

Administrative and Educational Support Report*

Department of Physics & Geology

**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 Physics and Geology

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. Ruben Mazariegos

Unit Mission: The Department of Physics and Geology will provide students with a high quality education, allowing for a fundamental understanding of science and preparation for future careers. The department will serve the university in providing natural science core educational and degree requirements in the physical sciences and providing majors and minors with specialized courses required for their field. The department will strive to enhance the education of its students by providing expertise advising on degree and career options and opportunities such as teaching assistantships, individual research mentoring, and field trips.

Unit Goal: Increase the 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	Reduce faculty teaching workload to increase research activity by 10% as evidenced by 20% more proposals submitted for external funding and 10% increase in published works.	Have larger sections of physical science and physics lectures. Request 4 graduate teaching assistants for laboratory instruction.	1) Check the number of proposals submitted per academic year. 2) Check the number of publications per academic year.	Funds to employ 4 graduate teaching assistants
		Increase the support of faculty research activities by providing 2 research assistants.	Hire 2 graduate research assistants. Seek increase in the number of library subscriptions to research journals in physics to support a broader range of specializations.	1) Check the number of GRAs or undergraduate research assistants.	Budget of \$10,000 per graduate research assistant

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Unit Goal:	Increase the number of Physics Majors and Geology minors.
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
Increased enrollment (2)	1, 4	Increase the number of physics majors to 35.	<p>Improve the appearance of the Physical Science Building.</p> <p>Secure new rock and mineral samples from the region.</p> <p>Improve the departmental web site.</p> <p>Obtain scholarship funds for 5 scholarships.</p> <p>Visit regional high schools and talk about physics.</p>	Check the number of majors indicated in the Student Records System.	<p>Supplies for plotter to produce research posters for hallways</p> <p>Funding for field trips with geology students</p> <p>Wages to hire direct wage student at 10 hr./wk.</p> <p>\$10,000 in scholarship funds</p> <p>Portable video projector</p>

Unit Goal:	Improve the Physics and Geology Department Infrastructure.
Link to UTPA Goal(s):	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
Improved facilities (3)	7	Provide a student lounge.	<p>Reassess space utilization in the department.</p> <p>Obtain uniform office furniture for faculty offices.</p> <p>Establish at least one classroom with modern</p>	Check if a lounge has been made available to physics students	<p>None</p> <p>Budget for estimated cost of \$10,000</p> <p>HEAF funds of \$12,000</p>

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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
			educational technology. Convert PS 102/104 into a large lecture hall with risers. Replace the old lab furniture and refinish the floors and lab tables.		Building renovation funds of about \$50,000 Building renovation funds of about \$10,000



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Unit Goal: Increase the Faculty and Student Research Opportunities

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 1: Ensure undergraduate student access and success
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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	Reduce faculty teaching workload to increase research activity by 10% as evidenced by 20% more proposals submitted for external funding and 10% increase in published works.	1) Check the number of proposals submitted per academic year. 2) Check the number of publications per academic year.	1) A total of 13 research proposals [\$2,890,633] were submitted during AY 2004-2005, about twice the number of proposals submitted during AY 2003-2004. 2) 25 publications resulted during AY 2004-2005 distributed as follow: (a) Published 13; (b) In Press 7, and (c) Submitted 7.	Out of 7 tenured/tenure-track faculty members, 6 of them had 25% research release time during AY 2004-2005.
		Increase the support of faculty research activities by providing 2 research	1) Check the number of GRAs or undergraduate	1) 2 undergraduate research assistants were provided by	By supporting the research activities of the faculty, 2 undergraduate research

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		assistants.	research assistants.	the College of Science and Engineering. 2) 1 undergraduate physics major was awarded with a LSAMP scholarship.	assistants developed their research skills and improved their writing and overall communication skills. Both students are being entered in the student poster presentation segment of the HESTEC 2005 conference. FY 2006 funding for undergraduate research assistants was requested in Spring 2005.

Unit Goal:

Increase the number of Physics Majors and Geology minors.

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?)
Increased enrollment (2)	1, 4	Increase the number of physics majors to 35.	Check the number of majors indicated in the Student Records System.	The number of Physics majors: Fall 2004: 23 Spring 2005: 20 <i>(As reported by Office of Institutional Research and Effectiveness)</i> The goal to reach 35 physics major was not met.	During AY 2004-2005, the department developed comprehensive advisement and outreach plans for implementation beginning in Fall 2005.

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Improved facilities (3)	7	Provide a student lounge.	Check if a lounge has been made available to physics students	20% of our Physics Majors are having the opportunity of being a student lab assistant position for physical science and physics.	Physical Science Room 118 has been made available as the teaching/lab assistants' room and also serves the purpose of a student lounge.

Additional Resources Needed (if any) that were requested for FY06 during the budget cycle: 1) additional funds for graders, undergraduate research and student lab assistants, 2) funds for field trips, 3) funds for scholarships for our physics majors, and 4) additional funds for faculty travel for research results presentations at national and international scientific meetings.