

Administrative and Educational Support Report*

Department of Manufacturing Engineering

**Annual Action Plan
Annual Assessment Report**

June 2004 – May 2005

***Student Learning Outcomes for this department are available at
<http://ie.panam.edu/CoSELearningOutcomes.htm>**



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

Unit: Department of Manufacturing Engineering

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. Subhash Bose

Unit Mission:

The Manufacturing Engineering Department will provide a quality engineering education to prepare students for the practice of engineering. A strong laboratory component in the curriculum with opportunities for industrial internships and research experiences will provide engineering skills that enhance the understanding of the applications of engineering sciences and the realization of the importance of life long learning. A strong emphasis on verbal and written communications will be stressed.

The program's educational objectives and outcomes are, the student

- 1) Is able to use knowledge of mathematics, basic sciences and engineering to analyze problems in manufacturing engineering.
- 2) Is able to design and conduct experiment and interpret the results.
- 3) Is able to design devices, systems or processes that meet given specifications.
- 4) Is able to use computers and software for analysis, design and documentation.
- 5) Is able to communicate ideas effectively in graphical, oral and in written media.
- 6) Is able to function as a team member to solve engineering problems.
- 7) Understands the professional responsibility of an engineer and how engineering solutions impact safety, economics, ethics, politics, society and cultural issues.
- 8) Understands the need for life long learning to keep abreast of current practice.

Unit Goal:

To provide a quality manufacturing engineering program grounded in the liberal arts and humanities, that cultivates active life-long learning, critical thinking, problem solving, and an awareness of environmental and societal impacts of technology.

Link to UTPA Goal(s):

1. Ensure undergraduate student access and success
2. Enhance graduate education and research
3. Improve UTPA's organizational effectiveness

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
Program development. (1)	2, 4, 7	Ongoing self-assessment process as required by ABET, University, and	<ul style="list-style-type: none"> • Administer assessment test on pre-requisite course. 	<ul style="list-style-type: none"> • Assessment tests on engineering fundamentals. 	None

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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
		SACS.		<ul style="list-style-type: none"> Student exit survey. Alumni and employer survey. 	

Unit Goal:

To facilitate and reward excellence in scholarship and research

Link to UTPA Goal(s):

1. Ensure undergraduate student access and success
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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. (2)	2, 4, 5	Increased proposal submissions over AY04.	<ul style="list-style-type: none"> Encourage faculty to write grant proposals. 	Compare number of proposals submitted in AY05 to AY04.	None

Unit Goal:

To promote ongoing professional, university, and community service activities by faculty, staff, and students that enhance the quality of life in our community.

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
Community service. (3)	1, 2, 4	Faculty participation in outreach activities - laboratory tours for industry visitors and parents and math counts competition for middle school students.	<ul style="list-style-type: none"> Encourage faculty to participate and emphasize credit for service in tenure and promotion. 	Number of events/activities participated in by the faculty.	Release time for faculty.

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

Unit Goal:	To provide effective student recruitment, development, retention, and placement programs designed to promote and service a diverse student population.
Link to UTPA Goal(s):	1. Ensure undergraduate student access and success

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
Student access and success. (4)	2	Undergraduate students in research to improve retention.	<ul style="list-style-type: none"> Hire undergraduate students on research project. 	Number of undergraduate students participating in research.	External funding from faculty grant.



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- 8) Understands the need for life long learning to keep abreast of current practice.

Unit Goal:

To provide a quality manufacturing engineering program grounded in the liberal arts and humanities, that cultivates active life-long learning, critical thinking, problem solving, and an awareness of environmental and societal impacts of technology.

Link to UTPA Goal(s):

1. Ensure undergraduate student access and success
2. Enhance graduate education and research
3. Improve UTPA’s organizational effectiveness

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?)
Program development. (1)	2, 4, 7	Ongoing self-assessment	• Assessment tests on	• Tests were	• Results from the test

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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?)
		process as required by ABET, University, and SACS.	engineering fundamentals. <ul style="list-style-type: none"> • Student exit survey. • Alumni and employer survey. 	administered during the spring semester, 2005. <ul style="list-style-type: none"> • Positive comments were received on the quality of program. • Expected outcome met. 	were used to improve materials in MANE 3332. <ul style="list-style-type: none"> • Made change to curriculum based on feedback from student survey.

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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. (2)	2, 4, 5	Increased proposal submissions over AY04.	Compared number of proposals submitted in AY05 to AY04.	Five new proposals were submitted in AY'05 compared to three in AY04, resulting in a 67% increase. Expected outcome met.	Proposals were not funded, but they generated ideas for graduate research.

Unit Goal:	To promote ongoing professional, university, and community service activities by faculty, staff, and students that enhance the quality of life in our community.
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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?)
Community service. (3) (3)	1, 2, 4	Faculty participation in outreach activities - laboratory tours for industry	Number of events/activities participated in by the faculty.	Two thirds of the faculty participated.	Outreach committee created to find outreach opportunities.

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		visitors and parents and math counts competition for middle school students.		Expected outcome met.	

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To provide effective student recruitment, development, retention, and placement programs designed to promote and service a diverse student population.

Link to UTPA Goal(s):

1. Ensure undergraduate student access and success

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?)
Student access and success (4)	2	Undergraduate students in research to improve retention.	Number of undergraduate students participating in research	Eight students participated. Expected outcome met.	Faculty is seeking more projects in industries to double the number of opportunities for students to participate in research.

Additional Resources Needed (if any) that were requested for FY06 during the budget cycle: Four new faculty positions were requested to develop Ph.D. program in manufacturing and MS in engineering management.