

**Strategic Planning and Evaluation: College of Science and Engineering
AY 2006-AY 2010 (Last Revised February 8, 2005)**

Mission Statement

The College of Science and Engineering supports the mission statement of the University of Texas – Pan American by committing to excellence in instruction, student performance, research, scholarly accomplishment, and professional service, and by promoting the expansion of national and international emphasis in all major areas of institutional endeavor. The College strives to provide its students and faculty an environment of academic freedom that will insure the exchange of ideas and the dissemination of knowledge. The College will provide a strong scientific and technical foundation for all students of the university. The College will continue to pursue a strong research program involving undergraduate and graduate students and faculty in all areas of science, mathematics, computer science, and engineering, and a strong teacher preparation program in science, mathematics, and technology.

In pursuit of our mission, we seek:

Goal 1: To provide, in the College of Science and Engineering, a variety of quality academic programs grounded in the liberal arts so as to cultivate active learning, critical thinking, problem solving, and interdisciplinary perspectives.

Measurable Objectives

- 1) Continue to refine the College's mission statement and goals on a yearly basis.

Strategies

- The COS&E administrative staff will meet in each Fall Semester to initiate discussions regarding changes to the Mission Statement and Strategic Plan.
- Organize in summer of each academic year, a COS&E Strategic Planning retreat for the purpose of updating mission statements goals and measurable objectives.
- Present, on a yearly basis, an updated Strategic Plan for the College of Science and Engineering to the UTPA administration for approval.

- 2) Increase the integration of instructional technology in science, mathematics, engineering, and computer science courses by 25% in two (2) years.

Strategies

- Develop Center for Distance Learning and Teaching Excellence initiatives for COS&E faculty, so as to increase the integration of technology in SMET courses.

- Establish benchmarks to see how many faculty are using the Center for Distance Learning and Teaching Excellence and how many are using technology in their classroom teaching.
 - Continue to recognize faculty efforts to integrate instructional technology in SMET courses in tenure, promotion, and merit review processes.
- 3) To develop doctoral programs in manufacturing engineering and to develop a cooperative biomedical Ph.D. with neighboring health science institutions within five years

Strategies

- Develop graduate courses in focus areas of each discipline, and show student interest and regional needs of projected graduates from these programs.
 - Work with departmental faculty in the respective departments to develop proposals for doctoral programs in these disciplines for presentation to the university administration
- 4) To develop masters programs in engineering management and in chemistry within two (2) years.

Strategies

- Develop graduate courses in focus areas of each discipline and show student interest and regional needs of projected graduates from these programs.
- Work with departmental faculty in the respective departments to develop proposals for masters programs in these disciplines for presentation to the university administration.

Goal 2: To recruit, retain, and develop highly qualified faculty and staff by providing an environment that promotes excellence in teaching, research, service, and student success.

Measurable Objectives

[Recruitment Aspect]

- 1) Increase the number of Biology/Chemistry/Physics applicants from doctoral/research-intensive universities so as to attract at least 20 applicants per search pool, with adequate representation of women and minorities.

Strategies

- Develop networking arrangements with science and engineering departments at research universities.
- Develop collaborative research efforts with faculty at research universities to support networking.

[Retention Aspect]

2) Increase the retention of new faculty by 30% in five (5) years.

Strategies

- Work with administration to increase funds for position advertising and for interviewing expenses.
- Promote competitive salaries and salary scales.
- Continue to request and support 25% workload adjustments for new faculty in support of scholarship/research during their first academic year and also request additional faculty manpower to support these incentives
- Continue to request and support (laboratory) start-up funds for new faculty with an approved grant or with an approved research plan.
- Work with departments and search committees to ensure that searches are conducted in a timely manner.
- Provide orientation/consultation time for new tenure-track faculty.
- Continue to work with administration in maintaining equitable and competitive salaries.
- Work with administration to continue to provide opportunities for faculty members to develop professionally throughout their careers.
- Allocate undergraduate and graduate student assistantships to support faculty research efforts, and raise the graduate stipends to \$12,000.
- Work with administration to continue current efforts of providing research incentives and other research/scholarship enhancement seed money.
- Continue to work with the Office of Sponsored Research to support faculty research/scholarship efforts.
- Continue to encourage COS&E faculty to interact with the Faculty Development Council.
- Promote the faculty's use of the Center for Distance Learning and Teaching Excellence to promote technology-based delivery of instruction.
- Continue to recognize and reward, at the College level, outstanding faculty for their contributions to teaching effectiveness, professional achievement/scholarship, and professional service.
- Continue efforts to provide needed physical resources to support faculty instruction and ongoing research.
- Continue to promote access to essential learning resources to support the educational, research, and public service programs of the university.
- Expand the current efforts of working with other colleges to provide instructional support for science and engineering curriculum.
- Work with Administration to adopt the Regents Rules of a 9-hr workload to promote the faculty enhancement professional workload

Goal 3: To facilitate and reward excellence in scholarship and research, for the enhancement of knowledge in science, mathematics, computer science, and engineering that can be shared with the public through presentation, publication, and consulting.

Measurable Objectives

- 1) Increase the number of applications for sponsored grants by 20% per year for the next five (5) years.
- 2) Increase the number of funded sponsored grants obtained by COS&E faculty by 10% per year for the next five (5) years.
- 3) Provide a workload adjustment for research activities of 50% in four years for faculty teaching in doctoral programs.

Strategies

- Promote the concept of a research culture.
- Work with the administration to have a budget undergraduate and graduate teaching and research assistants under the direction of the College dean.
- Solidify the research agendas of the College of Science and Engineering and continue to explore expansion into new areas of research.
- Continue to seek funding to acquire larger numbers of student assistants for research.
- Work with the administration to seek higher funding for the Faculty Research Council.
- Support faculty efforts to publish their research findings and to present their work at conferences and symposia.
- Participate in faculty colloquium series events.
- Continue to reward faculty members for scholarship/research efforts.
- Continue to work with the Office of Sponsored Projects to increase research proposal solicitation.
- Expand COS&E faculty's interaction with External Affairs personnel so as to increase community, private sector, and foundation support of research.
- Work with administration to bring a lecture series featuring nationally recognized scholars/researchers.
- Work with administration to bring a scholar in residence program to the UTPA campus.
- Continue to seek adjustments to the workload policy that promote COS&E research efforts.
- Work with administration to acquire additional seed monies for advancing the college research agenda.

Goal 4: To encourage and support ongoing professional, university, and community service activities by faculty, staff, and students that enhance the quality of life of a multicultural and diverse learning community.

Measurable Objectives

[Professional Activities]

- 1) Increase opportunities for COS&E faculty and students to be involved in professional development activities by 20% in two (2) years.

Strategies

- Provide funding for COS&E faculty members to attend professional conferences and workshops
- Provide funding for COS&E students to attend student academic competitions, conferences and leadership activities
- Provide more opportunities for coops, internships, and volunteer activities for COS&E students.

- 2) Enhance community services for COS&E faculty and students.

Strategies

- Encourage faculty and students to engage in community service activities.
- Reward faculty for community service activities through tenure, promotion, and merit reviews.

Goal 5: To provide effective student recruitment, development, retention, and placement programs designed to promote and serve a diverse student population.

Measurable Objectives

[Recruitment Aspect]

- 1) Meet enrollment targets for each department as set by the dean and department chairs in accordance within the framework of the Strategic Enrollment Management Plan.

Strategies

- Use existing articulation agreements with community and technical colleges as a recruitment tool.
- Meet demands in concurrent enrollment and other college preparation programs as a recruitment tool.
- Take steps to acquire an advising specialist for COS&E.
- Continue to expand the role of the University Retention Advisement Program (URAP) in various COS&E recruitment activities.
- Work with administration to maintain in the COS&E Office, a college recruitment specialist, with background in science and engineering.

- 2) Work cooperatively with the Division of Enrollment Services in helping to recruit quality students for the College's programs.

Strategies

- Reward COS&E faculty and staff involved in student recruitment activities through contributions in Professional Service.

[Development Aspect]

- 3) Increase COS&E faculty and student involvement in student development activities.

Strategies

- Develop means to measure numbers of students involved in student development, and numbers of student development activities supported by the College. Examples include undergraduate research, internships and undergraduate competitions.
- Establish an alumni tracking system to measure impact of development activities.

- 4) Increase the pass rate for each COS&E teacher certification area to 90% in three (3) years.

Strategy

- Provide more effective TeXES workshops and review sessions for teacher preparation students.
- Develop strategies and incentives to help students improve themselves both academically and personally as an incentive for them to perform better on professional exams.

[Retention Aspect]

- 5) Increase the success rates in the following gatekeeper courses by 15% in two (2) years; College Algebra, Calculus I and II, Chemistry 1301 and 1302, Physics 1401 and 1402, and Physics 2301 and 2302.
- 6) Increase the full-time, first-time freshman retention rate by 10% in two (2) years
- 7) Increase the six-year graduation rate for COS&E majors by 5% in five (5) years.

Strategies

- Encourage better communication with Enrollment Service personnel as to effective methods in learning communities, advisement and recruitment.
- Continue to expand the role of URAP in various retention activities.

- Improve the orientation and advisement efforts of COS&E faculty and departments.
- Develop and expand within COS&E programs, learning communities and freshman interest groups to provide a sense of community and to better support beginning students.
- Seek external funding to create and/or enhance special programs within COS&E to increase student retention.
- Identify low-performing COS&E students and require faculty advising.
 - Block-schedule students' schedules to allow more flexibility to students' academic time and personal time.
 - Develop effective curriculum guides and degree audits teamed with effective advising.
- Investigate the creation of a College retention center.

[Placement Aspect]

- 8) Increase the placement of graduates entering graduate and professional school or employment related to their degree by 10% in two (2) years by increasing geographical distribution of graduates.

Strategies

- Continue to develop bridge programs to facilitate students' matriculation into graduate programs in science and engineering areas.
- Coordinate with the office of Career Placement Services to develop or expand placement programs designed to promote and serve a diverse student population
- Develop strategies for tracking the number of students in each discipline who are successfully placed in jobs or accepted in graduate or doctoral programs after graduation.
- Ask for a listing from OIRE or the UTPA Alumni Association of CoS&E graduates for information and for follow-up studies on retention and success factors.

- 9) Increase the growth of enrollment in SMET courses by eight (8) percent in two years.

Strategies

- Continue to work with Office of Recruitment and Retention and COS&E URAP staff to recruit and retain larger numbers of freshmen students into COS&E programs.
- Encourage faculty and student ambassadors from the College to carry out recruitment activities and to take a larger role in visiting secondary schools for recruitment activities.
- Bring to campus, increased numbers of secondary school students, individually and in groups, for campus tours, building tours, science and engineering fairs, and other activities.

- 10) Increase student enrollment figures in science and mathematics teacher preparation programs by 10% in two (2) years.

Strategies

- Actively recruit COS&E students into teacher preparation programs in the natural sciences and mathematics.
- Work with local ISD's and campus principals to encourage collaborative proposals with COS&E faculty, proposals that would support teacher preparation in these areas.
- Study the issue of an emphasis in Science Education by recruiting science education faculty into COS&E science departments.

Goal 6: To develop, implement and coordinate an ongoing planning, evaluation, and dissemination process designed to ensure academic excellence.

Measurable Objectives

[Planning]

- 1) Review and enhance the systematic planning and evaluation process for the College of Science and Engineering by AY 2006.

Strategies

- Establish learning outcomes for each academic unit in COS&E.
 - Review and enhance, on a yearly basis, the planning and evaluation process for COS&E programs.
 - Design and produce a comprehensive planning and evaluation document for COS&E.
 - Pursue professional accreditation for COS&E programs whenever possible
- 2) Review the assessment of programs to complete the cycle of continuation improvement in the college by AY 2006.

Strategies

- Identify audiences.
- Acquire alumni database for tracking and assessment.
- Develop reporting mechanisms and formats.
- Produce progress reports for various audiences.
- Post information on COS&E Website

[Evaluation]

- 3) By AY 2005, implement procedures for systematically evaluating the progress of the College in achieving its learning outcomes.

Strategies

- Assess academic units within COS&E.

- Implement general education assessment.

Goal 7: To identify, provide and maintain appropriate resources that support academic programs, faculty, staff, and students.

Measurable Objectives

[Identify resources]

- 1) Increase the number of proposal applications for external funding by 25% in two (2) years.

Strategies

- Actively seek and disseminate information about sources of funding that will benefit academic programs, faculty, staff and students at UTPA.
 - Encourage the faculty and staff to apply for external funding to support academic programs, research efforts, creative activities, and student involvement.
- 2) Increase the number of contacts between colleges/departments and community industries /organizations by 25% in two (2) years.

Strategy

- Cooperate with the Division of External Affairs and its fundraising plans.
- 3) Work with External Affairs to develop a seed money fund for discretionary travel.

[Increase availability of resources]

- 4) Increase the amount of external funding received from successful grants by 25% in two (2) years.

Strategy

- Provide assistance to the faculty and staff in developing applications for external funding.
- Work with administration to provide rewards to faculty receiving grants out-side current merit system.
- Increase IDC to 50% to College and 250% to Department.

- New faculty will be asked to submit two proposals per year until research program is sufficiently funded.

5) Increase the level of external sources received, exclusive of grants, by 25% in two (2) years.

Strategy

- Collaborate with the Division of External Affairs to develop campaigns to seek external support.

[Ensure appropriate utilization of resources]

6) Improve the instructional laboratory utilization rate by 20% in two (2) years.

Strategies

- Conduct a needs assessment by college, establish priorities, and develop a utilization plan for each college.
- Coordinate scheduling of classes throughout the day.

7) Increase research space square footage by 20% by the end of AY 2006.

Strategy

- Conduct a needs assessment by college, establish priorities, and develop a long-term research space plan for each department.

Goal 8: To provide academic leadership for the College of Science and Engineering

Measurable Objectives

1) Continue to increase the involvement of the dean, department chairs, directors, and academic committees in systematic planning for the next two years

Strategies

- Exhibit academic leadership by providing results in external funding, student outcomes, and faculty productivity.

- Document planning and results.

2) Enhance the productivity of the dean of the COS&E.

Strategies

- Increase research analysis in all academic units of the College.

3) Increase the opportunities for the dean and department chairs to enhance their leadership skills.

Strategies

- Seek opportunities for leadership training.
- Work with administration to insure resources for leadership training.

4) Upgrade the level of communication in the COS&E by AY 2006.

Strategies

- Maintain the College Web site as a resource for directors, department chairs, and staff in the college of Science and Engineering
- Design, produce, and disseminate a state-of-the-division report or newsletter annually.
- Work with the Provost and the Research VPAA to improve data readily available for research and institutional profiles.

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| <p>Goal 9: To promote and support the use of technology and pursue the adoption of emerging academic and research platforms</p> |
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Measurable Objectives

1) Increase the integration of instructional technology in general education courses of the college by 25% by 2007-2008.

Strategies

Continue to encourage the use of the Center for Distance Learning and Teaching Excellence to integrate technology.

- Promote recognition of departmental efforts to integrate instructional technology in general educational courses.

2) Develop a comprehensive website for the College of Science and Engineering by AY 2005-2006

Strategies

- Assign the website to a staff member in the College of Science and Engineering so as to maintain and update the site on a regular basis.
- Approve the design and implement the project.

Goal 10: To promote and establish increased empowerment of the college dean and department chairs in decision making and in distributing financial resources so as to facilitate the accomplishment of the goals of the COS&E

1) Work with the Provost to establish an allotment of faculty workload reduction to the dean of the COS&E.

Strategy

- Work the Faculty Senate and the Provost to make the required changes in the H.O.P.

2) Secure approval to empower the Dean to serve as the final signature authority on routine budget changes, travel applications, academic courses substitutions, new faculty salaries, start-up funds and other routine matters.

Strategies

- Develop a policy to allow the Provost to allot a budget to the dean for new faculty salaries and start-up funds, greater control over hiring, and in decisions and in assigning incentive raises.
- The dean will distribute, based on the recommendation of the department chair and the mission and goals of the COS&E, the start-up funds after reviewing research plans.
- The dean will be empowered to make staff promotion decisions within the College based on a budget allotment.