Strategic Planning and Evaluation: Department of Mathematics
AY 2006 – AY 2010 (Last Revised December 1, 2003)

Mission Statement

- **To support the College of Science and Engineering mission stated by committing to excellence in instruction, student performance, research, scholarly accomplishment and professional service.**
- **To provide students of mathematics an environment of academic freedom that will ensure the exchange of ideas, the dissemination of knowledge and the appreciation of Mathematics.**
- **To inspire students with an appreciation of the impact of mathematics in a global economy, and with respect for the contributions made by previous generations.**
- **To provide students analytical foundations empowering them to pursue chosen courses of study where they can apply mathematics meaningfully for the purpose of contributing to current and future societal needs.**

In pursuit of our mission, we seek:

Goal 1

To provide, in the Department of Mathematics, a variety of quality academic programs grounded in the liberal arts that cultivate active learning, critical thinking, problem solving, and interdisciplinary perspectives.

Measurable Objectives

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

   Strategies
   - Request faculty input for the Spring Departmental Planning Retreat.
   - Organize in spring of each academic year, a Departmental Planning retreat including updating of the mission statements goals and measurable objectives.
   - Present, on a yearly basis, an updated Strategic Plan for the Department of Mathematics to the College of Science and Engineering for approval.

2) Increase the integration of instructional technology in science, mathematics, mathematics education and statistics.

   Strategies
   - Continue to encourage use of the Center for Distance Learning and Teaching Excellence by Mathematics faculty to increase the integration of technology in Mathematics courses.
   - Continue to recognize faculty efforts to integrate instructional technology in SMET courses in tenure, promotion, and merit review processes. Rules for this recognition must be introduced in the departmental rules for all faculty evaluation purposes.
   - Develop a five-year spending plan for using the technology fee funds, in one (1) year.

3) Develop a growth plan of the Masters in Mathematics.

Strategies

- Identify growth-areas.
- Form subcommittees in the Graduate Program Committee in order to take care of the identified Growth Areas.

4) Continue to incorporate additional writing skills and additional critical thinking skills into COS&E lower-level courses.

Strategies

- Utilize and involve the University Writing Center and the Faculty Development Council in faculty teaching.
- Promote the participation of Mathematics faculty in recitation sessions and other forms of enrichment instruction for developing student skills in writing and critical thinking, and reward faculty in merit, tenure, and promotion reviews for these efforts.

5) To develop a doctoral program in mathematics by the end of academic year 2007-2008.

Strategies

- Review studies for detecting the student's interest and regional needs for the doctoral program.
- Develop graduate courses in focus areas of each discipline.
- Update the five-year plan for Ph.D. in mathematics proposal beginning every year in the Spring Retreat.
- Work with dean of COS&E and associate vice president for Graduate Studies to evaluate progress of the doctoral program proposal on an annual basis.

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 applicants from doctoral/research-extensive universities by 10%.

Strategies

- Develop networking arrangements with mathematics departments at research universities.
- Increase 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

- Develop a plan to institutionalize the LSAMP research program.
- 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 stipend to $12,000.
- Work with administration to continue current efforts of providing research incentives and other research/scholarship enhancement seed money.
- Encourage and facilitate the work of faculty with the Office of Sponsored Research to obtain support for research/scholarship efforts.
- Continue to encourage Mathematics 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. Every year
- Work with the dean and other chairs in the College of Science and Engineering to adopt the Regents Rules of a 9-hr workload to promote the faculty enhancement professional workload. Every Spring Retreat

Goal 3

To facilitate and reward excellence in scholarship and research, for the enhancement of knowledge in mathematics, mathematics education and statistics that can be shared with the public through presentation, publication, or 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 mathematics 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 a doctoral program.

Strategies

- Promote the concept of a research culture.
- Work with the dean in order to obtain approval from the administration to have undergraduate and graduate teaching and research assistants under the direction of the College dean.
- Continue to develop the research agenda of the Department of Mathematics by exploring expansion into new areas of research.
- Continue to seek funding to acquire larger numbers of student assistants for research.
- Work with the dean of other chairs 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 departmental 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 in the area of Mathematics.
- Work with administration to bring a scholar in residence program to the UTPA campus.
- Continue to seek adjustments to the workload policy that promotes departmental research efforts.
- Work with administration to acquire additional seed monies for advancing the college research agenda. (January or February every year before Budget Hearings.)

Goal 4

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

Measurable Objectives
[Professional Activities]

1) Increase opportunities for faculty and students in the Department of Mathematics to be involved in professional development activities by 20% in two years.

Strategies

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

[University Activities]

2) Enhance community services for departmental 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 department as set by the dean and department chair in accordance 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.
- Continue to expand the role of the University Retention Advisement Program (URAP) in departmental recruitment and retention activities.
- Work with administration to maintain in the COS&E Office, a college recruitment specialist, with background in science and engineering.

Continue to work with TexPREP and other outreach programs, sending faculty and student speakers.

2) Work cooperatively with the Division of Enrollment and Students Services in helping to recruit quality students for the Department of Mathematics.

Strategy

- Reward faculty and staff in the department of Mathematics involved in student recruitment activities either in merit, tenure, or promotion considerations.

[Development Aspect]

3) Increase Mathematics faculty involvement in student development activities.

Strategies

- Develop means to measure numbers of students involved in student development activities, and number of student development activities supported by the Department. 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 teacher certification in Mathematics to 90% in three (3) years.

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

[Retention Aspect]

5) Increase the success rates in gatekeeper courses by 15% in two (2) years.

6) Increase the full-time, first-time freshman retention rate by 10% every two (2) years

7) Increase the six-year graduation rate for Mathematics 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 COSE&E faculty and departments.
- Develop and expand within the department's 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 in the department to increase student retention.
- Identify low-performing Mathematics majors 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.
- Cooperate with the investigation 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 distributions of graduates.

Strategies

- Continue to develop bridge programs to facilitate students' matriculation into graduate programs in mathematics.
- 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 Mathematics who are successfully placed in jobs or accepted in graduate or doctoral programs after graduation.

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 COAS&E programs.
- Encourage faculty and student ambassadors in the department 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.
- Reactivate the Mathematics Awareness Team.

10) Increase student enrollment figures in mathematics teacher preparation programs by 10% every 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 a degree in Science Education

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 component of the department.
- Review and enhance, on a yearly basis, the planning and evaluation process for the department's programs.
- Design and produce a comprehensive planning and evaluation document for the department.
- Pursue professional accreditation for department's program whenever possible.

2) Review the assessment of programs to complete the cycle of continuing improvement in the department to be completed in the Spring 2006.

Strategies

- Identify audiences.
- Work with alumni database for tracking and assessment.
- Develop reporting mechanisms and formats.
- Produce progress reports for various audiences.
- Post information on departmental Website.

[Evaluation]

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

Strategies

- Assess academic units within the department.
- 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% every 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 years.

Strategy

- Cooperate with the Division of External Affairs and its fundraising plans.

3) Participate in the COS&E's efforts to work with External Affairs to develop a seed money fund for discretionary travel.

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

- Provide assistance to the faculty and staff in developing applications for external funding.

- Work with the dean of the COS&E to provide rewards to faculty receiving grants outside the current merit system.
- Increase I.D.C. to 250% to Department.
- New faculty will be asked to submit 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 campaign to seek external support.

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

Strategy

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

7) Increase research square footage by 20% by the end of AY 2005

Strategy

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

Goal 8

To provide academic leadership for the Department of Mathematics.

Measurable Objectives

1) Increase the involvement of the department chair, directors, and academic committees in systematic planning 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 chair of the department of Mathematics.

Strategies

- Increase clerical help.
- Increase research analysis.

3) Increase the opportunities for the department chair and chairs of committees to enhance their leadership skills.

Strategies

- Seek opportunities for leadership training.
- Work with the dean of the COS&E to insure resources for leadership training.

4) Upgrade the level of communication within the department and with the COS&E.

Strategies

- *Maintain the Departmental Web site as a resource for directors, faculty, staff and students in the department of Mathematics*
- Design, produce, and disseminate a state-of-the-department report annually.
- Work with the dean of the college to improve data readily available fro research and institutional profiles.

Goal 9

To promote and support the use of technology and pursue the adoption of emerging academic and research platforms.

Measurable Objectives

1) Increase the integration of instructional technology in general education courses of the department by 25% by 2007-08.

Strategies

- Continue to encourage the use of the Center for Distance Learning and Teaching Excellence to integrate technology.
- Promote recognition of faculty efforts to integrate instructional technology in general education courses.

2) Contribute to the development of a comprehensive website for the COS&E by AY 2003-04.

Strategy

- Coordinate the efforts of the department's web master with the website staff member in the COS&E to update the college website.

Goal 10

To promote and establish increased empowerment of the department chair in decision making and distributing financial resources so as to facilitate the accomplishment of the goals of the department.

1) Work with the dean of students to establish an allotment of faculty workload reduction to be presented to the department.

   Strategy

   - Cooperate with the dean of the COS&E in his work with the Faculty Senate and the Provost to make the required changes in the H.O.P.

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

   Strategies

   - Contribute to develop a policy to allow the Provost to allot a budget to the dean for new faculty salaries and start-up founds, greater control over hiring and in decisions and in assigning incentive raises.
   - Based on the mission and goals of the Department, the department chair will make recommendations to the dean for the Department to obtain a share of the start-up found.
   - The department chair will make staff promotion recommendations to the dean of the College, who will make decisions within the College, based on a budget allotment.