1. Overview

Southern Polytechnic State University is a comprehensive university with a state-wide mission to focus on science, technology, engineering, mathematics, architecture, and related fields. SPSU has seen 43% enrollment growth over the last decade, with a Fall 2009 enrollment of 5,186. SPSU serves a diverse student population, as indicated below. The American Society for Engineering Education ranks SPSU #1 in the country for the number of African-American students who earn bachelors and masters degrees in engineering-related technologies and #4 in the number of women earning bachelors degrees in these fields. In March 2010, GradeInflation.com listed SPSU among the country’s “Sweet Sixteen of Tough Graders” – the hardest schools in the country to earn an “A.” The author, a former Duke University professor, described Southern Polytechnic this way: “Another hard-nosed science and engineering school. Its state rival Georgia Tech is no piece of cake either, but SPSU gets the nod for a Sweet Sixteen seed this year.”

![Demographics of SPSU entering class in Fall 2009.](image)

The SPSU community started focusing its collective energy on issues of retention and graduation in a strategic planning process that was initiated in 2005 and completed in 2006. SPSU’s retention and graduation rates have historically been lower than most other comprehensive universities in the University System of Georgia. With the increased focus associated with the 2006 strategic plan, the rates improved, as reflected in the graphs below.
Figure 2. First-time, full-time freshmen at Southern Polytechnic State University retained into the sophomore year compared with the average retention rate for students in the comprehensive sector of the University System of Georgia; these represent the “institution-specific” retention rates.

Figure 3. Institution-specific six-year graduation rates comparing freshmen who first enroll at Southern Polytechnic State University and graduate from SPSU with those who first enroll at another comprehensive USG institution and graduate from that same institution within six years.

SPSU has made significant improvements in retention and graduation rates, but we are committed to doing much better. This report summarizes the major ways in which we plan to approach this effort.
2. Accomplishments and challenges

Although retention and graduation rates at SPSU have improved significantly over the last few years, they are still far lower than desirable, and the University community is seriously committed to increasing these rates. Several factors present particular challenges to SPSU in pursuing these changes. As has been reported to the Board of Regents previously, studies of factors that affect graduation rates include student demographics, academic preparation, financial characteristics, and institutional experiences, and these are all relevant to SPSU.

An important factor in understanding SPSU rates is where demographics and preparation intersect with the institutional mission. Southern Polytechnic’s curriculum is focused on science, technology, engineering, and mathematics, collectively known as the STEM fields; these academic disciplines represent about 80% of the degrees awarded at SPSU. Recent studies have shown that STEM majors have graduation rates that are significantly lower than those for students majoring in non-STEM fields. SPSU has a rigorous curriculum that builds on basic knowledge and skills in mathematics and the sciences.

In May 2005, SPSU created a committee to analyze undergraduate student retention, progress, and graduation. The committee identified that the strongest predictor of graduation was a student’s score on the first part of the Mathematics Assessment Test, which is given to entering students as a placement tool to determine whether they need to enroll in college algebra, pre-calculus, or calculus. Among undergraduate programs at SPSU, 82% require students to complete calculus, so mathematics competency is critical for student success. (Steps taken by the mathematics department to increase student success are described below.) The RPG Committee found that the Georgia county of origin was another strong predictor for graduation; students from areas classified by the U.S. Census Bureau as urban or suburban did better academically than those from more rural areas. The committee also considered high-school GPA, but the data were too highly variable, due to differing academic standards, and the GPA was not found to be a useful predictor of success at SPSU.

Overall, the committee determined that getting students enrolled in mathematics classes as soon as possible after enrollment at SPSU is important, regardless of the level of math. They also identified a critical need for support structures on campus to help students become engaged in the institution, including shared academic classes and a community of fellow students. The committee recommended an emphasis on creating learning communities, supported by an early warning system to help students find assistance, strong faculty advising, and department-based plans to improve retention and graduation rates. These findings contributed to the strategic planning processes in both 2005-2006 and in 2009-2010, and they led to the Quality Enhancement Project that was approved in 2009 by the Commission on Colleges of the Southern Association of Schools and Colleges.
3. The New Strategic Plan for 2010-2013

SPSU began a new strategic planning process in January 2009, which is coming to completion in May 2010. The plan was developed by the University Institutional Effectiveness Council, which has broad institutional representation of faculty, staff, administrators, and students. The process also included electronic discussion boards to engage the rest of the University community, consultations with the SPSU Foundation, alumni, and retirees, and periodic updates about progress to the faculty, staff, and student groups.

Through discussion, deliberation, review, and consultation, the University Institutional Effectiveness Council identified three major strategic goals that need focused attention over the next three-year period. These major strategic goals are as follows:

1. To increase the number of graduates who are well prepared for work and for life;
2. To increase the resources available to support the University’s mission; and
3. To increase the sense of community within the University and between the University and the region.

Each of these major goals has associated objectives and key indicators. When the plan is finalized, specific action plans will be developed at the departmental level. The strategic plan is evidence that improving retention and graduation is already an integral part of the planning process at SPSU.

The goals, objectives, and indicators that are most relevant to increasing retention and graduation rates at SPSU are listed below. In addition to specific actions, the new strategic plan includes the University’s specific goals for improving retention rates (to 84% by 2013) and six-year graduation rate (to 40% by Fall 2013, for the cohort that entered in 2007).

Excerpts from Southern Polytechnic State University’s New Strategic Plan: 2010 – 2013 (Draft 15 March 2010)

Goal 1. To increase the number of graduates who are well prepared for work and for life.

Objective: Increase the success (including retention rates and graduation rates) of enrolled students.

Key indicators:
- Develop and implement an early-warning system.
- Provide additional training for academic advisors.
- Fully implement and assess the University’s Quality Enhancement Plan by 2012.
- Develop and implement departmental plans to match the University’s goals for retention and graduation rates.
The objective and key indicators above are linked to USG Strategic Plan Goal One: Renew excellence in undergraduate education to meet students’ 21st century educational needs.

- The USG will improve graduation and retention rates by institution and sector.

Strategic Goal #2: To increase the resources available to support the University’s mission.

Objective: Increase the SPSU Foundation endowment by $4.6 million by 2013.

Key indicator:

- The Foundation will have at least 30 fully endowed scholarships (an increase of 15) for students by 2013.

The objective and key indicator above is linked to USG Strategic Plan Goal Five: Maintain affordability so that money is not a barrier to participation in the benefits of higher education.

- In anticipation of a larger, more diverse student population, the USG will explore alternative funding sources.

Strategic goal #3: To increase the sense of community within the University and between the University and the region.

Objective: Increase the diversity and inclusiveness of the University community.

Key indicator:

- Develop and implement a plan to increase the retention rate (freshman-to-sophomore) for Hispanic and Latino students from 40% to 65% by 2013.

The objective and key indicator above is linked to USG Strategic Plan Goal Two: Create enrollment capacity to meet the needs of 100,000 additional students by 2020.

- Georgia has a diverse population that will be reflected in the USG’s enrollment.

4. Key areas of focus in SPSU’s three-year plan

SPSU’s new strategic plan includes goals and actions to increase retention and graduation rates. The most relevant elements are described below in the order in which they appear as key indicators in the strategic plan itself.

a. Develop and implement an early-warning system.

SPSU students have reported needing and wanting frequent feedback about how they are doing in their classes. In the 2008 National Survey of Student Engagement, 41% of
SPSU seniors who responded to the statement “Received prompt written or oral feedback from faculty on your academic performance” gave ratings of “never” or “sometimes,” compared with only 32% for both the University System of Georgia and the entire Carnegie Classification.

To address this interest in more information about their academic progress, SPSU is developing additional forms of feedback for students about their academic performance. Pilot “engagement reports” have been implemented in which faculty provide feedback after the first few weeks of the semester, reporting whether students are “engaged” or “not engaged” in their courses. First-year students who are identified as “not engaged” will receive a letter from the Vice President for Student and Enrollment Services encouraging them to enroll in SPSU 1001 and providing information about other student support services that are available to them. In addition, SPSU is adding a mid-term report to students in which they receive an assessment of whether their work, to that point in the semester, is satisfactory or not. These early warning systems will increase feedback to students and maximize their opportunity to obtain assistance in classes, beyond the grades and other feedback they receive from faculty on tests and assignments. Faculty members are also increasing the use of GeorgiaView/Vista8 for providing feedback to students, even in classroom-based courses.

The early-semester and mid-term feedback to students has been partially implemented since 2006. Together, these early warning systems will be systematically and consistently used in Fall 2010. Specific metrics that will serve as indicators of success will be (1) decreased percentages of students receiving D, F, and W grades, (2) increased enrollment in SPSU 1001 (see below for further discussion of this course), (3) increased numbers of students seeking assistance from the advising, tutoring, and counseling centers, and (4) improvements in relevant scores in the National Survey of Student Engagement when it is administered in 2011. In the long run, the impact will be an increased retention and graduation rate.

b. Provide additional training for academic advisors

In 2009-2010, an Advising Task Force studied the University’s advising processes and recommended a new program: Student Success through Advising for Retention, Progress, and Graduation. The goal is to develop and deliver a program to SPSU faculty (both full-time and part-time) to increase their knowledge and skills in academic advising and to provide easily accessible advising support materials and resources for their use. The inclusion of part-time faculty is particularly noteworthy; as budget considerations shift teaching responsibilities to part-time faculty, their ability to assist students through advising becomes increasingly important.

The results of the committee’s work included a recommendation to create a group of Faculty Advising Fellows. The first group of four faculty members will serve as Advising Fellows from May 2010 to April 2011. Expectations for the 2011 Advising Fellows include the following:
• serve as a role model for faculty advising to SPSU faculty;
• help with the development and refinement of the Faculty Advisor Training;
• help identify and develop resources needed for faculty advisors;
• deliver a portion of the training programs for full-time and part-time faculty; and
• assist with the assessment of Faculty Advising Training.

Initial training for faculty will begin in May and June 2010, and this will be expanded to the entire corps of faculty during the 2010-2011 academic year. The Faculty Growth and Development Unit, which is leading this effort, is committed to using the elements of process improvement incorporated in Lean Six Sigma to strengthen advising, with action steps that include collecting data, measuring, analyzing, reporting results, and making subsequent improvements.

The measurable results of improved advising for students will include having at least 50% of traditional students and 40% of transfer students develop a two-year plan of study in concert with their academic advisor in 2010-11. This percentage will increase to include all students by the end of the 2014-2015.

c. Fully implement and assess the University’s Quality Enhancement Plan by 2012.

The process of reaffirmation of accreditation by the Commission on Colleges of the Southern Association of Colleges and Schools requires institutions to develop a Quality Enhancement Plan (QEP), a specific project that demonstrably enhances student learning. SPSU’s QEP is “Engaged Communities: Engaging Entering Students Through Learning Communities.” This project was approved by SACS with SPSU’s reaffirmation of accreditation in December 2009.

As part of the QEP, SPSU is developing learning communities and an associated orientation-to-graduation course, SPSU 1001; these learning communities involve students, faculty, and staff, and they represent a first-year experience for students enrolling at SPSU. First-time, full-time students will be assigned to learning communities of students who are enrolled, as a group, in an orientation-to-college course (SPSU 1001, described in more detail below), a course in their major, and a writing class. New transfer students will also be enrolled together in SPSU 1001, a major course, and a required class in Science, Technology, and Society (STS 2400). As part of this experience, these students will prepare an individual two-year plan of study with their advisor, with the explicit goal of graduation.

SPSU 1001 is a free, voluntary, one-credit-hour course that focuses on learning skills, time management, self-advocacy, problem solving, and University policies. SPSU 1001 was first offered in Fall 2005. Three or four sections of SPSU 1001 are offered each fall and spring, and 1,033 students have taken this course to date. At least one section has been taught on-line every semester from the beginning, and Honors sections have been added as word has spread among students about the benefits of this class. Some students
repeat this course multiple times because they report finding it useful in keep on track in their coursework.

SPSU 1001 will be mandatory for students in the School of Computing and Software Engineering in Fall 2010, and the results will be assessed in Summer 2011. The course will be required for students in the other schools and division in Fall 2011, and those results of this project will be evaluated in Summer 2012.

The measurable results of the engaged communities program, designed to create a culture of success for SPSU students, include the following. (Note: The QEP has a five-year timeline, so some of the goals fall slightly outside of the three-year plan included here.)

- Percentage of SPSU students participating in the Honors Program will increase from 4.0% by to 4.5% by 2015.
- Percentage of students actively participating in extra-curricular activities offered by their learning community clusters will be at least 50% for traditional students and 40% for transfer students in year one of full implementation (2011-12)
- Of the students enrolled in SPSU 1001, at least 70% will earn scores of satisfactory or better on questions embedded in quizzes about SPSU’s advising process and University policies.
- Of students enrolled in SPSU 1001, at least 70% will earn a score of satisfactory or better on the individual learning inventory and growth plans.

d. Develop and implement departmental plans to match the University’s goals for retention and graduation rates.

During the 2010-11 academic year, every academic department will develop a specific plan that addresses the University’s retention and graduation goals. Department-specific plans will be data-driven and include information on student demographics, academic preparation, and other factors.

Departments that offer key gateway classes will focus on encouraging student success in those classes. As one example, the Mathematics Department has added faculty-led recitation sections to all sections of college algebra, and the overall DFW rate in this course decreased from 50% to 38% between 2008 and 2009. Some sections of pre-calculus are offered in a five-day-per-week format, and students who are having difficulty are advised to enroll in these sections. The DFW rate in these classes dropped from 42% to 34% between 2008 and 2009.

As another example, the Architecture Department was experiencing a relatively high attrition rate among its majors. Between 2002 and 2007, the architecture program had an average first-year retention rate of 60%, and the percentage of students who were still enrolled after three years ranged from 7 to 11%. Through discussions with students, faculty identified that a primary cause for the attrition was students selecting an architecture major with limited knowledge of what the program of study involved. Although many of the pre-architecture students change majors and remain at SPSU,
helping students make more informed choices about majors at the beginning of their college careers will help decrease the time-to-graduation. To address this, the architecture program requires all accepted students to participate in a mandatory three-week summer design workshop. This workshop introduces students to a broader spectrum of the discipline and helps them understand more clearly what will be involved in pursuing this major. The architecture program has already seen the number of students receiving grades of W (withdrawal) in the first architecture studio course decrease from 23% (2003) to 10% (2009) since the summer workshop was initiated. The impact of this workshop on student grades and retention will be reassessed when additional retention data are available in Fall 2010.

e. The SPSU Foundation will have at least 30 fully endowed scholarships (an increase of 15) for students by 2013.

Among SPSU students, 68% work more than 10 hours per week, and 55% work more than 20 hours per week. Retention and progress toward graduation are slowed when students have financial challenges that require them to work, either full or part-time, in order to pay for tuition, fees, and books. The HOPE Scholarship makes a difference to many students; 60% of the students who entered SPSU in Fall 2009 benefited from this form of assistance. Financial aid can reduce or eliminate the need for students to work in order to support their education, enabling them to take a full course load, progress more rapidly toward graduation, and focus on their academic work.

In some cases, having a job can have a positive effect on retention; students who choose to participate in co-op experiences or internships are more likely to graduate, even though the time to graduation may be longer than it would have been otherwise.

SPSU’s goal of increasing privately funded scholarships for students is directly connected with the USG’s strategic goal to increase the affordability of a college education. The University is working with the SPSU Foundation to increase scholarship support for students. Until a few years ago, scholarships were primarily used as a way to recognize achievement after the student enrolled at SPSU. In the last five years, scholarships have been used more strategically in the recruiting and retention process. SPSU offers a variety of scholarships, including ones that are funded annually by donors and endowed scholarships. SPSU currently has 15 fully endowed student scholarships; the 2010 strategic plan includes a goal to double this number by 2013. (A fully endowed scholarship has a corpus of at least $20,000, and the interest can be used to assist multiple students.)

f. Develop and implement a plan to increase the retention rate (freshman-to-sophomore) for Hispanic and Latino students from 40% to 65% by 2013.

The 2010 strategic plan also includes a specific goal, under the category of supporting diversity on campus, to develop and implement a plan to increase the retention rate
(freshman-to-sophomore) for Hispanic and Latino students from 40% to 65% by 2013. Pursuit of this goal is being supported by funding from the Roberto Goizueta Foundation, which has provided endowed and annual scholarship support for Hispanic and Latino students and which has just funded a new position of recruitment counselor and retention advisor, which will be filled in May 2010.

**Conclusions and next steps**

The timeline for SPSU’s three-year plan to increase retention and graduation rates has already begun, concurrent with the new strategic plan for 2010-2013. The action plans advance the strategic goals of the University, and they are directly linked to the USG’s strategic plan.

SPSU is continuing to assess predictors of student success. ACT scores have some predictive value, and the SAT® writing test, which began in 2005, provides a new tool. Preliminary studies indicate that the writing test may be a better predictor than either the verbal or quantitative parts, and this option will be studied further. SPSU has been collecting this information since 2005, but the SAT® writing test has not been used in admissions decisions. A next step is to explore the value of using the writing test as a predictor of student success at SPSU.

In summary, Southern Polytechnic has improved its retention and graduation rates, but more work is needed. This is a topic that will continue to receive the focus of the senior leadership of the University, the Academic Leadership Council, Student and Enrollment Services, the general faculty, and other stakeholders. Efforts over the next three years will be driven by specific goals identified in SPSU’s new strategic plan for 2010-2013 and by the Quality Enhancement Plan to create learning communities, which was developed in 2009. The University’s specific target for improving retention rates is for 84% of the first-time, full-time freshmen who enroll in Fall 2012 to be retained in 2013. The six-year graduation-rate target is for 40% of the students who entered in Fall 2007 to graduate by Fall 2013.