

SJSU's Four Pillars of Student Success: College Readiness, Advising, Student Engagement and Clearing Bottlenecks

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Preface

As the oldest public institution in California, San Jose State University has a long and proud history as a supplier of excellent higher education, a contributor to the skilled workforce in the Bay Area and an incubator for innovations that have significant local and global impact. Through the decades, our priority has remained the same – to offer an exceptional and affordable education to all of our students so they find success in their careers and become engaged citizens of California and the world.

When our students receive a quality education and complete their degrees on time (e.g. in four years for college-ready freshmen) they:

- pay less in tuition and accrue less student loan debt;
- begin full-time employment sooner, thus gaining more work experience and a higher potential lifetime salary;
- enter the workforce with valuable skills that are sought by Silicon Valley companies, including in high-tech and business firms; government and public service; arts, literature and entertainment; health professions; education and many other fields and industries; and
- provide the ability for new students to access educational opportunities at SJSU.

Once admitted, our students join a network of Spartans committed to supporting academic,

professional and personal success. Together, we should provide our students with a clear and timely pathway to an outstanding degree. However, we often fail to live up to this promise: for the student who starts the fall semester in need of college readiness support in English and math; for the student who needs advice when advisors are booked solid for weeks; for the student who feels disconnected from the campus and drifts away; and for the student whose progress is blocked because a bottleneck course is unavailable semester after semester. We acknowledge that some students opt to take less than a full course load, with 19 percent of undergraduate and 37 percent of graduate students enrolled part time in fall 2015. We also have a significant percentage of students who work to finance their education, including 27 percent of freshmen and 64 percent of seniors, according to the most recent National Survey of Student Engagement. We can and must do better for our students, especially those who need additional support on their road to success.

While we have made great improvements in six-year graduation rates, not all students share the benefits of that progress. SJSU reported a six-year graduation rate of 56.8 percent in 2015, up nearly 10 percentage points in just the last few years. This rate is on par with the national average for public universities of 58 percent, as reported by the National Center for Education

Statistics for 2015, but we know we must continue to improve. The university's four-year graduation rates remain stubbornly low at 10 percent.

Graduation rates for underrepresented minority (URM – Black or African American, Hispanic/Latino and Native American) students are increasing at a slower rate than non-URM students, a national trend. The six-year graduation rates for URM students is 44 percent. Read the [Graduation Rate FAQ](#) online for more details. Between 2003-2013, 77 percent of universities in the United States increased URM grad-

uation rates, but only 45.7 percent were successful in decreasing the gap between URM and non-URM students, according to a [report by the Education Trust](#) that reviewed more than 255 institutions.

To lift our rates even higher for all students, the campus needs a unified plan to guide our efforts so that we are all moving in the same direction. We need to come together to find the greatest opportunities for improvement, the most important areas for coordination and the most strategic places for investment.

Figure 1

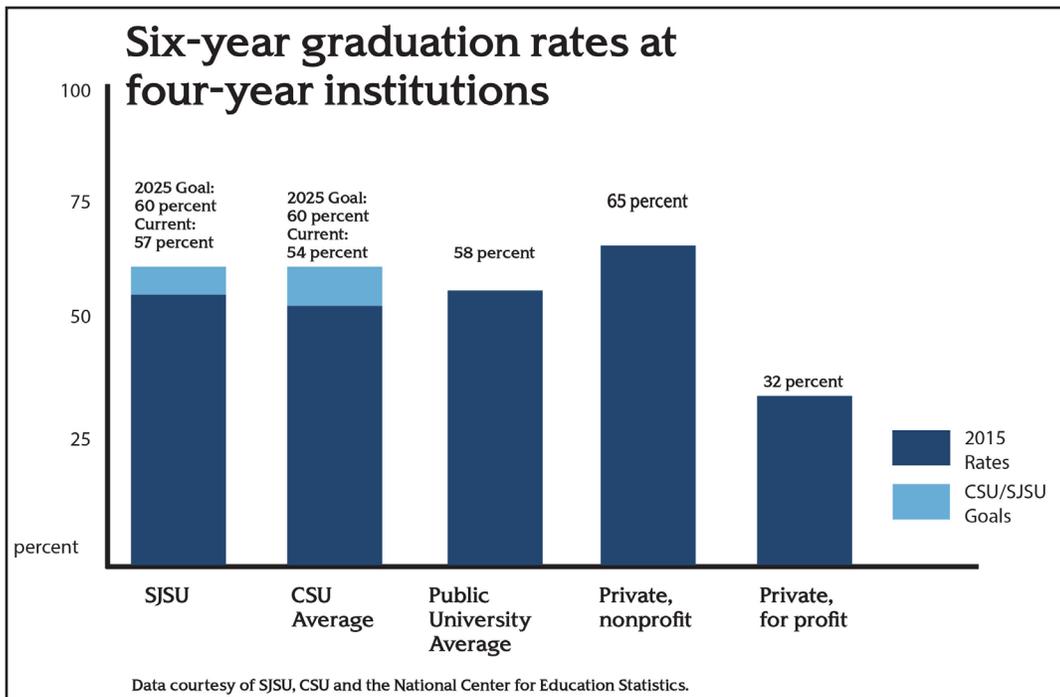


Figure 1 displays San Jose State University's six-year graduation rates as compared to other CSUs and institutions nationwide.

Figure 2

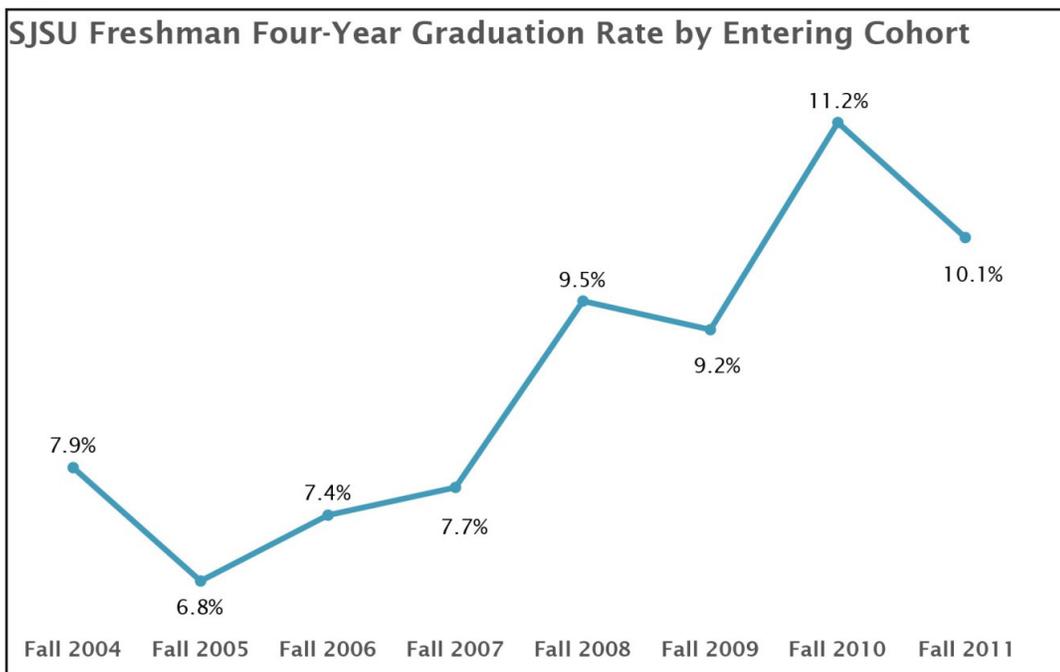


Figure 2 displays four-year graduation rates from spring 2008-2015. Data is from the entering fall cohorts of incoming first-time, first-year students who enrolled at SJSU between 2004-2011.

A Campus Priority

SJSU serves more than 33,000 students, including 3,500 incoming freshmen, 3,600 new transfer students and 2,000 new graduate students. The university has a large number of first-generation students, with 27 percent of students identified as the first in their families to attend college, according to Institutional Effectiveness and Analytics' [Student Profiles \(2010-2014\)](#). The university also serves a diverse population, with more than 37 percent of students identifying as an underrepresented minority. While incoming first-year students have completed the requirements to be accepted at a CSU, 36 percent of students who enroll at SJSU require college readiness support in math, English or both. SJSU is committed to improving access to high-quality degrees for all students, regardless of their background.

SJSU's Academic Affairs Leadership Team (AALT) identified student success as a priority for its 2014-16 working plan. The [Educational Excellence and Student Experience](#) priority group that included student, fac-

ulty, staff and administrator representatives worked on initiatives to support student success. Through the priority group, student success centers have been established or expanded in each of the colleges; initial steps were taken to establish a data warehouse that will support predictive analytics; MyScheduler launched, a tool that supports students in course selection; expanded writing support services; and GE pathways were developed around the topics of creativity, sustainability and globalization.

In summer 2015, Chancellor's Office representatives met with the AALT and representatives from the Student Affairs Division for a one-day retreat focused on ways to improve student success for mid-career students (those in their third to fifth year at SJSU) and URM students. In a follow-up retreat, the AALT met again to discuss roadblocks to student success and potential solutions.

Based on the groundwork completed in the priority groups and summer retreats, Provost Feinstein and Vice President for Student Affairs Blaylock held



First-time, first-year students listen intently at a freshmen orientation during summer 2015.

focus groups with students, faculty, staff and advisors throughout the fall 2015 semester to gather more input on student success needs. Deputy Provost Carl Kemnitz conducted a [student success program inventory](#), categorizing more than 100 programs and support systems. Kemnitz met with the Council of Deans, the Council of AVPs, AALT, the President's Cabinet, the Academic Senate Executive Committee and the University Council of Chairs and Directors to discuss the existing programs, strengths, aspirations and remaining gaps.

Associate Vice President for Academic Planning and Budgets Marna Genes completed an analysis of SJSU students' average unit load as compared to other institutions and discovered SJSU undergraduates took an average of 12.4 units a semester compared to a full-time unit load of 15. The analysis revealed the impact of course bottlenecks on student progress. As a result, the Joint Enrollment Planning Group recommended a "no limits" enrollment plan for 2016-17 that seeks to increase average unit load by removing college enrollment ceilings and clearing bottlenecks. The plan was accepted by the president and supported by a university budget plan that provides \$2.8 million for clearing bottlenecks, with an anticipated 500 additional course sections. The overall plan was presented to the Academic Senate in fall 2015.

In addition to these outreach efforts, campus leaders reviewed the [Campus Climate Survey](#), conducted in spring 2015, the ["Why Students Leave" report](#), based on research conducted by four faculty members in fall 2015, and the [National Survey of Student Engagement](#), conducted in 2014, to gain more information about student success needs.

CSU Graduation Initiative

As the nation faces an imperative to produce an educated workforce accompanied by more than a trillion dollars in outstanding student loan debt that is often debilitating for those who do not complete college, SJSU is not alone in the quest to improve graduation rates. The CSU launched a system-wide [Graduation Initiative in 2009](#) to improve six-year graduation rates and reduce the gap between URM and non-URM student graduation rates. As the 2015 initiative wrapped up, the Chancellor's Office launched CSU Graduation Initiative 2025 with a [student success dashboard](#) to track progress of each campus as they increase six-year and four-year graduation rates, and decrease the attainment gap between URM and non-



Photo by David Schmitz

At SJSU, 57 percent of students who entered the university in fall 2008 graduated in six years.

URM students.

By 2025, SJSU expects to meet the target of 57 percent for six-year graduation rates and 17 percent for four-year graduation rates, while reducing the achievement gap between URM and non-URM students to six percent or less. Internally, university leaders have set goals of increasing six-year graduation rates to at least 60 percent, reducing time to degree, and ensuring that these benefits are shared by all students.

Conclusion

Based on the information gathered through 2015 and spring 2016, Feinstein and Blaylock have identified four recommended pillars of a unified student success plan that will be informed by additional input from the campus community. These pillars are: College Readiness, Advising, Student Engagement and Clearing Bottlenecks. Throughout the summer, we will continue to gather feedback from the campus community to refine our strategies and implementation plans for each pillar. Based on previous work over the past two years, several of the strategies and efforts described in this document are currently under way. Our goal is to fully implement this plan in the beginning of the fall 2016 semester.

While some proposed initiatives in our College Readiness pillar are primarily focused on improving graduation rates for first-time freshmen, we believe many of the resources in the other three pillars will benefit transfer, mid-career, international, graduate and certificate students through enhanced support services and expanded opportunities for meaningful engagement.

Pillar One: College Readiness

Background

Through focus groups with students, staff, faculty and administrators, along with the Campus Climate Survey and research on why students leave before completing a degree, key concerns have been identified around college readiness. Concerns include the high percentage of students needing remediation in math, English or both; a need to expand the Early Start programs to reach a larger number of students in need of remediation; and the need for stronger partnerships between K-12 schools, community colleges and SJSU to ensure students are prepared for college-level work when they arrive at SJSU.

College readiness at SJSU is a complex and multifaceted enterprise with more than a quarter of our incoming students identifying as first-generation and 37 percent as an underrepresented minority. As a campus, SJSU must continue to provide access to higher education for the many low-income and underserved populations coming to SJSU from within and outside of Santa Clara County.

Students who entered SJSU in fall 2014 needing remediation earned an average of 17.5 units within the first year on campus, coming well short of the 30 units needed annually to graduate within four years. At least 36 percent of first-time freshmen at SJSU are in need of remediation in math, English, or both. Students who do not receive a passing score on the entry-level math or English placement tests are required to take remediation courses for no credit in their first semester and are limited to the courses they can take until they successfully complete their remediation courses.

The Educational Opportunity Program (EOP) Summer Bridge has been extremely successful at increasing the SJSU remediation competency completion and retention rate among EOP double remedial students. Since its reintroduction in 2012, the program has had an 89 percent retention rate (or higher) across its last three cohorts and a 100 percent remediation completion among its participants. Access to the program is limited to 60 EOP students each year. The Summer Bridge Program provides a five-week intensive, on-campus curriculum of remediation, study skills and an opportunity to prepare for college-level work. Participants progress as a cohort through their freshman year with enrollment in a first-year experience class and a year-long English 1A stretch course.



*Photo by David Schmitz
Newly admitted students and their families visit San Jose State for Admitted Spartan Day each spring.*

Solutions

The following plan looks at college readiness from a perspective of pre-admission, admission and post-admission efforts. These efforts could further reduce the number of students who need remediation and will provide opportunities for SJSU to decrease the achievement gap of non-URM students and URM

students from the current gap of 17 percentage points to six percentage points by 2025.

- Increase outreach to pre-admission K-12 students by expanding existing programs that create a college-going culture in Santa Clara County such as College Day; African American College Readiness Summits; the Advancing Latino/as Achievement and Success (ALAS)

Conference; Admission Possible workshops for high school sophomores with SJSU admission counselors; and programs that support Asian American, Pacific Islander and Native American student recruitment.

- Develop new outreach programs for pre-admission K-12 students that create a college-going culture in Santa Clara County:

- o Create a Spartan “shadow” program for prospective students to visit SJSU, attend classes with current students and stay in residence halls.

- o Finalize Spartan East Side Promise and expand outreach efforts to students in the East Side Union High School District.

- o Create a centralized welcome center for prospective students and their families that provides a positive first impression of campus.

- o Provide a weekend campus tour option for prospective students.

- o Increase partnerships with K-12 schools to improve the college readiness of high school graduates and potentially decrease the need for remediation.

- Increase support services for admitted students:

- o Host additional admitted student receptions at select off-campus locations that are beyond driving distance to campus.

- o Launch the Spartan Scholars Program in summer 2016 to serve low-income students who require remediation in math, English, or both subjects with a five-week residential summer transition program.

- o Evaluate best practices for integrating CSU Early Start with other SJSU support services.

- o Utilize [SuccessNavigator](#) to administer a non-cognitive skills assessment to admitted students in order to ensure the proper support is in place for each incoming student.

- Increase support services for post-admission (enrolled) students:

- o Enhance the reach of the Writing Center through increased personnel and online opportunities, such as online video tutorials, embedded writing fellows in 100W courses, and a writing support supplemental instruction model for first-year composition and Stretch English courses.

- o Increase the number of Peer Mentors who support freshmen classes and help first-year students learn to navigate SJSU.

- o Offer a program aimed at providing SJSU faculty with strategies and tools to address the diverse needs of our students through the Center for Faculty Development.

Short-term metrics*:

- Increase the number of students who complete summer bridge programs, currently 60, by launching the Spartan Scholars Program in summer 2016.
- Increase the number of students and families who attend college-readiness programs such as College Day, African American College Readiness Summit and ALAS from the 3,400 participants currently served annually.

Long-term metrics*:

- Improve three-year retention rates, currently at 64 percent for URM students, 68 percent for first-generation students and 73 percent overall.
- Reduce graduation gap between URM and non-URM students to 6 percent from 17 percent.
- Improve four-year graduation rates, currently at 10 percent, and six-year graduation rates, currently at 57 percent.
- Decrease percentage of students entering SJSU in need of remediation courses by 20 percent by 2025, through the Spartan Scholars Program and K-12 partnerships.

*Please note metrics are still being developed and will be updated.

Resources

Nearly \$1.5 million from the Student Success, Excellence and Technology fee has been committed to the Spartan Scholars Program, a summer bridge program, for 2015-17. The program will be open to all Pell grant eligible students who are in need of remediation, with plans to expand in the future. Additional resources will be needed to maintain and expand college readiness programs, and to increase support services for admitted/enrolled students.

Conclusion

Expanding summer transition programs, establishing fall college readiness forums, collaborating with K-12 schools on partnerships such as the Spartan East Side Promise and other work with local schools will ensure first-year freshmen are prepared for college-level work without the need for remediation or repeating key courses when they arrive at SJSU from high school or community colleges. Associate Vice President for Transition and Retention Services Debra Griffith will lead the College Readiness pillar of the proposed student success plan.

Pillar Two: Advising

Background

The current ratio of advisors to students is 1:1,848 while the national standard for public master's granting institutions is 1:300. Through focus groups with students, staff, faculty and administrators, along with the Campus Climate Survey and research on why students leave before completing a degree, key concerns were identified around advising. These issues include a long wait time for appointments with advisors, leading to students selecting courses on their own; inconsistent training for advisors; difficulty navigating the complex array of support resources; delayed evaluations; and the need for software to facilitate student progress and empower advisors with better data.

SJSU has a network of advisors to support students, including professional advisors, centralized through Student Academic Success Services (SASS) and decentralized in the college student success centers, as well as peer and faculty advisors. University-wide advising is coordinated by SASS which provides advising to undeclared students, student-athletes, URM cohorts and students seeking changes to their academic programs.

Colleges have established student success centers with professional and peer advisors who offer GE advisement while helping students develop a path to degree (undeclared majors receive GE advisement from SASS). Faculty advisors in individual departments support students in selecting upper division and major courses as well as advisement around preparations for graduation, careers, graduate studies or professional advancement. Students, staff and faculty have noted the lack of drop-in advising as well as long waits for appointments for college advising. Advisors have noted difficulties associated with delayed evaluation of transcripts and graduation applications.



Peer advisors in the College of Applied Sciences and Arts Student Success Center share advice with freshmen and transfer students at an open house.

Solutions

Ultimately progress in this area is only possible via a coordinated and transparent network of well-trained advisors who rely on efficient support systems.

- Improve advising systems to serve student success.
 - o Create an effective advising network of staff and faculty advisors that assures all students timely access to an advisor when they need one and reducing the staff advisor/student ratio to 1:600.
 - o Provide a coordinated effort that seamlessly transitions students between professional advisors and interested faculty advisors, relying on the strengths of each.

- o Provide centralized coordination of advisor training so that students receive consistent and effective information from all advising resources on campus.

- o Offer early and effective interventions that connect students with resources that will help with retention and degree progress.

- Leverage technology for student success.

- o Create an automatic degree audit process that will provide real-time information to students and advisors on what graduation requirements students have completed and still need to complete.

- o Create an online smart planner that will allow students to map out a four-year degree plan for incoming first-year students and a two-year degree plan for transfer students. This function will allow students

and advisors to have a clear map of what courses are needed to graduate in a timely manner and allow the university to better match course offerings with demand.

- o Upgrade and expand our early alert system, integrated with the learning management system, to identify students at the earliest indication of trouble and provide intrusive advising to those in need.

- o Implement other software solutions including automated graduation checking, automated prerequisite programming, online change of major/minor process and a student data warehouse to support predictive analytics.

- Optimize academic processes for student success.

- o Process transfer credit, test credit evaluation and degree requirements earlier so that students and advisors know what courses students need to pursue each semester and no student is surprised by the results of a graduation check.

- o Engage faculty in reviewing curriculum to ensure students have a clear path to degree and that skills gained in courses within a major map to workforce needs and/or industry standards.

- Create a one-stop shop for student success.

- o Create a centralized starting point for students where a liaison can guide them to the resources they need.

Short-term metrics*:

- Increase the number of advisors trained to an advisor to student ratio of 1:600 from the current ratio of 1:1,848.

- Decrease average wait time to see an advisor.

- Increase the percentage of students seeing an advisor prior to their registration date.

- Through data analysis of enrollment patterns, reduce the number of courses taken that do not count toward degree progress.

- Increase the number of new students with a multi-term plan in the student information system.

- Decrease processing time for transfer credit and test credit evaluation – from receipt to posting.

- Increase student satisfaction with advising as measured by NSSE.

Long-term metrics*:

- Improve three-year retention rates, currently at 64 percent for URM students, 68 percent for first-generation students and 73 percent overall.

- Reduce graduation gap between URM and non-URM students to 6 percent from 17 percent.

- Improve four-year graduation rates, currently at 10 percent, and six-year graduation rates, currently at 57 percent.

*Please note metrics are still being developed and will be updated.

Resources

Initial recommendations include the need for additional staff in key roles such as professional advisors who can assist in multi-term planning and early-alert interventions; programmers for PeopleSoft Student Administration; degree audit and early transcription evaluators; and IEA staff for improved use of data.

Conclusion

Upgrading the advising infrastructure on campus by adding additional advisors, providing training for all advisors on campus and implementing software solutions will support students in creating attainable graduation pathways. Deputy Provost Carl Kemnitz will lead the Advising pillar of the proposed student success plan.

Pillar Three: Student Engagement

Background

Students at San Jose State engage the campus community in a variety of ways. Some work closely with faculty members on research in laboratories or in the community; others connect through a common interest in one of the more than 500 student organizations; still, others are active in athletics, both Division-I and intramural. Resources include identity-based centers and student organizations such as the MOSAIC Cross Cultural Center, LGBT Resource Center, the Women’s Resource Center, Military and Veteran Student Services, the Asian Pacific Islander Faculty and Staff Association, to name a few; recreation and wellness opportunities, and access to Career Center Services. Through these interactions, students form relationships with friends, mentors and advisors that will benefit them during their time at SJSU and beyond. Without these connections to the campus, many students would lack the support system they need to be successful.



College of Science students present the outcomes of their research at a spring event.

Some first-year experience programs exist for first-time freshmen and transfer students, but opportunities to participate are limited. Examples include Science 2 and Science 90, classes that teach study skills for first-time and transfer students while also meeting an Area E General Education requirement, and the Lucas College of Business’ first-year experience that provides an iPad as incentive for students to engage in extracurricular activities.

[CommUniverCity](#) is a chief example of a program that provides curricular-embedded opportunities for students to engage in more than 50 community projects in underserved communities surrounding the university in partnership with the City of San Jose. Students and faculty members from every college are involved in interdisciplinary projects that range from establishing community gardens to STEM education for K-12 students to supporting small business owners with marketing plans.

A key pillar to student success identified by students, staff, faculty and administrators includes improving student engagement at SJSU. While the majority of respondents to the [2015 Campus Climate Survey](#) reported that SJSU has a welcoming environment, some students, staff, faculty and administrators still reported experiencing discrimination on campus. This was especially true for some URM groups as well as those who identified as LGBT. Some students also noted that they feel unsafe on campus despite relatively low rates of crime as reported in the [2015 Annual Safety Report](#). In addition, faculty research from the [“Why Students Leave” report](#) found that one of the top three reasons students listed for leaving SJSU included feeling no connection to the campus.

Solutions

Through discussions with campus stakeholders, improvements to student engagement have been recommended:

- Create a safe and welcoming environment for all

students on campus, including undergraduate, graduate, post-baccalaureate, credential and international students.

o The President’s Commission on Diversity, co-chaired by Provost Andy Feinstein and Vice President of Student Affairs Reggie Blaylock, will continue ef-

forts to create a more inclusive and welcoming environment.

- o The African American Student Success Task Force and the Chican@/Latin@ Student Success Task Force that support URM students are transitioning into permanent programs with base funding in Student Affairs, under the AVP for Transition and Retention Services.

- o Continue work with the Accessible Education Center to improve curriculum and facilities for students with disabilities.

- o UPD will continue to communicate about the resources they offer to campus such as the [UPD Safety Escort](#), [Spartan Saferide](#) and [Rave Guardian](#), and other safety initiatives.

- Evaluate co-curricular programming such as student organizations and clubs, student government and other programs on campus to determine how to best increase student participation in activities that connect them to campus.

- Expand co-curricular program opportunities for undergraduate, graduate and international students to work together on research, internships and volunteer experiences that will help them put into practice the lessons they learn in their classrooms.

- Increase access to first-year experience opportunities that help to connect students to the campus, give them tools to navigate the many resources available to them and teach them valuable study skills that will make them successful throughout their college career and develop programs to support mid-career students.

- Provide more opportunities for students to connect with faculty, staff, peer and community member mentors.

- As part of the Academic Affairs 2014-16 priority, the Educational Excellence and Student Experience team created GE pathways around sustainability, creativity and globalization to provide a common intellectual experience. Coordinators will develop an assessment program to evaluate each pathway so they can be modified if necessary.

- Identify and prioritize other high-impact practices (HIPs) to engage students in the classroom. Research has shown HIPs can effectively increase student retention and student success ([High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter](#), by George D. Kuh (AAC&U, 2008)). Some of these practices include:

- o Learning communities and cohort models

- o Writing-intensive courses

- o Collaborative assignments and projects

- o Undergraduate research

- o Diversity/global learning

- o Service learning and community-based learning

- o Internships

- o Capstone courses and projects

Short-term metrics*:

- Increase the number of students participating in first-year experience.
- Increase the number of students involved in research, internships or other co-curricular programs.
- Launch GE pathways around sustainability, creativity and globalization.

Long-term metrics*:

- Improve perceptions of student engagement and campus climate, as measured by the National Survey of Student Engagement (NSSE) and Campus Climate Survey.
- Improve three-year retention rates, currently at 64 percent for URM students, 68 percent for first-generation students and 73 percent overall.
- Reduce graduation gap between URM and non-URM students to 6 percent from 17 percent.
- Improve four-year graduation rates, currently at 10 percent, and six-year graduation rates, currently at 57 percent.

*Please note metrics are still being developed and will be updated.

Resources

A thorough analysis of high-impact practices is ongoing to determine where additional funding will be needed to best support student engagement.

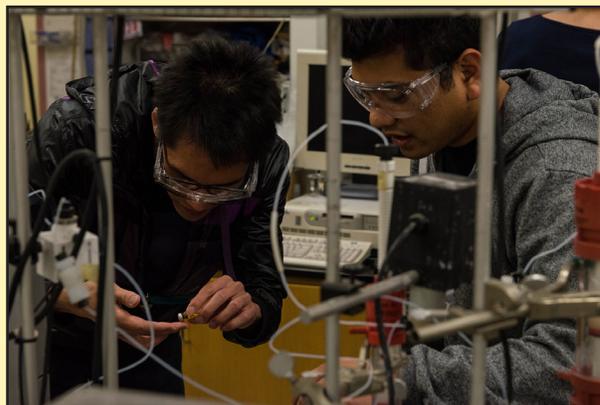
Conclusion

Increasing student opportunities to engage in a first-year experience program, co-curricular activities, and other high-impact practices will enhance students' connection to campus. High-impact practices have been shown to increase student retention and success. Provost Andy Feinstein and Vice President for Student Affairs Reggie Blaylock will lead the Student Engagement pillar as part of the proposed student success plan.

Pillar Four: Clearing Bottlenecks

Background

Recent surveys of SJSU students reveal that one of the major challenges to their success is course bottlenecks – impasses where they cannot enroll in a course they need to make progress toward their degrees, or when they cannot successfully complete a course and move forward toward their degree. Careful analysis of student enrollment patterns has identified two main reasons for these bottlenecks, and clearing them is one of the four pillars of our proposed campus student success plan.



Chemical engineering students work in a lab class in an upper division course at San Jose State University.

Solutions

In some cases, the problem is one of simple capacity. If departments had the resources to offer additional sections of a particular course, more students could be accommodated and many problems would be easily resolved. The Office of the Provost and the Academic Affairs Division will allocate \$2.8 million in 2016-17 to clearing bottlenecks by funding up to 500 additional sections. Further measures are planned for 2017-18. Reducing pent-up demand for bottleneck courses will have a lasting effect – more students will be able to graduate on a shorter timeline thus freeing up capacity for larger cohorts of new students.

A number of related practices is currently being reviewed to remove unnecessary limits on access to bottleneck courses. For example, students had sometimes been told that they could not add a class, even as they saw available seats in the classroom, because it would cause us to exceed our resident full-time equivalent student (FTES) limit. Those FTES limits have been lifted for 2016-17. Similarly, the campus must examine student unit limitations and wait list policies to effectively capitalize on this investment in bottleneck courses.

In other cases, however, the issue is more complex. We have identified a number of courses where the bottlenecks are created because students have difficulty passing the course in the first place, and must retry a second, and even a third time, thus

increasing the demand for spots in the course. Close inspection of these cases reveals a relatively nuanced picture.

- While many of these courses are in the STEM disciplines, many are not.
- While some bottlenecks occur in large lecture courses, where one might expect instructors to have fewer opportunities to get to know their students individually, others occur in relatively smaller classes, where opportunities for student-faculty interaction are easier to create.
- While some of these cases appear to manifest themselves across all of the sections of a particular course, others appear to be limited to one or two sections. Where large numbers of students appear to struggle regardless of the course section, one might be tempted to attribute the greater course difficulty to the curriculum itself, to its alignment with students' prior coursework, or to teaching practices common across all sections of the course.

SJSU faculty have begun to address these issues through participation in an initiative sponsored by the CSU Chancellor's Office, Proven Course Redesign and Promising Practices. To date, faculty from several departments within the Colleges of Science and Social Sciences have worked with instructional designers from eCampus faculty support units, to design and implement technology-enhanced solutions to course bottlenecks. Their efforts have included developing:

- richer and more readily accessible on-line supplemental study materials;
- more elaborate and interactive homework and self-check instructional materials; and
- more engaging in-class teaching strategies.

As faculty incorporate these new elements into their courses, we are monitoring the impact on student success. Preliminary results from these courses are encouraging and informative, and they speak to the importance of striking the right balance of “high-tech” and “high-touch” solutions. As we gather more data, we are considering ways to scale those redesigns that seem most effective. We are also planning to track the degree to which students who have had the benefit of these enhanced courses may also be better prepared for the rigor of their subsequent coursework.

Short-term metrics*:

- Reduce the number of bottleneck courses in 2016-17 and 2017-18, currently estimated to be about 500 sections.
- The average number of units taken by undergraduate students will increase as bottlenecks are removed. The undergraduate average unit load is currently 12.4 (full time is 15).
- The average time to degree, which has consistently averaged about 5.2 years, will decrease.

Long-term metrics*:

- Improve the pass rate in redesigned courses.
- Improve three-year retention rates, currently at 64 percent for URM students, 68 percent for first-generation students and 73 percent overall.
- Reduce graduation gap between URM and non-URM students to 6 percent from 17 percent.
- Improve four-year graduation rates, currently at 10 percent, and six-year graduation rates, currently at 57 percent.
- Decrease the number of students who reference impacted courses as a concern on the Campus Climate Survey.

*Please note metrics are still being developed and will be updated.

Resources

SJSU has committed \$2.8 million to clear bottlenecks as identified by data and input from departments for 2016-17 and 2017-18. The university also

has grants, such as the CSU Proven Course Redesign and Promising Practices grants, and the First In The World grant that support curriculum redesign to clear course bottlenecks caused by low-pass rates.

Conclusion

Efforts to address course bottlenecks align well with the efforts to support our students’ success through attending to their college readiness, to advising them, and to engaging them more significantly, as outlined in other sections of this proposal. Associate Vice President for Academic Planning and Budgets Marna Genes will lead the Clearing Bottlenecks pillar of the proposed student success plan.