



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

Unit: Department of Mechanical 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. Hashim Mahdi

Unit Mission: The Mechanical Engineering Department will provide students a quality education to prepare them for the practice of engineering, with sufficient depth to continue their education toward a Doctoral degree. The curriculum will provide skills that enhance the understanding of the applications of engineering sciences. The faculty will be readily accessible and will continually strive to improve their instructional materials and the methods of dissemination. The faculty will also practice life long learning by keeping abreast of and participating in the latest developments in their chosen areas of expertise and interacting across disciplines

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
Provide more flexible and coordinated scheduling of coursework. (1)	<ul style="list-style-type: none"> • Offer more junior and senior-level courses in the summer. • Develop flexible class 	<ul style="list-style-type: none"> • Percent increase in the number of junior and senior level courses in the summer. 	By Summer 2007: <ul style="list-style-type: none"> • 50% increase in the junior level classes. 	Increase summer budget.

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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
	<ul style="list-style-type: none"> • schedules for working students. 	<ul style="list-style-type: none"> • Percentage increase in the number of new sections to Spring 2007 and Fall 2007 schedules. 	<ul style="list-style-type: none"> • 25% increase in the Senior level classes. 	
Prepare revised Mechanical Engineering (BSME) degree plan. (2)	<ul style="list-style-type: none"> • Re-establish BSME Curriculum Revision Committee: <ul style="list-style-type: none"> ○ Thermal/Fluid sub-committee. ○ Materials sub-committee ○ Design • Review curricula of other Texas BSME programs. 	<ul style="list-style-type: none"> • Completion of report on BSME curricula in Texas. • Submission of first draft of BSME revision for faculty approval. • Submission of revised draft of BSME revision to college level and University Curriculum Committee. 	<ul style="list-style-type: none"> • Report on Texas BSME Curricula submitted by Fall 2006. • First draft UTPA BSME Curriculum by February 1, 2007. • Revised draft UTAP BSME Curriculum by April 1, 2007. 	Faculty time only.
Continue Academic Assessment (Continuous Improvement) Program. (3)	<ul style="list-style-type: none"> • Give internal assessment tests each semester. • Perform senior exit survey once per year. • Encourage ME Students to take the Fundamentals of Engineering Exam twice per year and archive results. 	<ul style="list-style-type: none"> • Internal assessment tests given. • Increased percentage of seniors completing exit survey. • Successful administration of exams. 	<ul style="list-style-type: none"> • At least four courses assessed in each semester. • 75% or better return rate for senior survey, as reported by Assessment Coordinator. • Two exams given at UTPA meeting NCEES guidelines. 	None

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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
	<ul style="list-style-type: none"> Engage faculty in use of assessment results to improve curriculum. 	<ul style="list-style-type: none"> Increased percentage of Faculty attending twice-per-year academic assessment meeting. 	<ul style="list-style-type: none"> 85% or better faculty attendance at each retreat, as reported by Assessment Coordinator. 	

UTPA Goal: Provide students with a quality educational experience that enables them to complete their educational goals in a timely fashion.

Academic Affairs Objective: Create the academic infrastructure to improve student learning and success.

College/AVP Objective: Provide more flexible and coordinated scheduling of coursework.

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
Ensure that all students receive effective advising to properly sequence courses. (4)	<ul style="list-style-type: none"> Improve departmental advising by keeping individual records of advising sessions. Enforce the ME advising program written by Dr. Crown. Continue annual ME student convocation. 	<ul style="list-style-type: none"> Increased percentage of students attending advising. Increased percentage of students attending convocation. 	<ul style="list-style-type: none"> At least 85% attendance at pre-registration advising, as measured by individual advising records. At least 55% attendance at convocation, measured by meal tickets collected. 	None
Make scheduling more	<ul style="list-style-type: none"> Provide more sections. 	<ul style="list-style-type: none"> Addition of new sections 	By Summer 2007:	Possibly add adjunct

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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
flexible for students. (5)	<ul style="list-style-type: none"> Offer more courses in the summer. 	<ul style="list-style-type: none"> to Spring 2007 and Fall 2007 schedules. Addition of new courses to Summer 2007 schedules. Student satisfaction measured with scheduling. 	<ul style="list-style-type: none"> 50% increase in the junior level classes. 25% increase in the Senior level classes. At least 80% positive responses on annual survey. 	faculty.

UTPA Goal: Provide students with a quality educational experience that enables them to complete their educational goals in a timely fashion.

Academic Affairs Objective: Establish a separate Learning and Teaching Excellence Center to improve instructional practices and promote student engagement in learning.

College/AVP Objective: Plan and develop new academic programs and centers of excellence.

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
Initiate BS in Civil Engineering. (6)	<ul style="list-style-type: none"> Assign general courses for ME and civil Engineering programs. Announce and advertise opening of program. 	<ul style="list-style-type: none"> Identified the common courses between ME and Civil. Official announcement and opening of enrollment. Room designated and staff hired. 	<ul style="list-style-type: none"> Number of common courses. Opening of enrollment by Fall 2007. Opening of Office with Staff by Spring 2008. 	Institutional Enhancement Budget for Civil Engineering.

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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
Create long term plan for new programs in Mechanical Engineering. (7)	<ul style="list-style-type: none"> Investigate opportunities for Cooperative PhD programs. Allocate time for long-range planning of new programs at department retreat. 	<ul style="list-style-type: none"> List of Texas programs interested in Cooperative PhD program. Submission of report on long-range prospects for PhD, Cooperative PhD, and additional MS programs. 	<ul style="list-style-type: none"> List produced and promising candidates identified by January 31, 2007. Report on Planning for Advanced Programs submitted to Dean by March 31, 2007. 	None

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
Ensure that all students receive effective advising to help define educational goals. (8)	<ul style="list-style-type: none"> Improve departmental advising by keeping individual records of advising sessions. Continue annual ME student convocation. 	<ul style="list-style-type: none"> Improved percentage of students attending advising. Improved percentage of students attending convocation. 	<ul style="list-style-type: none"> At least 85% attendance at pre-registration advising, as measured by individual advising records. At least 55% attendance at convocation, measured by meal tickets collected. 	None

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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
Support lower-division students through on-campus jobs related to their degree program. (9)	Seek funding from external agencies to provide scholarship to the lower-division students.	Submission of proposals for on-campus jobs program.	At least one major external proposal submitted by August 31, 2006.	None

UTPA Goal: Provide students with a quality educational experience that enables them to complete their educational goals in a timely fashion.

Academic Affairs Objective: Ensure that graduate programs are academically rigorous and research centered, promoting independent learning and preparing graduates to contribute successfully to their chosen professions.

College/AVP Objective: Infuse hands-on, field-base, and research experiences/opportunities into COSE curriculum.

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
Support lower-division students through on-campus jobs related to their degree program. (10)	Seek funding from external agencies to provide scholarship to the lower-division students.	Submission of proposals for on-campus jobs program.	At least one major external proposal submitted by August 31, 2006.	None
Increase research funding that includes student support. (11)	Seek external research funding that includes student support as research assistants.	<ul style="list-style-type: none"> Increased percentage of research proposals by faculty including student support. At least one proposal for every faculty on 18 hour teaching load. 	<p>85% or better of 18 hour faculty meet one-proposal requirement.</p> <p>At least eight proposals total from Mechanical Engineering including support for research assistants.</p>	None

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

Academic Affairs Objective: Foster 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 collaborative research with other universities and industry. (12)	Build on existing contacts by submitting collaborative proposals.	Collaborative proposals submitted.	<ul style="list-style-type: none"> At least two major external research proposals from Mechanical Engineering including collaboration. At least two faculty participating in funded collaboration. 	None

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 research funding that includes student	Seek external research funding that includes	<ul style="list-style-type: none"> Increased percentage of research proposals 	<ul style="list-style-type: none"> 85% or better of 18 hour faculty meet one- 	None

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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
support. (13)	student support as research assistants.	by faculty including student support. • At least one proposal for every faculty on 18 hour teaching load.	proposal requirement. • At least eight proposals total from mechanical Engineering including support for research assistants.	
Increase funded collaborative research with other universities and industry. (14)	Build on existing contacts by submitting collaborative proposals.	Collaborative proposals submitted.	• At least two major external research proposals from Mechanical Engineering including collaboration. • At least two faculty participating in funded collaboration.	None

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

Academic Affairs Objective: Enhance and capitalize on faculty research capabilities.

College/AVP Objective: Provide incentives to existing faculty 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
Have tenure and merit	Keep resubmitting	Approval of documents.	Approved tenure and merit	Action by administration.

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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
documents that recognize and reward research. (15)	documents (pending since 2002) until approved.		documents during next academic year.	

UTPA Goal: Enhance UTPA’s engagement with the community to meet challenges and maximize opportunities.

Academic Affairs Objective: Promote faculty and staff engagement in identifying and developing partnerships with external constituencies.

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
Increase number of industry based senior design projects. (16)	<ul style="list-style-type: none"> Contact local and EAC companies. Promote industry based projects to students. 	Industry supported or suggested design projects.	At least four senior design projects from industry for 2006-2007 academic year, as reported by Senior Design Coordinator.	None

UTPA Goal: Enhance UTPA’s engagement with the community to meet challenges and maximize opportunities.

Academic Affairs Objective: Provide resources necessary to accomplish, maintain, and/or develop outreach activities.

College/AVP Objective: Continue to participate in and promote community events.

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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
Continue participation in HESTEC. (17)	<ul style="list-style-type: none"> ME representation at HESTEC Community Day. Encourage students and faculty to participate in HESTEC. Organize the Poster Session. 	<ul style="list-style-type: none"> Exhibits active. Students participating. Faculty participating. 	<ul style="list-style-type: none"> At least two exhibits active and functioning on Community Day. At least 30 students reporting participation. At least 8 faculty reporting participation 	None
Reach out to High School Counselors. (18)	Arrange engineering/CS Counselor's Day organized around UTPA alumni.	One event in Fall 2006.	Event held no later than December 1, 2006.	Travel funds.

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

Academic Affairs Objective: Develop a Continuing Education Division within Academic Affairs.

College/AVP Objective: Develop and promote programs to meet the 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 programs to promote engineering/CS to K-12 students. (19)	Develop and operate Summer Upward Bound Math & Science (UBMS).	<ul style="list-style-type: none"> Summer camps. Students enrolled in summer camps. Faculty involved in the summer camp. 	At least two faculty and 25 students enrolled, as reported by Valley Outreach.	None

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UTPA Goal: Infuse Inter-American and global perspectives throughout 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
Increase number of ITESM exchange students in Mechanical Engineering. (20)	<ul style="list-style-type: none"> Work with international programs office. Possibly offer special summer course for ITESM students. 	Students enrolled.	At least 15 ITESM student enrollments in mechanical engineering courses during 2006-2007 academic year, as measured by Office of International Programs.	None, except support for summer course if viable

UTPA Goal: Infuse Inter-American and global perspectives throughout the University community.

Academic Affairs Objective: Increase the number of international students on campus.

College/AVP Objective: Recruit international students to College of Science and Engineering.

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 international enrollment in MS program. (21)	<ul style="list-style-type: none"> Leverage faculty contacts overseas. Arrange more assistantships. 	International students enrolled.	At least 12 international students in Spring 2007, 20 international students in Fall 2008, as reported by OIRE.	Assistantships with early decision dates.

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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
	<ul style="list-style-type: none"> Get earlier decisions on admission and assistantships. 			
Increase number of ITESM exchange students in Mechanical Engineering. (22)	<ul style="list-style-type: none"> Work with international programs office. Possibly offer special summer course for ITESM students. 	Students enrolled.	At least 15 ITESM student enrollments in mechanical engineering courses during 2006-2007 academic year, as measured by Office of International Programs.	None, except support for summer course if viable

UTPA Goal: Optimize institutional effectiveness and efficiency consistent with high quality organizational standards.

Academic Affairs Objective: Define and implement standards and performance measures for business processes and stakeholders.

College/AVP Objective: Streamline undergraduate and graduate admissions so they are more user-friendly to applicants.

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
Improve graduate admissions process. (23)	<ul style="list-style-type: none"> Work with Graduate Office to identify and remove roadblocks and barriers to enrollment. Give special attention to international students. 	<ul style="list-style-type: none"> New students given admission. Decreased average time to reply from receipt of application. 	<ul style="list-style-type: none"> At least 15 new MSE admissions for Spring 2007 and Fall 2007 as certified by ME Graduate Director. Less than two weeks average response time at department level, four weeks overall, as 	Assistance from Graduate Office.

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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
			recorded by Dept Secretary.	

UTPA Goal: Optimize institutional effectiveness and efficiency consistent with high quality organizational standards.

Academic Affairs Objective: Provide infrastructure to maximize utilization of human intellectual capital.

College/AVP Objective: Prioritize space needs.

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
Identify space for new BS Civil Engineering program. (24)	Work with the Associate Dean, and Dean.	Establishment of program office and cohesive set of faculty offices.	Establishment of office no later than January 1, 2008.	Space and institutional enhancement funds.
Increase space for research. (25)	<ul style="list-style-type: none"> Seek space outside engineering building (TMAC, Haggar, annex, etc). Work through CoSE Space Committee. 	Square feet net increase in research space.	At least 1000 sq ft of space identified.	Space

**Annual Assessment Report is due on
June 15, 2007.**

It will be posted by June 30, 2007.