

Administrative and Educational Support Report*

Department of Electrical Engineering

**Annual Action Plan
Annual Assessment Report**

June 2005 – May 2006

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



Annual Action Plan: June 1, 2005–May 31, 2006

Unit: **Department of Electrical 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: **Heinrich Foltz**

Unit Mission:

The Electrical Engineering Department will provide undergraduate students from the Lower Rio Grande Valley a quality education to prepare them for the practice of engineering, with sufficient depth to continue their education beyond the baccalaureate degree. The curriculum provides skills that enhance the understanding of engineering sciences by:

- including an adequate number of courses in the fundamental areas of mathematics, science, and engineering,
- having a strong laboratory component,
- emphasizing design, and stressing verbal and written communication, and
- incorporating the use of current computational hardware and software technologies.

To promote an awareness of current and emerging industrial practice, the department provides students opportunities to participate in:

- professional organizations,
- industrial internships or co-op experiences, and
- scholarly activities including supervised research.

The department provides the opportunity for student success in the undergraduate program through:

- a readily available faculty, who continuously strive to improve their instructional materials and the methods of dissemination, practice lifelong learning by keeping abreast of and participating in the latest developments in their chosen areas of expertise, and interact across disciplines, and
- liberal student access to the computational facilities and laboratories of the department.

Unit Goal:

To provide a quality electrical 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

1. Ensure undergraduate student access and success
2. Enhance graduate education and research

Goal(s):

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 FY06
Maintain an ongoing self-assessment (student learning improvement program) process as required by ABET, University, and SACS standards. (1)	2,3,6	Complete academic assessment cycle each year, including assessment tests, survey, and minimum of two faculty meetings to review results and act on them to improve curriculum.	<ul style="list-style-type: none"> • Appoint “point person” to supervise and manage process. • Assign faculty to administer specific tests Ensure faculty attendance at assessment activities. • Develop incentives for students to participate in exit survey. 	By May 2006: <ul style="list-style-type: none"> • 100% of four targeted courses will have been assessed; 100% of FE 4/05 and 10/05 licensing exam results will have been received and documented. • 90% or better of faculty will have attended a faculty review of assessment results. • 80% or better of May 2006 graduates will have completed exit survey. 	None.
Work with Department of Computer Science to develop a new degree program in Computer Engineering. (2)	3	Final submission of Computer Engineering proposal to THECB.	<ul style="list-style-type: none"> • Appoint “point person” to supervise and manage proposal writing. • Continue joint CS/EE committee on Computer Engineering. 	<ul style="list-style-type: none"> • Revised proposal submitted no later than 3/31/06. 	Authorization to conduct faculty search for Computer Engineering.

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			<ul style="list-style-type: none"> Work with dean, AVPUGA and AVPGA to ensure timely submission. Initiate and complete hiring of new faculty qualified in Computer Engineering. 	<ul style="list-style-type: none"> Faculty search initiated no later than 10/31/05, completed no later than 4/30/06. 	

Unit Goal:

To facilitate and reward excellence in scholarship and research

Link to UTPA Goal(s):

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 FY06
Increase proposal submissions. (3)	5	An average of at least one major external proposal per tenured/tenure-track faculty should be submitted.	<ul style="list-style-type: none"> Ensure that faculty has prompt notification of grant opportunities. Ask senior faculty to mentor or collaborate with junior faculty in grant writing. Adjust teaching assignments for research active 	Over period 6/1/05-5/31/06, at least eight major (over \$50K) external proposals should be submitted.	Reduced teaching load for research active faculty.

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			faculty.		
Maintain student involvement in research. (4)	2,5	At least ten EE undergraduate and ten graduate students should be formally involved in research projects.	Provide assistantships for students.	Department will identify names of at least ten students in each category who had paid involvement in research during the period 6/1/05-5/31/06.	None.

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 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 FY06
Encourage faculty attendance at outreach and recruitment events. (5)	1	All faculty, including lecturers, will attend an increased number of events, with emphasis on recruitment.	<ul style="list-style-type: none"> Appoint a “point person” who will assign faculty to specific events. Work with University Relations to identify opportunities. 	Over period of 6/1/05 - 5/31/06, faculty will average at least three recruitment related events attended. Average will include non-tenure faculty.	None.
Maintain undergraduate student involvement through a jobs program. (6)	1, 5	At least twenty students should participate in job program, and be successfully retained in	<ul style="list-style-type: none"> Maintain active grants for student support. 	<ul style="list-style-type: none"> At least 20 students in good standing with participation in the program. 	None

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		the EE program.	<ul style="list-style-type: none"> Recruit new freshman and transfer students into program. 	<ul style="list-style-type: none"> Retention rate for students in program should exceed university average by at least 15%. 	



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Unit Goal:	To provide a quality electrical 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

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?)
Maintain an ongoing self-assessment (student learning improvement program) process as required by ABET, University, and SACS standards. (1)	2,3,6	Complete academic assessment cycle each year, including assessment tests, survey, and minimum of two faculty meetings to review results and act on them to improve curriculum.	By May 2006: <ul style="list-style-type: none"> 100% of four targeted courses will have been assessed; 100% of FE 4/05 and 10/05 licensing exam results will have been received and documented. 	<ul style="list-style-type: none"> All four targeted courses were evaluated on schedule. The 4/05 and 10/05 FE Exams were given and the results were received. The 4/06 exam was given, and we are awaiting results from the State Board of Professional Engineers. 	<ul style="list-style-type: none"> Assessment exam review meeting recommended changes to 3 questions on Network I assessment exam, 1 question on Network 2 exam, and 2 questions on Electronics I exam. New policy was adopted 2/06 standardizing exam administration, and adding incentives for students. Exam results were used to change course content in Digital Systems I and Microprocessors (add more content on 2's complement and number systems), EE Lab I (add complex power measurement), and Network I (add

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			<ul style="list-style-type: none"> • 90% or better of faculty will have attended a faculty review of assessment results. • 80% or better of May 2006 graduates will have completed exit survey. 	<ul style="list-style-type: none"> • 90% faculty attendance. • 27% of graduates have returned exit survey. 	<p>more emphasis on rules for reference terminals in circuits).</p> <ul style="list-style-type: none"> • Faculty attendance was considered satisfactory, no action taken. • No action taken as of 6/9/06, future surveys will be collected earlier in semester.
Work with Department of Computer Science to develop a new degree program in Computer Engineering. (2)	3	Final submission of Computer Engineering proposal to THECB	<ul style="list-style-type: none"> • Revised proposal submitted no later than 3/31/06. • Faculty search initiated no later than 10/31/05, completed no later than 4/30/06. 	<ul style="list-style-type: none"> • Proposal was submitted successfully in March, and is currently at THECB. • Faculty search for Computer Engineering was completed 5/24/06; offer has been made. 	<ul style="list-style-type: none"> • No further action needed other than follow-up. We are now planning for program startup. • No further action needed.

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Link to UTPA Goal(s):

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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?)
Increase proposal submissions. (3)	5	An average of at least one major external proposal per tenured/tenure-track faculty should be submitted.	Over period 6/1/05-5/31/06, at least eight major (over \$50K) external proposals should be submitted.	Nine (9) major proposals submitted, including 5 to NSF, 1 to ONR, 1 to DoD, 1 to ARP, 1 to Industry. Two of nine were funded, four are pending.	Goal met, continue current policies.
Maintain student involvement in research. (4)	2,5	At least ten EE undergraduate and ten graduate students should be formally involved in research projects.	Department will identify names of at least ten students in each category who had paid involvement in research during the period 6/1/05-5/31/06.	UG: Sergio Roche, Arturo Rios, Tanya Valencia, Andres Medina, Jesus Cavazos, Laura Espinoza, Francisco Espinoza, Jose Pilar Gonzalez, David Irving, Jorge Hurtado. GR: Obadiah Kegege, Chaitanya Jasti, Kyoung D Kim, Daniel Varela, Vareda Rajender Boothpoor, Montasir Azad (TA), Orifiel Gomez, Alvaro Munoz, Raja Devarajulu, Ricardo Valdez (TA), Casto Ibarra (TA).	Goal met, continue current policies.

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Encourage faculty attendance at outreach and recruitment events. (5)	1	All faculty, including lecturers, will attend an increased number of events, with emphasis on recruitment.	Over period of 6/1/05 - 5/31/06, faculty will average at least three recruitment related events attended. Average will include non-tenure faculty.	Estimated 20-25 faculty attendances at recruitment events, average 2.0-2.5 per faculty- goal not met.	Appointed one faculty (M. Ben Ghalia) to coordinate events and match faculty with opportunities.
Maintain undergraduate student involvement through a jobs program. (6)	1, 5	At least twenty students should participate in job program, and be successfully retained in the EE program.	<ul style="list-style-type: none"> At least 20 students in good standing with participation in the program. Retention rate for students in program should exceed university average by at least 15%. 	<ul style="list-style-type: none"> Approximately 25 students hired. Retention rate over 85%. Goal met. 	Program will end 8/31/06 due to expiration of grant; new proposal planned in Summer 2006.