

SCHOOL OF SCIENCE

STRATEGIC PLANNING AND ASSESSMENT FRAMEWORK ❖ JULY 1, 2006 – June 30, 2012

Outcomes Update – July 1 2012

School Aspirations: Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners; and Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.

Strategic Aspirations	Enduring Goals	Select Projects (2006-2012)	Select Outcomes (2006-2012)
<p>1) Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners.</p>	<p>1-A) Develop and continuously improve an <i>infrastructure</i> to support the School of Science’s strategic aspirations.</p>	<ul style="list-style-type: none"> • Develop policies, procedures, and guidelines to help ensure consistency, ‘institutional memory,’ and share best practices within and among programs. Design these to provide the opportunity to plan strategically and to make data-driven and evidence-based decisions. • Create a Student Advisory Board. • Work collaboratively with several institutional offices on long-standing and new challenges (e.g., facilities, enrollment management). 	<ul style="list-style-type: none"> • Developed several policies, procedures, and guidelines (e.g., Faculty Activity Report [FAR], planning FAR, professional travel, IT and equipment requests, Audit reports, Integrated Enrollment planning). • Developed a new Occupational Safety and Health Program for the Institutional Animal Care and Use Committee (IACUC). • Formed a Student Advisory Board, which meets at least once a semester (typically twice per semester). Example outcomes resulting from feedback include: major revisions to the SoS web site, improvements in course scheduling and academic advising, improvements in access to buildings and labs, creation of an annual spring event to highlight Science and our SoS student groups to the campus. • Roofs replaced, HVAC system balanced, HVAC coils replaced, Facilities work protocol developed. • Four SoS Department Chairs attended national-level workshop for new Chairs. • To “right-size” our programs, established targets for # of entering freshmen and # of total majors. In particular, this meant a decrease in # of entering freshmen in Biology and Chemistry, and an increase in Computer Science, Math/Statistics, and Physics. Met targets in most years (excluding Fall 2010, which was an anomaly year). Departments have also begun to more clearly define guidelines and qualifications for internal transfer and retention to the major. In summary, from Fall 2006 to Fall 2011, the cumulative #s in the SoS are: <ul style="list-style-type: none"> – # of total majors: net increase of 88 (1,155 to 1,243). – # of freshmen majors: net decrease of 19 (347 to 328). • Increased SoS budget and secured separate funding for 5-year strategic laboratory equipment/instrumentation replacement and acquisition plan.

School Aspirations: Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners; and Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.

Strategic Aspirations	Enduring Goals	Select Projects (2006-2012)	Select Outcomes (2006-2012)
<p>1) Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners.</p> <p><i>Continued</i></p>	<p>1-B) Strengthen and continuously improve academic programs that routinely and comprehensively employ <i>pedagogies of engagement</i>.</p> <p>1-C) Strengthen and continuously improve academic programs that challenge students to become <i>intentional learners and integrative thinkers</i>.</p>	<ul style="list-style-type: none"> • Strengthen participation in summer undergraduate research program. • Strengthen student engagement directly within program courses and curricula. • Better serve various groups of students who are underrepresented in the sciences. • Conduct periodic reviews of academic programs (self-studies and visits by external consultants) that are focused on strategic needs and continuous improvement. • Promote, encourage, and support faculty attendance at meetings related to pedagogy, teaching and learning, high-impact practices, outcomes assessment, etc. • Strengthen awareness and interest in grant and fellowship opportunities, with emphasis on funding for program-level and interdisciplinary opportunities. 	<ul style="list-style-type: none"> • Increased participation in summer undergraduate research program. In summer 2011, the SoS had 41 students and 19 faculty participating. • Increased # and % of students enrolled in credit-bearing, high-impact ‘engaged’ courses during the academic year (e.g., independent research, internship, capstone). Net increase of 97 students from 2006-2007 to 2010-2011 (281 to 378). • Awarded two NSF grants (S-STEM, URM) to support student success of underrepresented groups, and these have yielded great outcomes. Have adapted some strategies for other non-NSF-supported students (e.g., developed a peer-mentoring program for external transfer students) and planning to adapt other approaches more comprehensively. • Conducted program reviews of all departments, including ABET accreditation visit for Computer Science, ACS certification for Chemistry, and NCATE accreditation for secondary education programs. These resulted in a number of significant program improvements. Examples include: <ul style="list-style-type: none"> – Overhauled curricula in Chemistry and Physics. – New specializations in Physics, Math, and Chemistry. – More flexibility for students to study abroad. – Maximum # of yrs of accreditation/certification granted for CS & Chem. • Increased number of students studying abroad, and established relationships with several new global education providers. Three different SoS faculty member have developed three global courses (Biology, Chemistry, Physics). • Several SoS faculty members have attended conferences, meetings, and workshops focused on a range of teaching and learning topics (e.g., AAC&U, CUR, The Teaching Professor, MathFest, etc.) • Held a number of group and open meetings to discuss programmatic and interdisciplinary proposals, which resulted in several program-level and interdisciplinary grant proposal submissions. Examples include: HHMI, S-STEM, URM, MRI, ADVANCE, C-PATH, CCLI/TUES, Math-Bio, CreativeIT, Noyce, Microsoft, ROSES, NIH-UG programs, etc. An increasing number of proposals were submitted, and several were funded. • See Goal 2-D for more outcomes on grant-related efforts.

School Aspirations: Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners; and Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.

Strategic Aspirations	Enduring Goals	Select Projects (2006-2012)	Select Outcomes (2006-2012)
<p>1) Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners.</p> <p><i>Continued</i></p>	<p>1-D) Strengthen and develop <i>connections</i> with internal and external stakeholders.</p>	<ul style="list-style-type: none"> • Work collaboratively with several institutional offices to enhance interactions with 1) local and regional corporations and industries, 2) alumni, and 3) funding agencies. • Enhance marketing and promotion of SoS. • Conduct coordinated trips to the Washington, DC area to meet with program officers at funding agencies. • Contribute more First Seminars to the first-year program. 	<ul style="list-style-type: none"> • In collaboration with the Development Office, conducted several site visits, as well as other sustained communications, which resulted in successful relationships and awards (e.g., Bristol-Myers Squibb, National Starch, Scheuring-Plough). • In collaboration with the Development Office, held several conversations with individual donors, which has resulted in expanded and enhanced relationships, as well as >\$1 million in gifts. • In collaboration with the Alumni Office, distributed ‘annual giving’ letter(s) and held a number of events (receptions, panel discussions, etc.). • Created a new SoS Website, with significantly enhanced content (e.g., student, faculty, alumni, and course profiles; videos; faculty teaching and research interests; faculty office hours; student research and internship opportunities; student organizations; etc.). • Hired a Journalism major as an SoS student writer. • Conducted annual trips (except one year) to Washington, DC with good participation of faculty members from a variety of areas. Trips resulted in many high-quality proposal submissions and awards. • Significantly increased the number of FSPs offered by SoS faculty members in the first several years; the number has reached a plateau for now.

School Aspirations: Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners; and Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.

Strategic Aspirations	Enduring Goals	Select Projects (2006-2012)	Select Outcomes (2006-2012)
<p>2) Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.</p>	<p>2-A) Develop and continuously improve a <i>sense of community and shared vision</i> within the School of Science.</p>	<ul style="list-style-type: none"> • Provide regular opportunities for the SoS to remain engaged in the salient efforts of the SoS and College communities. • Strengthen and increase interdisciplinary and multidisciplinary connections. • Develop strategic plans for each academic department. • Conduct periodic reviews of academic programs (self-studies and visits by external consultants) that are focused on strategic needs and continuous improvement. • Strengthen seminar/colloquia series within academic departments and the SoS. 	<ul style="list-style-type: none"> • Held small-group meetings with cross-disciplinary groups of faculty members and staff members in 2006-2007 and again in 2010-2011. The first set of group meetings was critical for helping the Dean transition to TCNJ. Outcomes from the second set of meetings were also significant; in particular, these meetings led to the initiation of the 2011-2012 strategic planning efforts. • Held School of Science meetings each month. The format of the meetings has been modified several times in response to feedback from the SoS community. • Created a Student Advisory Board, which meets 1-3 times per semester. • Held monthly, informal SoS Teacher-Scholar Cafés. • Held a range of receptions, socials, and celebrations. • Held many meetings and conversations among interdisciplinary groups of faculty members to discuss potential targeted projects (e.g., HHMI, Math-Biology, Computational Science, Environmental Studies, Serving at-risk students, Public Health). Several led to successful interdisciplinary initiatives, programs, and grants. • Each department created a strategic plan (between 2006-2008), which led to substantive program-level conversation and goal-setting. • Conducted program reviews of all departments, including ABET accreditation visit for Computer Science, ACS certification for Chemistry, and NCATE accreditation for secondary education programs. These resulted in a number of significant program improvements (see above). • Expanded and enhanced the SoS Colloquium series, with at least two major speakers hosted per year, as well as 2-4 SoS faculty research seminars/panels per semester. • All departments held some type of seminar/colloquium events.

School Aspirations: Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners; and Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.

Strategic Aspirations	Enduring Goals	Select Projects (2006-2012)	Select Outcomes (2006-2012)
<p>2) Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.</p> <p><i>Continued</i></p>	<p>2-B) Strengthen and continuously improve the shift in faculty culture to the <i>teacher-scholar model</i>.</p>	<ul style="list-style-type: none"> • Develop position descriptions, candidate evaluation criteria, and on-campus interview protocols and practices for all faculty searches that are consistent with our mission, strategic aspirations, and the teacher-scholar ideal. • Right-size the SoS faculty to support our mission and strategic aspirations. • Support and promote diversity within the SoS faculty. • Encourage and support SoS faculty members to move through their careers via promotion. • Develop and refine “Disciplinary Standards for Scholarship” documents for each academic department that are consistent with the School of Science’s and College’s missions, strategic aspirations, and guiding principles. • Develop lists of peer and aspirant institutions for the SoS and each academic department. • Increase participation in mentoring independent research students and other deeply engaging, high-impact pedagogies. • Increase the rate of professional travel among faculty and students. 	<ul style="list-style-type: none"> • Prepared advertisements, evaluation criteria, and interview schedules that clearly indicated we support the teacher-scholar model. • Hired 24 exceptional teacher-scholars (34% of the SoS faculty), and did not compromise on quality just to fill positions in some unsuccessful searches. (Two searches are currently underway). • Since Fall 2006, the SoS has had an 8% increase in the percentage of women faculty members. (35% in Fall 2006 [21], and 43% in Fall 2012 [29]). • The SoS and School of Engineering are partners on an NSF-ADVANCE grant. • Since Fall 2006, 25 SoS faculty members have been promoted: <ul style="list-style-type: none"> – 16 to Associate Professor (8 women, 8 men) – 9 to Professor (5 women, 4 men) • Developed a set of principles to guide the development of the SoS’s ‘Disciplinary Standards of Scholarship.’ The SoS did this 4 years ahead of the College. Developed ‘Standards’ documents, and revisited and revised them several times. • Developed a generalized list of peer and aspirant institutions, and individual departments have adjusted the list for program-specific comparisons (e.g., program-level peers/aspirants). • Increased the # and % of students enrolled in high-impact, ‘engaged’ courses during the academic year. Net increase of 97 students from 2006-2007 to 2010-2011 (281 to 378). • Significantly increased professional travel in the SoS. In 2005-2006, 20 faculty members and 11 students traveled; in 2010-2011, 52 faculty members and 73 students traveled.

School Aspirations: Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners; and Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.

Strategic Aspirations	Enduring Goals	Select Projects (2006-2012)	Select Outcomes (2006-2012)
<p>2) Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.</p> <p><i>Continued</i></p>	<p>2-C) Increase awareness of the importance of <i>grant-writing</i>, with the goal of creating opportunities and increasing intellectual vitality.</p>	<ul style="list-style-type: none"> • Increase proposal submissions for strategic priorities and mission-aligned initiatives. • Conduct coordinated trips to the Washington, DC area to meet with program officers at funding agencies. • Work collaboratively with the Grants Office and IT to develop a new internal grant-planning and budget preparation program. 	<ul style="list-style-type: none"> • Distributed monthly (sometimes 6-8 week intervals), targeted “grant and fellowship reports” to the SoS faculty. These reports are tailored, organized, and disseminated for each of the SoS Departments. Notices are also sent to individual faculty members if there are opportunities that are particularly interesting and well-aligned with the individuals’ interests and goals. • Held many meetings and conversations with individual and groups of faculty members to discuss potential projects. • Held annual ‘funding’ trips to Washington, DC with good participation of faculty members from a variety of SoS departments and a few other non-SoS faculty members. Trips resulted in many high-quality proposal submissions and awards; other proposals are pending and planned. • Significantly increased interest in grant-writing, submission rates, and funding rates among SoS faculty and programs. <ul style="list-style-type: none"> – For example, in 2006, the SoS faculty submitted 6 proposals, with 5 different SoS PIs; there were 2 awards, totaling ~ \$90,000. In 2011, the SoS faculty submitted ~23 proposals, with 26 different SoS PIs; there were 14 awards, totaling ~\$1.3 million. – Cumulatively, from 2006-2012, the SoS has successfully secured over \$7 million in external grants. • The SoS led the way in advocating for, and in helping to develop, a new internal grant-planning program to replace ERSIPA (now eGrants).

School Aspirations: Provide premiere academic programs and transformational experiences in the sciences that intentionally educate students to become accomplished and engaged learners; and Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.

Strategic Aspirations	Enduring Goals	Select Projects (2006-2012)	Select Outcomes (2006-2012)
<p>2) Provide an academic climate and culture that recruits, retains, and supports the development of faculty as accomplished and engaged teacher-scholars.</p> <p><i>Continued</i></p>	<p>2-D) Strengthen and continuously improve the <i>culture for adjunct faculty</i>.</p>	<ul style="list-style-type: none"> • Increase communication and sense of community with and among the adjunct faculty. • Develop a program for: a) orientation, b) evaluation of teaching performance; and c) course coordination. 	<ul style="list-style-type: none"> • Held group meetings with adjunct faculty members in 2006-2007 and 2010-2011. • Adjunct faculty members have been included on many SoS email messages and are invited to social events. • The SoS Chairs Council has had regular conversations about better serving our adjunct faculty members, and it regularly shares best-practice approaches. <ul style="list-style-type: none"> – Several Departments now meet with adjunct faculty members who teach multi-section courses on some regularly frequency (e.g., once per semester, month, etc.). – Department Chairs, as well as other SoS faculty members, conduct peer teaching evaluations of adjunct faculty members’ classes and provide feedback. – Department Chairs developed an initial ‘guide book.’