# **Biology MS**

# **Deliver A Curriculum with Appropriate Sub-Discipline Specific Knowledge**

#### **Goal Description:**

Students will learn the advanced knowledge and skills appropriate to the sub-discipline of biology they have chosen to pursue (e.g. evolutionary biology, cell/molecular biology, microbiology, taxonomy/systematics).

#### Providing Department: Biology MS

#### **Progress:** Ongoing

RELATED ITEMS/ELEMENTS

#### **RELATED ITEM LEVEL 1**

# Demonstrate Knowledge and Skills appropriate to biological subdiscipline Learning Objective Description:

- 1. Each student will demonstrate the ability to communicate knowledge and skills appropriate to the biological subdiscipline they have chosen to study.
- 2. Students will acquire knowledge and skill sets that will make them competitive in the job market or to move on to a Ph.D. program.

#### **RELATED ITEM LEVEL 2**

# Oral Comprehensive Exam Indicator Description:

All graduate students will demonstrate a mastery of the knowledge and skills appropriate to biological subdiscipline they have chosen through an oral graduate comprehensive examination, administered by their thesis advisory committee. The thesis advisory committee will evaluate students' performance and give a mark of Fail, Pass, or High Pass in each examined area.

#### **Criterion Description:**

Each student needs to earn at least a "Pass" mark in each examined area to pass the oral comprehensive exam. Each student is allowed two attempts. Faculty expect that at least 80% of graduate students will pass their exam on their first attempt. 100% will pass on their second attempt.

#### **Findings Description:**

We had 14 students take their oral exams this past year. All students passed on their first attempt.

#### **RELATED ITEM LEVEL 3**

# Oral Comprehensive Exam Action Description: Continue monitoring the pass rate for the comprehensive exam.

#### **RELATED ITEM LEVEL 2**

## Publication Rate Indicator Description:

Each student's publication record will be tracked throughout the MS degree.

## **Criterion Description:**

The number of papers published following the MS graduation will be compared to number published when admitted into the program. An increase in publications over this time will indicate the student has learned about the process through direct experience.

#### **Findings Description:**

Of the 10 M.S. students who graduated, two have publications at the time of their graduation.

#### **RELATED ITEM LEVEL 3**

## **Publication Rate**

### **Action Description:**

Look for ways to increases publication rates prior to graduation.

# **Quality Research**

#### **Goal Description:**

Students will produce quality, publishable research.

#### Providing Department: Biology MS

#### Progress: Ongoing

RELATED ITEMS/ELEMENTS

#### **RELATED ITEM LEVEL 1**

# Demonstrate Knowledge and Skills of the Scientific Process Learning Objective Description:

Students will engage in the scientific process from the development of a research question, through experimental design and analysis of results, to final dissemination through peer-reviewed publication and/or presentation at scientific conferences.

#### **RELATED ITEM LEVEL 2**

## **Production and Presentation of a Publishable Thesis Indicator Description:**

Students will continue to engage in the scientific process by taking two "thesis" courses in the second year of their master's program. During this time they will conduct their research, analyze their results, and write and publicly defend a publishable thesis.

#### **Criterion Description:**

The graduate coordinator will track how many students present their thesis results at scientific conferences and how many students publish their thesis results in peer-reviewed scientific journals. Faculty expect that 80% of graduating master's students will have either presented or published.

#### **Findings Description:**

We had 10 graduate students this past year with 9 out of the 10 either publishing or presenting their thesis.

#### **RELATED ITEM LEVEL 3**

# **Production and Presentation of a Publishable Thesis**

#### **Action Description:**

Continue to monitor the number of publications and presentations.

#### **RELATED ITEM LEVEL 2**

**Production of Quality Thesis Proposal Indicator Description:** 

Students are expected to produce a quality thesis proposal by the end of their second semester. To ensure this students take BIOL 5302 and are required to have a approved proposal by the end of the semester.

## **Criterion Description:**

Each student needs to earn at least a B in each seminar course to proceed in the program. Faculty expect that 80% of graduate students will meet this requirement.

#### **Findings Description:**

Thirteen total students were registered for BIOL 5302 over the past year. 12 earn an A; 1 earned an F.

**RELATED ITEM LEVEL 3** 

# **Production of Quality Thesis Proposal Action Description:**

Continue to monitor the number of students who successfully pass BIOL 5302. Look for ways to make sure all students admitted into the program pass.

# **Update to Previous Cycle's Plan for Continuous Improvement Item**

## Previous Cycle's Plan For Continuous Improvement (Do Not Modify):

## **Closing Summary**

We will continue to track graduate student success as we have hit all benchmarks for the past year.

## Update of Progress to the Previous Cycle's PCI:

We have continued to hit most of the benchmarks this past year.

# **New Plan for Continuous Improvement Item**

## **Closing Summary:**

We have hit most benchmarks for the past year. We will look for ways to increase the number of publications for our MS. students.