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 Science with a Major in Mathematics.

Person(s) Preparing Review Eduardo Chappa

Provide summary of the last cycle's use of results and changes implemented
Only one student took the Major Field Test in Mathematics, which provided us with insufficient data to make a recommendation for changes. 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 provices a foundation in Mathematical and Physical Sciecnes 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
Graduating students will be required to take part in pilot study program towards the end of their final semester of studies by taking the Major Field Test in Mathematics by ETS.

Indicate when assessment will take place
Annual

Criteria/Benchmark
70% of the students taking the standardized examination will score at or above the national 50th percentile.

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 hace extablished 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.

Outcome 3 ☐ **Is this outcome related to writing (QEP)?**
Students will be able to explore ideas in interdisciplinary areas, and develop correct mathematical arguments and proofs.

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
Written report and oral presentation of each student who takes the Senio Mathematics Project (MATH 4395) course will be evaluated by at least two faculty members on a scale 0-100.

Indicate when assessment will take place
Annual

Criteria/Benchmark
Each student will receive an average score of 70 or above on the written report as well as oral presentation.

Section II: Analysis of Results

When (term/date) was assessment conducted?

Outcome 1
January 2007

Outcome 2
January 2007

Outcome 3
Enter Text Here

What were the results attained (raw data)?

Outcome 1
We obtained the results for three students (out of four that took the exam). Two of them scored above the 50^{th} percentile. We will include the student for which we do not have the results in the next year report.

Outcome 2
No students in this degree took the course MATH 2371, hence no assessment is possible.

Outcome 3
No students took this course during 2007.

Who (specify names) conducted analysis of data?

Outcome 1
Analysis was done by ETS. We just report the result sent to us by them.

Outcome 2
n.a.

Outcome 3
n.a.

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 (Please use Minutes Template located on the Project INTEGRATE web page.)
Assessment Committee Meeting, January 25, 2008.

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: Reports show that 67% of the students taking the exam reached the goal, which shows an improvement over the results in previous years. We will keep working towards a goal of 70% next year.

Outcome 2
☐ **Met** ☐ **Not Met**
Provide narrative: Enter text here

Outcome 3
☐ **Met** ☐ **Not Met**
Provide narrative: n.a.

How have these data-based changes improved your program/unit?
Analysis of this data, plus student evaluations will help us create a document with recommendations for professors teaching this course in the future.

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
☐ New resources required	☐ New or reallocated space	☐ Primarily faculty/staff time
☐ Reallocation of current funds		☐ University rule/procedure change only
		☐ Other: Enter text here

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

Enter text here

Identify proposed outcomes for the next assessment cycle:
Continuation of present outcome(s) – (Indicate reason for continuation): Present outcome 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