

Annual Action Plan: June 1, 2006–May 31, 2007

Unit: Department of Mathematics

UTPA Mission: The University of Texas-Pan American (UTPA) serves the higher education needs of a rapidly growing, international, multicultural population in the South Texas Region. The University preserves, transmits and creates knowledge to serve the cultural, civic, and economic advancement of the region and the state. The University provides students advanced instruction in academic programs offered through innovative delivery systems that lead to professional certification, and baccalaureate, master's and doctoral degrees. Through teaching, research, creative activity and public service, UTPA prepares students for lifelong learning and leadership roles in the state, nation and world community.

Division: Academic Affairs

Unit Head: Lokenath Debnath

Unit Mission:

- 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.

UTPA Goal:

Provide Students with a quality educational experience that enables them to complete their educational goals in a timely fashion

Academic Affairs Objective:

Review and restructure all educational programs to ensure that students complete their educational goals in a timely fashion.

College/AVP Objective:

Give students, and design programs with, more flexibility to meet core requirements, and reduce time to graduation.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Review and reevaluate required courses for all B.S. majors in the COSE. (1)	Charge the departmental curriculum committee with reviewing BS requirements	Programs requirements will be reduced to 120 hours.	The BS mathematics programs will be reduced to 120 hours.	none

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UTPA Goal:

Provide Students with a quality educational experience that enables them to complete their educational goals in a timely fashion

Academic Affairs Objective:

Assist students in defining their educational goals and support them in reaching those goals in a timely manner.

College/AVP Objective:

Provide students with resources needed to succeed.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Provide students with resources needed to succeed. (2)	Work with the University Scholarship personnel to make the scholarship application process more user friendly.	Get scholarship applications available online for all the Mathematics scholarships.	Count the number of departmental scholarship applications available online.	none
	Make the scholarship opportunities more available to students taking Math Courses.	Put bulletin boards to advertise scholarships. Post scholarship information in all the poster boards in the MAGC building.	MAGC building manager records of scholarship posting	none
	Enhance academic advisement processes by coordinating with the Academic Advisement and Mentoring Center.	Locate professional advisors in our buildings close to where faculty offices are located.	Is there an academic advisor in one of the faculty office areas?	none
	Enhance tutoring for Mathematics students.	New Mathematics tutoring lab will increase the total number of students tutored.	Count the number of students tutored in the Mathematics Department tutoring services.	none
	Advise all Mathematics majors before semesters.	No student will be left out from advisement.	Undergraduate Student Advisor keeps track of students advised and compares it to list of Math majors.	none

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UTPA Goal:

Become an outstanding research institution, emphasizing collaborative partnerships and entrepreneurship.

**Academic
Affairs
Objective:**

Forster intramural and extramural collaborative research partnerships

**College/AVP
Objective:**

Increase research collaborations among departments and other colleges and universities.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Increase funded research collaborations among departments and other colleges and universities.(3)	Build on existing contacts by submitting collaborative proposals and host research symposiums so faculty can share research interests.	Number of collaborative proposals submitted.	"Form C" reports from faculty members on their proposals.	none
	Invite faculty researchers to UTPA to give guest lectures on their research.	Number of research symposiums.	Faculty research lectures that involve other universities or other research organizations.	\$1000 to support the symposium and Colloquia Committees in the Math Dept.
	Encourage and support faculty to present their research at conferences and at research universities.	Number of research presentations made at other universities and at conferences.	Faculty research lectures made at other universities or other research organizations.	\$5000 to support faculty travel of Math faculty.

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UTPA Goal:

Become an outstanding research institution emphasizing collaborative partnerships and entrepreneurship

**Academic
Affairs
Objective:**

Establish a research environment that is student-learner centered.

**College/AVP
Objective:**

Hire strong research faculty who can teach.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Hire strong research faculty who have a strong interest in teaching.(4)	Discuss the dual role expected of faculty at UTPA when we recruit new faculty	Number of undergraduate students trained by each faculty member.	Form C reports filled out by faculty members with the count of undergraduate students giving formal presentations or writing research publications or making poster presentations.	COS&E funding (\$3000) for poster competitions.

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UTPA Goal:

Become an outstanding research institution emphasizing collaborative partnerships and entrepreneurship.

Academic Affairs Objective:

Provide support for the improvement of the research infrastructure.

College/AVP Objective:

Increase space and resources for research.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Increase space and resources for research. (5)	Present the Dean of COSE a proposal for recovering space in the third floor of the MAGC building that is presently used by other units	Number of square feet of research space dedicated to faculty research.	Tabulate the number of square feet of faculty research space per FTE Tenure or TT faculty member.	none
	Maintain research equipment.	Number of research instruments that are replaced or added each year.	HEAF dollars or grant funds used to replace or expand the research instrument base	Continue to request equipment funds from HEAF.

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UTPA Goal:

Become an outstanding research institution emphasizing collaborative partnerships and entrepreneurship.

**Academic
Affairs
Objective:**

Establish a framework for external support of research and entrepreneurial activities.

**College/AVP
Objective:**

Increase funding for research through endowments, grants, contracts, and gifts.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Increase funding for research through grants, contracts and gifts. (6)	Reward faculty for success in bringing research funds to UTPA.	Total external funds awarded to the College of Science and Engineering.	Have the funds increased over the 2005-06 by 10% or more?	none
Expand student research symposiums. (7)	Assist student organizations in Mathematics and related areas.	Organize annual Math Student Research Day.	Was there a Math Student Research Day?	\$200 for organizing student Research Days

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UTPA Goal:

Enhance UTPA's engagement with the community to meet challenges and maximize opportunities

**Academic
Affairs
Objective:**

Promote engagement with existing organizations to address challenges and opportunities

**College/AVP
Objective:**

Find niches in the community where COSE expertise can help.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Use faculty to speak at public meetings and service clubs. (8)	Contribute to the COS&E's Speaker's Resource List from the Math Department and distribute to Rotary clubs, Lions clubs and other interest groups	Increase in the number of lectures given by faculty.	Request information from faculty at the end of Spring 2007.	none

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UTPA Goal:

Enhance UTPA's engagement with the community to meet challenges and maximize opportunities

**Academic
Affairs
Objective:**

Promote engagement with existing organizations to address challenges and opportunities

**College/AVP
Objective:**

Create partnerships with local businesses and organizations to serve needs of the community.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Develop advisory councils made up of individuals from the local and regional community similar to the ones in engineering and in computer science. (9)	Contribute to COSE's efforts to support the Coastal Studies Lab advisory group.	Number of Math faculty interested in the project.	Report of interested faculty to the Dept.	none

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UTPA Goal:

Enhance UTPA's engagement with the community to meet challenges and maximize opportunities

**Academic
Affairs
Objective:**

Promote engagement with existing organizations to address challenges and opportunities

**College/AVP
Objective:**

Continue to participate in and promote community events.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Enhance the HESTEC engagement with the community. (10)	Open the MAGC building to the public during HESTEC.	Increase Community Day activities in the MAGC building.	How many people participated in the HESTEC events in the MAGC building? (sign book)	none
	Provide assistance in various HESTEC events.	Increase the number of faculty Math faculty assisting in HESTEC events.	How many faculty provided assistance in HESTEC events?	none

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UTPA Goal:

Collaborate with K-12 schools to enlarge the pool of applicants who are personally prepared and academically qualified for higher education

Academic Affairs Objective:

Establish expectations/standards that define students who are personally prepared and academically qualified for college.

College/AVP Objective:

Promote and enhance educational/research opportunities for P-12 student, and establish standards for students entering COSE.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Promote and enhance educations and research opportunities for K-12 students. (11)	Host summer programs with Mathematics content.	Participation rate increased above the 2006 rate.	How many students participated in summer intervention programs?	Various funding sources such as grants or other agencies funding.
	Use the Coastal Studies Lab to host K-12 school groups to learn about the marine environmental research	The number of participants as reported monthly by the CSL staff: Dr. Miguel Nevarez	Did the number increase by 20%?	Dr. Nevarez salary support for 75% of his support from UTPA.
Expand TexPREP and SciPREP. (12)	Work with the Division of External Affairs to seek funds from external sources to support these programs	Increase number of participants up to 300 students.	How many students participated in the programs?	External Support. Number of students who participate in the summer programs decreased in 2006 due to lack of funding.

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UTPA Goal:

Infuse Inter-American and global perspectives through the University community.

**Academic
Affairs
Objective:**

Increase and improve international activities on campus

**College/AVP
Objective:**

Promote and enhance collaborations with universities and organizations with international emphasis.

Unit Objective	Strategy(ies) to Achieve Unit Objective	Measurable Outcome for Unit Objective	Assessment Criteria, Evaluation Methods for Measurable Outcome	New Resources Needed in FY07
Contribute the expansion of the ITESM-Guadalajara program. (13)	Work with associate Dean Dr. Gonzalez through a Math Department appointed faculty.	Count of Mathematics students in the ITEMS Guadalajara program.	The Math Department representative will report to the chair of the Department the progress made.	none