

**Major field Assessment Plan Report**  
**M.S. Biological Sciences**  
**January 2008**

The mission of Southeastern Louisiana University is to meet the educational and cultural needs, primarily of southeast Louisiana, to disseminate knowledge and to facilitate life-long learning through quality instruction, research, and service in a safe, student-centered environment.

The purpose of the M.S. in Biological Sciences is to provide a broad academic program at the graduate level for students of diverse biological interests.

Students gain global perspectives through courses that emphasize biological issues that cross international boundaries. We also offer opportunities for research and study abroad.

**Overall Program Goal**

To produce well-qualified graduate students who are ready to obtain positions in government or industry or continue their education toward a PhD or professional degree.

A. Expected Outcome

All incoming graduate students will have sufficient grasp of basic concepts in biology to begin graduate work and assist in instruction.

Assessment Procedure

All students will score at least 70% on the Preliminary Written Exam, which is given to all incoming students during their first three weeks of enrollment.

Results

From 2005-2007, nearly all incoming graduate students passed the preliminary written exam with the exception of two students. Following completion of the exam, areas of identified weaknesses were considered as students completed their degree plans.

Use

The exam appears to function as hoped. New students review basic biology when they arrive and perform acceptably on the exam. Weaknesses on individual areas within the exam can be addressed with coursework or directed readings.

B. Expected Outcome

By the end of their second semester, students pursuing a thesis degree will have achieved sufficient mastery of their area of specialty to begin independent research.

Assessment Procedure

Thesis students must pass an oral exam of basic biology and their research area during their second semester. The oral exam is administered by the student's committee, the graduate coordinator, and one graduate faculty member whose research is outside the student's area.

Results

From 2005-2007, all students passed the oral exam, but deficiencies were identified for two students. As they began their research, they were required to take additional coursework which resolved the identified deficiencies.

### Use

The oral exam allows each student to be evaluated by a committee, which efficiently identifies weaknesses that can be addressed before the student finishes coursework and defends a thesis.

#### C. Expected Outcome

By the end of their graduate studies, thesis students demonstrate an ability to conduct publishable independent research.

### Assessment Procedure

Thesis students are required to prepare and defend a thesis based on original independent research under the supervision of a faculty member and in consultation with members of the student's thesis committee.

### Results

From 2005-2007, all eight thesis defenses were acceptable. We also track students following graduation where possible, so that we can enumerate the number of peer-reviewed publications that result from theses completed in our department.

### Use

We require the thesis to be acceptable to both the major professor and the student's committee before we allow it to be defended. Often the thesis requires multiple rewrites, but the result has always been an acceptable public defense. No student has failed to pass the final defense.

#### D. Expected Outcome

By the end of their graduate studies, non-thesis students will have a broad background in biology.

### Assessment Procedure

Non-thesis students will complete 36 hours of coursework, and will pass a comprehensive written exam based on their coursework after completing 30 hours of coursework.

### Results

From 2005-2007, five students have completed the thesis non-program on this path (three others were allowed to finish non-thesis after completing all the requirements for the thesis except the thesis itself).

### Use

So far, we think the exam and coursework requirements are working as planned. We'll have more information as more students complete this path.

#### E. Expected Outcome

By the end of their graduate studies, non-thesis students will conduct independent research.

### Assessment Procedure

We have recently instituted a new policy (Fall 2007) in the department for non-thesis students. All non-thesis students are required to sign a non-thesis research agreement form which outlines their research project and identifies a faculty research mentor. Completion

of this form and approval of form by the non-thesis graduate committee permits these students to take three hours of research problems in which they conduct the approved independent research for one semester with a faculty mentor, and give an oral presentation of their research to the department.

### Results

The new policy is simply a modification of our previous requirements. So, far we have not had any students complete the non-thesis degree under the new policy. However, prior to 2007, all of our non-thesis graduates fulfilled the research aspect of the non-thesis program under the previous non-thesis guidelines.

### Use

The oral presentation gives students the incentive to work hard on this project. We are pleased with it so far, although we still have a small sample. The institution of new policies should increase the quality of the research conducted in the non-thesis program and the learning experience that the students gain from their projects.