

# **Administrative and Educational Support Report**

**School of Engineering & Computer Science**

**Annual Action Plan  
Annual Assessment Report**

**June 2004 – May 2005**



# Annual Action Plan: June 1, 2004–May 31, 2005

**Unit:** **School of Engineering and Computer Science**

**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. Miguel Gonzalez**

**Unit Mission:** The School of Engineering and Computer Science supports the mission statement of the University of Texas – Pan American and the College of Science and Engineering 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 School 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 School will provide a strong scientific and technical foundation for all students of the university. The School will continue to pursue a strong research program involving undergraduate and graduate students and faculty in all areas of engineering, and computer science.

**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 (Action Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome for Unit Objective (AA-Measurable Objective)	Strategy(ies) to Achieve Expected Outcomes	Assessment Criteria, Evaluation Methods for Expected Outcome	New Resources Needed in FY05
Increased research (1)	2, 5	Increase the number of publications by faculty and students of the School of Engineering and Computer Science by 10%.	<p>Increase number of students doing undergraduate research to help faculty publish results.</p> <p>Increase number of graduate students pursuing master's thesis that produces publishable work.</p>	The associate dean will count the number of faculty research publications for AY 2005 and compare the number to those of AY 2004. Only research publications will be considered in this count. Only publications published, or in-press will be counted. The end of each respective academic year will be used as the effective date for counting	None

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				the published works. Data will be derived from faculty annual evaluation folders.	
		Increase the number of research grants to support undergraduate research students by 15%.	<p>Help faculty members earn released time for preparing research proposals for external funding.</p> <p>Increase number of graduate and undergraduate students being funded to work on research projects by external and internal funds.</p>	The associate dean will count the number of faculty research grants supporting undergraduate research assistants for AY 2005 and compare the number to those of AY 2004. The end of each respective academic year will be used as the effective date for counting the presented works. Faculty will be asked to submit forms to the School for AY 2004 and for AY 2005 that list research activities to facilitate the assessment of this objective.	None
		Increase the number of student credit hours in research courses by 10%.	Increase numbers of students enrolled in masters' theses projects or in research courses.	The associate dean will determine the number of research semester credit hours produced by the School for AY 2005 and compare the credit hours to those of AY 2004. Both graduate and undergraduate SCHs will be considered for this count. The end of each respective academic year will be used as the effective date for counting.	None
		Increase the number of students with undergraduate research experience by 10%.	Obtain more research grants so as to fund undergraduate research students.	Faculty of the School will be asked to submit forms at the end of AY 2004 and at the end of AY 2005 listing students that they	None

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			Having a merit system that rewards working with undergraduate students in laboratory research	have sponsored in undergraduate research activities. The associate dean will facilitate in counting the students so as to calculate the percentage change. Formal reporting of the results will lie with the associate dean. The end of each respective academic year will be used as the official counting date.	
		Increase the number of students matriculating into UTPA graduate programs by 10%.	Increase partnerships with regional institutions so as to develop automatic admissions research programs.  Continue to establish collaborative arrangements or partnerships to support summer research for students.	Departments of the School will be asked to report, at the end of AY 2004 and AY 2005, the number of students in the respective programs matriculating into graduate programs. The totals will be determined for each academic year and reported to the dean of the College.	None

**Unit Goal:**

Manage increasing enrollment while preserving research opportunities for faculty

**Link to UTPA Goal(s):**

- 1: Ensure Undergraduate Student Access and Success
- 2: Enhance Graduate Education and Research

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Increased enrollment (2)	2, 4	Manage course offerings to increase SCH production per dollar of cost by 5%.	Develop teaching strategies and policies to allow non-research faculty a 15-hour teaching load and a 9-hour load for research active faculty.	The associate dean will determine the SCH production per dollar of cost for AY 2004 and for AY 2005. Summer SCH production will also be considered as part of the	Funds to pay for fifth course

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			<p>Develop more evening classes at the undergraduate level.</p> <p>Investigate large sections of selected courses to help SCH production while allowing flexibility to keep some sections small.</p> <p>Increase online and distance learning offerings.</p>	<p>assessment. Comparison of these results and the percentage increase will be reported to the dean at the end of AY 2005.</p>	<p>Funds to hire staff to support Evening College and to pay for adjunct faculty</p> <p>None</p> <p>Funds to pay stipends for faculty teaching online courses</p>

**Unit Goal:**

Increase resource development/fund raising through gifts and donations

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Resource development (3)	2, 4	Increase the funding generated in support of research, teaching, student development, and scholarships by 10%.	<p>Work closely with External Affairs, with community businesses, and with advisory councils to increase gift and donation funding.</p> <p>Develop the School of Engineering and Computer Science's marketability to attract additional numbers of donors.</p> <p>Establish collaboration with other universities and with regional and national industries to obtain</p>	<p>Funding generated by donations and gifts made to the departments of the School of Engineering and Computer Science and to the School will be totaled by the associate dean for AY 2004 and for AY 2005. Comparison by the associate dean of the two years will lead to a percentage change that will be formally reported to the dean.</p>	<p>None</p> <p>Funding to increase marketability</p> <p>None</p>

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			resources not available to the School.		



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**Unit Goal:**

Increase Faculty and Student Research Opportunities

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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?)
Increased research (1)	2, 5	Increase the number of publications by faculty and students of the School of Engineering and Computer Science by 10%.	The associate dean will count the number of faculty research publications for AY 2005 and compare the number to those of AY 2004. Only research publications will be considered in this count. Only publications published, or in-press will be counted. The end of each respective academic year will be used as the	The number of publications increased by 11.63% surpassing this year's 10% goal. Improvements were seen in all departments with Manufacturing having the largest increase, 28.5%.	Faculty was granted release time to work on research. Additional incentives for faculty research are being analyzed.

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			effective date for counting the published works. Data will be derived from faculty annual evaluation folders.		
		Increase the number of research grants to support undergraduate research students by 15%.	The associate dean will count the number of faculty research grants supporting undergraduate research assistants for AY 2005 and compare the number to those of AY 2004. The end of each respective academic year will be used as the effective date for counting the presented works. Faculty will be asked to submit forms to the School for AY 2004 and for AY 2005 that list research activities to facilitate the assessment of this objective.	During this reporting period the School had a decrease of 31.25% in the number of proposals that were submitted by faculty and a decrease of 33.33% in the grants that were funded.	The School in conjunction with the College has arranged for representatives from funding agencies to give presentations to our faculty to assist them in finding appropriate programs for projects that faculty may wish to pursue.
		Increase the number of student credit hours in research courses by 10%.	The associate dean will determine the number of research semester credit hours produced by the School for AY 2005 and compare the credit hours to those of AY 2004. Both graduate and undergraduate SCHs will be considered for this count. The end of each respective academic year will be used as the effective date for counting.	The School experienced a 28.72% increase in SCH in research courses. Individual departments showed increases with Electrical Engineering having the highest increase (40.9%) followed by Computer Science (28.57%) and Manufacturing with (12.5%). All surpassed the 10% goal.	Results indicate that the faculty is very aware of this requirement. In order to simplify the collection of this data, the School is submitting the listing of all research courses to OIRE. Data will then be available for reports on an as needed basis.
		Increase the number of students with undergraduate research	Faculty of the School will be asked to submit forms at the end of AY 2004 and	There was no significant increase or decrease for this reporting period.	The School continued to encourage and support faculty efforts to generate

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		experience by 10%.	at the end of AY 2005 listing students that they have sponsored in undergraduate research activities. The associate dean will facilitate in counting the students so as to calculate the percentage change. Formal reporting of the results will lie with the associate dean. The end of each respective academic year will be used as the official counting date.		proposals supporting undergraduate student research.
		Increase the number of students matriculating into UTPA graduate programs by 10%.	Departments of the School will be asked to report, by the end of AY 2004 and AY 2005, the number of students in the respective programs matriculating into graduate programs. The totals will be determined for each academic year and reported to the dean of the College.	The goal of 10% increase was not met during this reporting period as enrollment fell by 3.45% as a whole for the School. However, an increase from 34 to 44 (29.4%) was seen in enrollment for Mechanical Engineering and an increase from 55 to 58 (5.45%) for Electrical Engineering.	Results are being used to request more funding for post-graduate education.

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Increased enrollment (2)	2, 4	Manage course offerings to increase SCH production per dollar of cost by 5%.	The associate dean will determine the SCH production per dollar of cost for AY 2004 and for AY 2005. Summer SCH production will also be considered as part of the assessment. Comparison of these results and the percentage increase will be reported to the dean at the end of AY 2005.	SCH production increased by 0.95% for the School as a whole while the Manufacturing Department had an increase of 4.06%.	There have been several changes in classrooms used for high volume courses to accommodate more students per section. Also, the School has made changes to better utilize the classroom space with centralized scheduling of classrooms.

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Resource development (3)	2, 4	Increase the funding generated in support of research, teaching, student development, and scholarships by 10%.	Funding generated by donations and gifts made to the departments of the School of Engineering and Computer Science and to the School will be totaled by the associate dean for AY 2004 and for AY 2005. Comparison by the associate dean of the two years will lead to a percentage change that will be formally reported to the dean.	Increases were only seen in the Electrical Engineering department (145.19%). Both Manufacturing (-84.29%) and Computer Science (-10.54%) had decreases in their funding. These results gave the School a 3.25% increase.	Faculty members who received grants are recognized each fall semester.

**Additional Resources Needed (if any) that were requested for FY06 during the budget cycle:** More funding from the University for Graduate Research Assistantships in each department with a graduate program have been requested. Also, more graduate teaching assistantships to help reduce faculty teaching workloads so more time could be allocated to research endeavors was requested.