



# Annual Assessment Report: June 1, 2004–May 31, 2005

**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:** Dr. 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.

**Unit Goal:** Increase Faculty and Student Research Opportunities

- Link to UTPA Goal(s):**
- 1: Ensure Undergraduate Student Access and Success
  - 2: Enhance Graduate Education and Research

Unit Objective (Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome	Assessment Criteria, Evaluation Methods	Assessment Results (Use actual data to describe annual performance)	Use of Results (What change was made?)
Increased research (1)	2, 4, 5	Increase the number of publications by faculty and students of the Department of Mathematics by 15%.	The department chair, with the help of the department's planning committee chair, will determine the number of papers in progress, papers presented for publication, papers accepted for publication and papers published by the Math faculty for AY 2005 and	The number of papers in progress increased from 9 to 10 (11%), the number of papers presented for publication increased from 13 to 15 (15%), the number of papers accepted for publication increased from 6 to 7 (17%), and the number of papers published increased from 9	The Department of Mathematics increased its visibility at the international national and regional levels, and made good groundwork to continue this improvement next year.

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Unit Objective (Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome	Assessment Criteria, Evaluation Methods	Assessment Results (Use actual data to describe annual performance)	Use of Results (What change was made?)
			compare to those of AY 2004. The end of each respective academic year (August 31) will be used as the effective date for counting.	to 13 (44%). The average increase in publications was 22%.	
		Increase the number of research presentations made by faculty and students by 15%.	The department chair, with the help of the department's planning committee chair, will determine the number of research presentations by the Math faculty for AY 2005 and compare to those of AY 2004. The end of each respective academic year (August 31) will be used as the effective date for counting.	Thirteen (13) research presentations by the Math faculty for AY 2005 compare to eleven (11) in AY 2004  The percentage change was 18% for the number of research presentations.	The research community of the department continued to develop a cooperative environment.
		Increase the number of external grants received by faculty by 10%, and the number of proposals submitted by 15%.	The department chair with the help of the chair of the department's planning committee will determine the number of projects funded out of proposals presented by the Math faculty for AY 2005 and compare to those of AY 2004. The end of each respective academic year (August 31) will be used as the effective date for counting.	The number of external grants received increased from 6 in AY 2004 to 9 in AY 2005. The number of proposals submitted increased from 8 to 11.  The number of external grants received by faculty increased by 50% and the number of proposals submitted increased by 37%.	The most important change was the cooperation of younger faculty with established faculty. This cooperation gave very good results. The new faculty hired in the last three or four years have already obtained grants, proving the success of the research release policy.
		Increase the number of students with undergraduate research experience by 10%.	The department chair, with the help of the chair of the department's planning committee, will determine the number of students doing undergraduate	The number of students doing undergraduate research increased from 3 in AY 2004 to 5 in AY 2005.  Undergraduate research	The increase in undergraduate research has made possible an increase in attendance at presentations by recruiters in Mathematics programs.

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Unit Objective (Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome	Assessment Criteria, Evaluation Methods	Assessment Results (Use actual data to describe annual performance)	Use of Results (What change was made?)
			research supervised by the Math faculty for AY 2005 and compare to those of AY 2004. The end of each respective academic year (August 31) will be used as the effective date for counting.	experience increased by 67%.	
		Increase the number of faculty participating in student-based activities by 10%.	The department chair, with the help of the chair of the department planning committee, will determine the number of organizations and student-based activities supported by the Math faculty for AY 2005 and compare to those of AY 2004. The end of each respective academic year (August 31) will be used as the effective date for counting.	The number of faculty participating in student-based activities increased from 4 in AY 2004 to 5 in AY 2005.  Student-based activities increased by 25%.	The students have been integrated in departmental activities, and have invited faculty to their activities. This has begun a promising trend given that there are a large number of new faculty members who are experiencing this new environment.
		Increase the number of students matriculating into graduate programs by 10%.	The department chair with the help of the graduate coordinator will report to the dean, by August 31 of AY 2004 and AY 2005, the number of students matriculating in the department's M.S. and in other graduate schools during each academic year. The end of each academic year (August 31) will be used as the effective date for counting.	The number of students in the Math Department's MS program increased from 6 in AY 2004 to 16 in AY 2005.  The number of MS students in Math increased by 62%.	The growth has created changes in the quantity, quality, and variety of graduate courses offered.  The department has seen a renewal of interest in developing a Ph.D. in mathematics.

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<b>Unit Goal:</b>	Managing increasing enrollment while preserving release time for faculty
<b>Link to UTPA Goal(s):</b>	1: Ensure Undergraduate Student Access and Success 2: Enhance Graduate Education and Research

Unit Objective (Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome	Assessment Criteria, Evaluation Methods	Assessment Results (Use actual data to describe annual performance)	Use of Results (What change was made?)
Increased enrollment (2)	1, 4	Manage course offerings to increase SCH production per dollar of cost by 5%.	The department chair will determine the SCH production per dollar cost for AY 2004 and for AY 2005, and will include this information in his annual report, submitted to the dean of the college by October 2005 and the faculty of the department. Summer SCH production will be considered as part of the assessment and will be reported to the dean of the college by August 31 of AY 2005. The end of each academic year (August 31) will be used as the effective date for determining SCH cost.	The production per dollar cost for AY 2004 was 76.87 and for AY 2005 is 76.66.  Production per dollar cost continues to remain constant.	The increased funding requested will directly benefit teaching. In particular, the four lecturer positions requested will contribute to coverage of about 19 classes that are currently without faculty for Fall 2005.

<b>Unit Goal:</b>	Increase resources development/fund raising through gifts and donations
<b>Link to UTPA Goal(s):</b>	1: Ensure Undergraduate Student Access and Success 2: Enhance Graduate Education and Research

Unit Objective (Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome	Assessment Criteria, Evaluation Methods	Assessment Results (Use actual data to describe annual performance)	Use of Results (What change was made?)
Resource development (3)	2, 4, 5	Increase the funding generated in support of research, teaching, student	Principal investigators and interested faculty will present reports of their	The amount of external grants increased from \$2,148,825 in AY 2004 to	Faculty research progress and plans are reported in the departmental retreat at

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		development, and scholarship by 10%.	progress in cooperating with External Affairs to obtain gift and donations.	\$2,635,470 in AY 2005.  External funding increased by 23%.	the end of the spring semester. These reports plan an important role in the education of the new faculty. The creation of the Mathematics Applied Seminar and the large number of colloquium presentations is a consequence of the increased funding for research activities.

**Additional Resources Needed (if any) that were requested for FY06 during the budget cycle:**  
 `Travel funds: \$13,000  
 1 full-time secretarial line: \$17, 000  
 Operating budget pool: \$8,000  
 4 tenure track faculty at \$50,000 each = \$200,000  
 4 lecturers at \$40,000 each = \$160,000