

# Texas A&M International University Annual Institutional Effectiveness Review (AIER)

**Date Submitted** September 30, 2007

**Assessment Period Covered (2007)**

**Academic Program/AES Unit** Bachelor of Science with a major in Environmental Science

**Person(s) Preparing Review** Dr. Sushma Krishnamurthy

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

In Y2006 there were no seniors in the environmental sciences. No assessment was conducted. While we do not expect any Environmental Science student to graduate in the year 2007, there are students in the pipeline who are expected to graduate in 2008.

## 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 foremost mission of the department is to provide a high quality education for the students in Biology, Chemistry, Environmental Sciences and Geology. Upon completion of the program students will be prepared for employment in the private and public sectors as well as professional and graduate education. The department also strives to increase the body of scientific knowledge through research. We serve the university by providing General Education courses and service courses for students in Nursing, Kinesiology and Education.

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

#### **Outcome 1**

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

Students will apply critical thinking skills to solve problems in environmental science.

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

Goal 1 Academics

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

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

**Identify methods of assessment to be used**

Embedded questions in examinations in required (core) upper division courses (Environmental Science, Geohydrology, Environmental Chemistry and Ecology). The questions will be agreed upon by environmental science faculty in each of the fields listed.

**Indicate when assessment will take place**

Annual

**Criteria/Benchmark**

Seventy percent of the environmental science senior students will have applied critical thinking skills to solve problems in environmental science (70% of the embedded examination questions answered correctly).

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**Outcome 2**

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

Students will demonstrate the ability to plan and execute a research project then present the material in a logical manner.

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

Goal 2 Research

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

2.3 Broaden the educational experience for students through support of student research/scholarship and student participation in faculty research/scholarship

**Identify methods of assessment to be used**

Means of Assessment Students will present the results of their research projects to a combined group of their peers. Faculty panel of at least 3 will evaluate projects using a common rubric.

**Indicate when assessment will take place**

Annual

**Criteria/Benchmark**

Seventy percent of the (environmental science) senior students will demonstrate the ability to plan and execute a research project, then present the material in a logical manner.

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**Outcome 3**

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

Student will have utilized their undergraduate education to acquire employment or acceptance in professional graduate programs.

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

Goal 1 Academics

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

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

**Identify methods of assessment to be used**

Exit survey for graduating seniors. Results of the survey will group students according to the following: employment resulting from the completion of the degree, graduate school placement, professional school placement, and undecided.

**Indicate when assessment will take place**

Annual

**Criteria/Benchmark**

No more than 30% of environmental science graduating seniors will be undecided in their career options on completion of their degrees.

## Section II: Analysis of Results

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

#### **Outcome 1**

Fall 2007

#### **Outcome 2**

Enter text here

#### **Outcome 3**

N/A

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

#### **Outcome 1**

ENVIRONMENTAL SCIENCE

CRITICAL THINKING QUESTIONS

Sample size = 3

	Q22	Q30	Q35	Q54	Q69	Average %
Student 1	100	66.7	100	100	100	93
Student 2	100	0	100	100	100	80
Student 3	25	100	100	100	100	85

The average score was 86%. This result meets our benchmark of 70%.

This data is statistically invalid since n=3.

#### **Outcome 2**

Sample size = 1

There was only one presentation by an environmental science major in fall 2007

	Score
Presentation 1	7.0

Average Score: 7.0

The benchmark was met.

This data is statistically invalid since n=1.

#### **Outcome 3**

No data is available for this outcome since there were no environmental science graduates in 2007.

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

**Outcome 1**

Dr. Sushma Krishnamurthy

**Outcome 2**

The student presentation was assessed by 10 faculty in the Department of Biology & Chemistry at a department seminar held at the end of the fall semester. The data was compiled by Dr. Mott.

**Outcome 3**

N/A

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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.)**

The data will be shared at a department meeting to be held in February 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:** Based on the data collected, the benchmark was attained. The data is statistically invalid due to the small sample size.

**Outcome 2**

Met    Not Met

**Provide narrative:** Based on the data collected, the benchmark was attained. The data is statistically invalid due to the small sample size.

**Outcome 3**

Met    Not Met

**Provide narrative:** N/A

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

N/A

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)**

N/A

<b>Identify proposed outcomes for the next assessment cycle:</b>
Continuation of present outcome(s) – (Indicate reason for continuation): We do not have a large enough sample size to meaningfully interpret the data. The same means of assessment will have to be used for a few years to obtain statistically significant results.
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?**