2008	Fall 2009	Fall 2010	Aver-age	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Aver-age	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Aver-age
Agriculture	1,167	1,186	1,372	1,242	8	12	17	12	1%	1%	1%	1%
Chemistry	746	750	862	786	230	229	234	231	31%	31%	27%	29%
Computer Science	1,715	1,872	2,083	1,890	206	189	170	188	12%	10%	8%	10%
Engineering	7,299	7,463	8,118	7,627	1,077	1,163	1,136	1,125	15%	16%	14%	15%
Environmental Science	408	466	561	478	42	39	39	40	10%	8%	7%	8%
Geosciences	133	166	218	172	33	37	37	36	25%	22%	17%	21%
Life/Biological Sciences	5,407	5,950	6,954	6,104	699	686	647	677	13%	12%	9%	11%
Mathematics	1,366	1,418	1,540	1,441	264	260	215	246	19%	18%	14%	17%
Physics/Astronomy	256	248	309	271	47	53	47	49	18%	21%	15%	18%
Total	18,497	19,519	22,017	20,011	2,606	2,668	2,542	2,605	14%	14%	12%	13%

Data sources: CSU Analytic Studies Division ERS enrollment files and Longitudinal CSU-LSAMP participant database, constructed from WebAMP records

Appendix Table 19: Estimated URM-STEM Participation Rate by Campus, Senior-Level LSAMP through 2010-2011

	URM STEM enrollment				URM STEM participants				Estimated participation rate			
	Fall 2008	Fall 2009	Fall 2010	Aver-age	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Aver-age	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Aver-age
Bakersfield	278	319	438	345	55	59	45	53	20%	18%	10%	15%
Channel Islands	135	150	130	138	17	18	19	18	13%	12%	15%	13%
Chico	523	496	620	546	69	99	80	83	13%	20%	13%	15%
Dominguez Hills	444	506	585	512	186	186	166	179	42%	37%	28%	35%
East Bay	360	370	407	379	9	7	11	9	3%	2%	3%	2%
Fresno	1,269	1,337	1,501	1,369	111	102	108	107	9%	8%	7%	8%
Fullerton	1,032	1,027	1,234	1,098	72	65	60	66	7%	6%	5%	6%
Humboldt	339	430	606	458	88	97	57	81	26%	23%	9%	18%
Long Beach	1,780	1,737	1,968	1,828	113	78	62	84	6%	4%	3%	5%
Los Angeles	1,167	1,195	1,426	1,263	476	496	497	490	41%	42%	35%	39%
Monterey Bay	180	272	343	265	55	40	42	46	31%	15%	12%	17%
Northridge	1,416	1,462	1,763	1,547	298	274	208	260	21%	19%	12%	17%
Pomona	2,711	2,887	2,849	2,816	204	248	297	250	8%	9%	10%	9%
Sacramento	843	959	1,134	979	152	168	138	153	18%	18%	12%	16%
San Bernardino	899	1,009	1,100	1,003	169	175	159	168	19%	17%	14%	17%
San Diego	1,269	1,319	1,343	1,310	70	81	90	80	6%	6%	7%	6%
San Francisco	718	789	933	813	67	60	50	59	9%	8%	5%	7%
San Jose	1,132	1,115	1,243	1,163	231	247	233	237	20%	22%	19%	20%
San Luis Obispo	1,427	1,420	1,444	1,430	39	78	104	74	3%	5%	7%	5%
San Marcos	178	255	327	253	21	12	15	16	12%	5%	5%	6%
Sonoma	138	159	223	173	41	33	50	41	30%	21%	22%	24%
Stanislaus	259	306	400	322	63	45	51	53	24%	15%	13%	16%
Total	18,497	19,519	22,017	20,011	2,606	2,668	2,542	2,605	14%	14%	12%	13%

Data sources: CSU Analytic Studies Division ERS enrollment files and Longitudinal CSU-LSAMP participant database, constructed from WebAMP records

Appendix Table 20: Activity Participation, Senior-Level CSU-LSAMP through 2010-2011

		Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Undup-licated Partic-ipants for Years 1-3
Objective 1	AY Engineering/Technology Workshop	184	298	209	403
	AY Math Workshops	472	729	569	1,275
	AY Science Workshops	627	665	673	1,462
	CSU Orientation/Survival Skills Activities	90	132	92	276
	Communication	1,055	1,043	1,107	1,652
	Material Support	361	271	553	901
	Peer Mentoring	564	601	550	993
	Tutoring	115	132	158	267
	Clubs	371	335	441	765
	Social Events	292	663	526	922
	Field Trips	81	131	132	260
	Math Summer Program	n/a	309	292	499
	Science Summer Program	n/a	191	262	330
	Other Summer Program	n/a	145	182	258
	Total	4,212	5,645	5,746	10,263
Objective 2	CC Transfer Student Merit Awardees	68	51	60	178
	Other CC Orientation/Transfer Activities	54	70	68	189
	Total	122	121	128	367
Objective 3	AY Research Program	158	131	391	577
	Year Round Research Program	277	271	179	519
	Summer Research Program	n/a	61	275	322
	International Activities	25	42	48	94
	Conferences	477	538	569	1,090
	Total	937	1,043	1,462	2,602
Objective 4	AY/Year Round Internships	109	10	14	124
	CSU-LSAMP Student Scholar	59	47	55	161
	Graduate School Visits	275	182	137	447
	GRE Preparation	103	136	197	380
	Other Graduate Preparedness Activities	464	527	543	1,028
	Student Facilitators	98	109	130	236
	Summer Internships		114	63	119
	Total	1,108	1,125	1,139	2,495
Total units of activities		6,379	7,934	8,475	15,727
Academic Advising/Counseling		2,752	2,866	2,833	4,564
Unduplicated number of participants by objective	Objective 1 Activities	1,842	2,029	1,983	3,486
	Objective 2 Activities	94	102	105	301
	Objective 3 Activities	630	738	858	1,030
	Objective 4 Activities	636	687	743	1,390
Unduplicated number of participants in Objective 3 Research Activities		433	436	604	1,036
Unduplicated number of participants in Objective 3 or 4 Activities		867	1,009	1,118	1,980

Source: WebAMP

Appendix Table 21: Estimated Baccalaureate Degree Attainment for Senior-Level CSU-LSAMP Participants by Year and URM-STEM Category

			Senior-Level CSU-LSAMP participants for whom CSU-ERS and/or NSC records were successfully retrieved:								Estimated number of Senior-Level CSU-LSAMP participants*			
			Number				Percent							
			URM	Non-URM	Not re-ported	Total	URM	Non-URM	Not re-ported	Total	URM	Non-URM	Not re-ported	Total
Overall	Bachelor's degree		1,177	133	12	1,322	32.3%	34.7%	26.7%	32.5%	1,348	151	16	1,516
	Currently enrolled		2,445	249	32	2,726	67.2%	65.0%	71.1%	67.0%	2,800	282	43	3,125
	No degree, not enrolled		19	1	1	21	.5%	.3%	2.2%	.5%	22	1	1	24
	Total		3,641	383	45	4,069	100.0%	100.0%	100.0%	100.0%	4,170	434	61	4,665
STEM and non-STEM bachelor's degrees	STEM degree		1,063	125	12	1,200	29.2%	32.6%	26.7%	29.5%	1,217	142	16	1,376
	Non-STEM degree		114	8	0	122	3.1%	2.1%	.0%	3.0%	131	9	0	140
	Currently enrolled		2,445	249	32	2,726	67.2%	65.0%	71.1%	67.0%	2,800	282	43	3,125
	No degree, not enrolled		19	1	1	21	.5%	.3%	2.2%	.5%	22	1	1	24
	Total		3,641	383	45	4,069	100.0%	100.0%	100.0%	100.0%	4,170	434	61	4,665
All bachelor's degrees by year†	Year 1 2008-2009		336	17	1	354	9.2%	4.4%	2.2%	8.7%	385	19	1	406
	Year 2 2009-2010		377	44	4	425	10.4%	11.5%	8.9%	10.4%	432	50	5	487
	Year 3 2010-2011		415	63	7	485	11.4%	16.4%	15.6%	11.9%	475	71	9	556
	Year 4 2011-2012		49	9	0	58	1.3%	2.3%	0.0%	1.4%	56	10	0	66
	Currently enrolled		2,445	249	32	2,726	67.2%	65.0%	71.1%	67.0%	2,800	282	43	3,125
	No degree, not enrolled		19	1	1	21	.5%	.3%	2.2%	.5%	22	1	1	24
	Total		3,641	383	45	4,069	100.0%	100.0%	100.0%	100.0%	4,170	434	61	4,665
STEM and non-STEM bachelor's degrees by year	STEM degrees	Year 1 2008-2009	316	16	1	333	8.7%	4.2%	2.2%	8.2%	362	18	1	382
		Year 2 2009-2010	345	41	4	390	9.5%	10.7%	8.9%	9.6%	395	46	5	447
		Year 3 2010-2011	366	59	7	432	10.1%	15.4%	15.6%	10.6%	419	67	9	495
		Year 4 2011-2012	36	9	0	45	1.0%	2.3%	.0%	1.1%	41	10	0	52
	Non-STEM degrees	Year 1 2008-2009	20	1	0	21	.5%	.3%	.0%	.5%	23	1	0	24
		Year 2 2009-2010	32	3	0	35	.9%	.8%	.0%	.9%	37	3	0	40
		Year 3 2010-2011	49	4	0	53	1.3%	1.0%	.0%	1.3%	56	5	0	61
		Year 4 2011-2012	13	0	0	13	.4%	.0%	.0%	.3%	15	0	0	15
	Currently enrolled		2,445	249	32	2,726	67.2%	65.0%	71.1%	67.0%	2,800	282	43	3,125
	No degree, not enrolled		19	1	1	21	.5%	.3%	2.2%	.5%	22	1	1	24
	Total		3,641	383	45	4,069	100.0%	100.0%	100.0%	100.0%	4,170	434	61	4,665

Source: WebAMP participant data matched to CSU ERS and NSC records.

* The estimated number of participants in each category was obtained by applying the percentages for participants for whom follow-up tracking information is available (e.g., those whose CSU-ERS and/or NSC records were successfully retrieved) to the total number of participants. For example, of the 4,069 participants with tracking information, 1,322 (32.5%) had obtained a bachelor's degree by the end of 2012. The total estimated number of participants who obtained a bachelor's degree (1,516) was obtained by multiplying the total number of participants (4,665) by .325. Totals for these estimates may not sum due to rounding.

† Tracking information was collapsed to describe the number of degrees awarded annually. The CSU ERS system records the year and term in which a degree was awarded and the NSC system records the date. The categories shown here reflect the number of degrees awarded between the summer and spring terms (CSU-ERS data) or the number of degrees awarded between July 1 and June 30 (NSC data). It should also be noted that while the currently available CSU ERS data includes degrees earned through spring 2011, the NSC system also includes a partial count of degrees earned up through December of 2012. These degrees are included here only in the interest of giving the most up-to-date snapshot available on participant progress.

APPENDIX B: IMPLICATIONS OF "NOT REPORTED" VALUES FOR RACE AND ETHNICITY IN CSU ERS RECORDS

Counts of URM STEM enrollment and degrees presented in this report include only students identified in the CSU ERS system as belonging to one or more URM groups. Unfortunately, information on race and ethnicity is not available in CSU ERS records for a significant number of students. During the first three years of Senior-level CSU-LSAMP, each year an average of slightly fewer than 7,000 STEM undergraduates enrolled at CSU-LSAMP Alliance campuses were missing on race and ethnicity (Appendix Table 22, panel a). This translates to 10.8%, 11.4% and 8.5% of STEM undergraduate enrollment for fall 2008, 2009 and 2010, respectively (Appendix Table 22, panel b).

Appendix Table 22: Computations Using STEM Undergraduate Enrollment to Estimate Senior-Level CSU-LSAMP Participation Rates

		Fall 2008	Fall 2009	Fall 2010	Total
a. Number	URM	18,497	19,519	22,017	60,033
	Non-URM	40,267	40,778	41,186	121,149
	Not reported	7,132	7,759	5,866	20,757
	Total	65,896	68,056	69,069	201,939
b. Percent	URM	28.1%	28.7%	31.9%	29.7%
	Non-URM	61.1%	59.9%	59.6%	60.0%
	Not reported	10.8%	11.4%	8.5%	10.3%
	Total	100.0%	100.0%	100.0%	100.0%
c. Apportion "not reported" enrollment based on the known URM/non-URM distribution	URM	2,245	2,512	2,043	6,800
	Non-URM	4,887	5,247	3,823	13,957
	Total	7,132	7,759	5,866	20,757
d. Estimated enrollment including the apportioned "not reported" numbers	URM	20,742	22,031	24,060	66,833
	Non-URM	45,154	46,025	45,009	135,106
	Total	65,896	68,056	69,069	201,939
e. URM STEM CSU-LSAMP participants		2,606	2,668	2,542	7,816
f. Alternate estimated participation rate		13%	12%	11%	12%
g. Primary estimated participation rate (from Table 2)		14%	14%	12%	13%

The analysis presented in this report uses URM STEM enrollment to compute overall CSU-LSAMP participation rates, as well as participation rates for subgroups of URM-STEM students. Since under-representing URM STEM enrollment has the effect of over-stating the estimated CSU-LSAMP participation rate, the following discussion attempts to examine the potential extent of the problem.

We know that some of the STEM majors without race and ethnicity information are actually URM students. Working on the assumption that the probability of race and ethnicity information being unavailable in CSU ERS is equal for URM and non-URM students increases the estimated URM STEM undergraduate enrollment by approximately 2,300 students each year (Appendix Table 1, panel c). Adding this estimate to the known URM STEM enrollment decreases estimated CSU-LSAMP participation rates by close to one percentage point (13%, 12% and 11% for years 1, 2 and 3, respectively) (Appendix Table 22, panel f).

Analysis of CSU ERS data for CSU-LSAMP participants casts some doubt on the assumption that URM and non-URM students are equally likely to not have race/ethnicity reported in CSU ERS. Among CSU-LSAMP participants, non-URM students were nearly three times more likely

than URM students to be recorded in CSU ERS as not reported on race and ethnicity (14% compared to 5%) (Appendix Table 23).

Appendix Table 23: Comparison of URM Status as Reported by CSU-LSAMP Programs and CSU ERS Enrollment Records

URM status as recorded in CSU ERS Enrollment records	URM status as reported in WebAMP by CSU-LSAMP programs							
	Number				Percent			
	URM	Non-URM	Not reported	Total	URM	Non-URM	Not reported	Total
URM	3,216	10	5	3,231	88%	3%	11%	79%
Non-URM	247	320	22	589	7%	84%	49%	14%
Not reported	178	53	18	249	5%	14%	40%	6%
Total	3,641	383	45	4,069	100%	100%	100%	100%

Source: WebAMP data matched CSU ERS records. Of the 4,665 Senior-level CSU-LSAMP participants, 4,069 (87%) were matched, using their Social Security numbers, to the CSU ERS system.

Based on the available information, which suggests that the URM STEM enrollment used to compute the primary participation rate is too low, and that the URM STEM enrollment used to compute the alternate participation rate is too high, it seems highly likely that the real participation rate is somewhere between the two. Which means that for the first three years of Senior-level CSU-LSAMP, the real participation rate was somewhere between 12 and 13 percent. Given the relatively minor impact of the data limitation, alternate participation rates for upper division and first-year transfer students were not computed.

This report also uses URM STEM enrollment and degree data to measure progress toward the long-term outcomes of increasing URM STEM enrollment and URM STEM baccalaureate degree production. In these instances, the data limitations understate progress toward the outcomes. The non-reporting problem is more pronounced for the degree data than it is for the enrollment data. About 20 percent of all students earning STEM degrees during the first three years of Senior-level CSU-LSAMP did not have race or ethnicity reported (Appendix Table 24).

Appendix Table 24: Prevalence of "Not Reported" Race/Ethnicity Values for Recipients of STEM Bachelor's Degrees in CSU ERS Degree Records

	Number				Percent			
	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Total	Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Total
URM	1,897	1,840	1,995	5,732	20%	19%	20%	20%
Non-URM	6,261	5,898	5,369	17,528	66%	60%	55%	60%
Not reported	1,371	2,033	2,472	5,876	14%	21%	25%	20%
Total	9,529	9,771	9,836	29,136	100%	100%	100%	100%