

**Texas A&M International University  
Annual Institutional Effectiveness Review (AIER)  
for Academic Programs**

**Program: Master of Science in Biology**

**Assessment Period Covered: March 1, 2008 to January 31, 2009**

**Program Coordinator (Preparer of Report) Dr. Neal McReynolds**

**List Other Program Faculty:**

<b>David Beck, Dan Mott, Fernando Quintana, Tom Vaughan, Ruby Ynalvez</b>
---

**The Annual Institutional Effectiveness Review for Academic Programs is directed at Goal 1: Academics of the Texas A&M International University 2006-2010 Strategic Plan:**

Develop, maintain, assess, and improve academic programs, administrative/educational support services and student services, to admit, retain, and graduate students who achieve established learning outcomes designed to prepare them for success in their chosen careers.

**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 Mission**

The foremost mission is to provide a high quality education for the students the Master of Science in Biology Program. 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 Program also strives to increase the body of scientific knowledge through student research.

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

*Program faculty should evaluate the former cycle. This statement should specify if the outcomes addressed were a continuation of previous ones, new outcomes, or modified versions of previous outcomes. In addition, the statement should include a concise analysis of the assessment data collected during the previous year, a brief explanation of actions taken to address specific outcomes, an evaluation of how these actions contributed to the improvement of the program, and any recommendations formulated. Assessment data—including actual samples of student work—must be viewed and discussed by program faculty during this process.*

To date, all MS in Biology students (5) who have attempted the Comprehensive exams received passing scores. Three students presented and defended their research paper or theses satisfactorily as judged by their respective committees consisting of a minimum of 3 departmental faculty members. The same 3

students submitted either a research paper (1) or a thesis (2) that was evaluated by their committee and reviewed by the department chair. Due to the low sample size, no further analysis is possible.

**Selected list of program-level intended student learning outcomes:** *It is recommended that programs rotate through their entire set of outcomes over a multi-year period. Programs may focus on one or two outcomes each year, as deemed appropriate.*

1. Students will strengthen their critical thinking skills to solve problems in biology.
2. Students will demonstrate the ability to plan and execute a research project then present the material in a logical manner.
3. Students will be able to write a well organized scientific paper.

## Section I: Planning and Implementation

**Outcome(s):** *Identify the outcome(s) that will be focused upon this year.*

1. Students will strengthen their critical thinking skills to solve problems in biology.
2. Students will demonstrate the ability to plan and execute a research project then present the material in a logical manner.
3. Students will be able to write a well organized scientific paper.

**Please indicate if the outcome(s) is (are) related to writing (QEP).**

**Methods of assessment to be used:** *The explanation should identify and describe the type of assessment(s) that will be used (e.g., survey, questionnaire, observation instrument, test, rubric to evaluate performance, standardized examination, action research, interviews, etc.), who will provide the information, and how the data will be obtained.*

1. All MS students must take written comprehensive exams, normally given once each semester. The exams are compiled by the graduate committee for each candidate and normally emphasizes material from graduate classes taken, but may include interpretation and comprehension of general biological principles. The exams are evaluated by the individual graduate committees.
2. Each MS must prepare and present their results orally to the departmental faculty, including their committee. Other students (graduate & undergraduate) are invited as is the public.
3. All MS students must write either a research paper or a thesis based on original research. The papers are evaluated by the committee members and reviewed by the department chair.

**Indicate when assessment(s) will take place:**

1. Written comprehensive exams are administered once each semester, on demand.
2. On demand.
3. On demand.

**Criteria/Benchmark(s):** *Specify, if deemed appropriate to assess outcome(s). Criteria/ benchmark(s) may be optional, especially if qualitative measures are used for data collection.*

80% of the students will pass the written comprehensive exams, successfully present and defend their research and write a research paper or thesis.

## Section II: Analysis of Results

**What were the results attained?** *Describe the primary results or findings from your analysis of the information collected. This section should include an explanation of any strength(s) or weakness(es) of the program suggested by the results.*

Insufficient sample size for further analysis.

**What were the conclusions reached?** *Should include a brief description of the procedure used for reaching the conclusion(s) based on the evidence collected and describe the process used to disseminate the information to other individuals. For example, if the discussion took place during the annual spring retreat, include a summary from those deliberations using the Meeting Minutes template found at <http://www.tamtu.edu/integrate/docs/Minutes-Template.doc>. Once completed, submit the minutes to [assessment@tamtu.edu](mailto:assessment@tamtu.edu).*

No changes in current program until further data have been obtained.

**Describe the action plan formulated. (The plan may be multi-year in nature.)** *Based on the conclusion(s), describe the action plan to be implemented to improve or maintain student learning, including a timeline for implementation.*

To date all students have been successful, but sample size prevents further analysis.

## Section III: Resources

**Resource(s) to implement action plan:** *Describe the resources that will be needed to implement the action plan. Also indicate if the resources are currently available, or if additional funds will be needed to obtain these resources.*

### Funding

- New Resources Required
- Reallocation of current funds

### Physical

- New or reallocated space

### Other

- Primarily faculty/staff time
- University/rule procedure change only

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

It is critical to the success of any graduate program that a diverse student population be obtained and retained. Current students are insufficiently supported financially, so that recruitment is difficult for local

students and nearly impossible for students from outside Laredo. Funds should be made available to support the research of the graduate students.

**Identify proposed outcomes for the next assessment cycle:**

*Continuation of present outcome(s) – (Indicate reason for continuation):*

1. Students will strengthen their critical thinking skills to solve problems in biology.
2. Students will demonstrate the ability to plan and execute a research project then present the material in a logical manner.
3. Students will be able to write a well organized scientific paper.

*New Outcome(s) – (List outcomes below):*

None

*Modification of present outcome(s) – (Indicate reason for modification):*

None