

# **Texas A&M International University**

## **Annual Institutional Effectiveness Review (AIER)**

**Date Submitted** January 31, 2008

**Assessment Period Covered (2007)**

**Academic Program/AES Unit** Bachelor of Arts with a major in Mathematics with Grades 8<sup>th</sup>-12<sup>th</sup> Certification

**Person(s) Preparing Review** Eduardo Chappa

### **Provide summary of the last cycle's use of results and changes implemented**

The pass rate of the TExES Field 135 (Mathematics 8-12) exceeded the benchmark. We have offered and will continue to offer TExES review sessions to improve the pass rates of our students. The course MATH 2371 is being implemented in the Fall of 2007, and data will be collected and analyzed.

## Section I: Planning and Implementation

### **Institutional Mission**

Texas A&M International University, a Member of The Texas A&M University System, prepares students for leadership roles in their chosen profession in an increasingly complex, culturally diverse state, national, and global society ... Through instruction, faculty and student research, and public service, Texas A&M International University embodies a strategic point of delivery for well-defined programs and services that improve the quality of life for citizens of the border region, the State of Texas, and national and international communities.

### **Academic Program or Administrative/Educational Support Unit Mission**

The faculty and staff of the Department of Mathematical and Physical Sciences are committed to excellence in teaching, research, service and outreach. The Department provides a foundation in Mathematical and Physical Sciences for all undergraduates as well as teacher certification programs from mathematics and physical sciences majors and graduate students. The programs within the Department lead to discovery, analysis and dissemination of mathematics, statistics and physics knowledge. Our goals are to equip the graduate with the tools necessary to fully participate in a technological society and competitive global environment. The department is committed to:

1. Transmit mathematical and physical science ideas through teaching and related activities;
2. Contribute to the advancement of mathematics and physics through quality research;
3. Utilize the department's resources to aid the University and community in the allocations of mathematics and physics; and

4. To serve as a resource of mathematical and physical knowledge and pedagogy for the University and community.

**Identify outcomes and the relationship to Strategic Plan**

**Outcome 1**

**Is this outcome related to writing (QEP)?**

Students will demonstrate their mastery of formulating and solving problems in various areas of Mathematics.

**Identify Strategic Plan Goal related to Outcome 1**

Goal 1 Academics

**Identify Strategic Plan Objective related to Outcome 1**

1.7 Establish and pursue students learning outcomes appropriate for each program with systematic assessment and use of results for continuous quality improvement.

**Identify methods of assessment to be used**

Pre-service teachers (students) will take the Texas Examinations of Educator Standards in mathematics for grade 8-12 (TEXES Field 135). Domains I (Number Concepts), II (Patterns and Algebra), III (Geometry and Measurement), IV (Probability and Statistics), as well as Domain V (Mathematical Processes and Perspectives) of the Test Framework as defined by Texas State Board of Educator Certification will assess this outcome

**Indicate when assessment will take place**

Annual

**Criteria/Benchmark**

70% of students taking the standardized examination will score at or above the passing grade for the exam (currently, 240 points).

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**Outcome 2**

**Is this outcome related to writing (QEP)?**

Students will be able to communicate mathematics in well-structured sentences.

**Identify Strategic Plan Goal related to Outcome 2**

Goal 1 Academics

**Identify Strategic Plan Objective related to Outcome 2**

1.4 Prepare students for success in their chosen careers.

**Identify methods of assessment to be used**

We have established a course, MATH 2371, Communication in Mathematics, where we will collect sample work periodically.

**Indicate when assessment will take place**

Annual

**Criteria/Benchmark**

Work collected will be analyzed using the discipline-specific writing criteria in the rubric contained in the QEP. At the end of the course 100% of students will have made progress to achieve a grade 3 or higher in that rubric.

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**Outcome 3**

**Is this outcome related to writing (QEP)?**

Students will be able to develop a variety of examples to illustrate mathematical concepts to present several ways of solving a problem, and to illustrate applications of mathematical ideas to real situations.

**Identify Strategic Plan Goal related to Outcome 3**

Goal 1 Academics

**Identify Strategic Plan Objective related to Outcome 3**

1.4 Prepare students for success in their chosen careers.

**Identify methods of assessment to be used**

Pre-service teachers (students) will take the Texas Examinations of Educator Standards in mathematics for grade 8-12 (TEXES Field 135). Domains V (Mathematical Processes and Perspectives) and VI (Mathematical Learning, Instruction, and Assessment) of the Test Framework as defined by Texas State Board of Educator Certification will assess this outcome.

**Indicate when assessment will take place**

Annual

**Criteria/Benchmark**

70% of the students taking the standardized test will score at or above the passing grade for the exam (currently, 240 points).

## Section II: Analysis of Results

### **When (term/date) was assessment conducted?**

#### **Outcome 1**

January 25, 2008

#### **Outcome 2**

January 25, 2008

#### **Outcome 3**

January 25, 2008

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### **What were the results attained (raw data)?**

#### **Outcome 1**

Nine students took the TExES 135 and six of them passed. The passing rate is 67%. Average subscores from the relevant domains are as follows: Domain I: 245, Domain II: 249, Domain III: 225, Domain IV: 242, Domain V: 232 (passing score is 240).

#### **Outcome 2**

One student in this program took MATH 2371. The student was given an average of 3 in his work in this course.

#### **Outcome 3**

Nine students took the TExES 135 and six of them passed. The passing rate is 67%. Average subscores from the relevant domains are as follows: Domain V: 232, Domain VI: 234 (passing score is 240).

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### **Who (specify names) conducted analysis of data?**

#### **Outcome 1**

Data was analyzed by Eduardo Chappa

#### **Outcome 2**

Data was analyzed by Dr. Terutake Abe, Dr. Fethi Belkhouche, Dr. Rohitha Goonatilake and Dr. Eduardo Chappa.

#### **Outcome 3**

Data was analyzed by Eduardo Chappa

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**When were the results and analysis shared and with whom (department chair, supervisor, staff, external stakeholders)? Submit minutes with data analysis to [assessment@tamiu.edu](mailto:assessment@tamiu.edu) (Please use Minutes Template located on the [Project INTEGRATE](#) web page.)**

Results and Analysis was shared to members of the assessment committee, as well as to the Department chair.

**NOTE: Submit all assessment documentation (i.e., surveys, rubrics, course exams with embedded questions, etc.) to the Office of Institutional Effectiveness and Planning.**

**Use of Results: Indicate whether criteria were met/not met and what changes, if any, have been identified based on the data collected?**

**Outcome 1**

Met  Not Met

**Provide narrative:** TExES 135 passing rate was 67%, which is the same as for the year 2006. We are improving to try to reach a passing rate of 70%.

**Outcome 2**

Met  Not Met

**Provide narrative:** The passing rate for this outcome is 100% for this program.

**Outcome 3**

Met  Not Met

**Provide narrative:** TExES 135 passing rate was 67%, which is the same as for the year 2006. We are improving to try to reach a passing rate of 70%.

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**How have these data-based changes improved your program/unit?**

We will accumulate more data on and continue data analysis of the TExES scores in order to identify areas of relative weaknesses of the students. The data obtained will also be reflected on the TExES online review that we are currently developing. In addition, we will continue examination of the correspondence between TExES competencies and our course offerings, with the aim of ensuring that each competency is adequately addressed in our programs.

Section III: Programmatic Review

**Are resources affected by the changes identified in Section II?**     Yes     No

**If so, specify the effect(s) using the chart below:**

Funding	Physical	Other
<input type="checkbox"/> New resources required	<input type="checkbox"/> New or reallocated space	<input type="checkbox"/> Primarily faculty/staff time
<input type="checkbox"/> Reallocation of current funds		<input type="checkbox"/> University rule/procedure change only
		<input type="checkbox"/> Other: Enter text here

**Provide a narrative description and justification for requested resources (include linkage to Strategic Plan)**

Enter text here

<b>Identify proposed outcomes for the next assessment cycle:</b>
Continuation of present outcome(s) – (Indicate reason for continuation): Present outcomes adequately capture the program goals.
New Outcome(s) – (List outcomes below): Enter text here
Modification of present outcome(s) – (Indicate reason for modification): Enter text here

\*\*\*\* This section to be completed by dean/director/vice-president \*\*\*\*

**Are resources requested a priority for the academic program/AES unit?**

Yes     No

**Comments:**

Enter text here

**If funding, physical or other resources were requested, what is the impact of the budget decisions on the academic program/AES unit?**

Enter text here