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

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:

83% of the graduate students who took their oral comprehensive exam passed on the first attempt and 100% passed after their second.

RELATED ITEM LEVEL 3

Oral Comprehensive Exam

Action Description:

Continue to track and support the pass rate of the graduate 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:

3 of the 12 students who graduate in the past year have already published their thesis work. It is expected that a number of other students who have graduate will publish their work at some point in the near future.

RELATED ITEM LEVEL 3

Publication Rate

Action Description:

Continue to track number of student publications. Provide support where needed.

Quality Research

Goal Description:

Students will produce quality, publishable research.

Providing Department: Biology MS

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:

100% of the graduating M.S. students have either published or presented their research at a conference.

RELATED ITEM LEVEL 3

Production and Presentation of a Publishable Thesis

Action Description:

Continue to track the publications/presentations of graduate students and provide support where needed.

RELATED ITEM LEVEL 2

Production of Quality Thesis Proposal

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:

100% of graduate students enrolled in BIOL 5301 and 5302 earned a B or better.

RELATED ITEM LEVEL 3

Production of Quality Thesis Proposal

Action Description:

Continue to track the number of students who successfully earn a B or higher in 5301 and 5302.

Update to Previous Cycle's Plan for Continuous Improvement Item

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

Closing Summary

We have formed a committee to determine the best way to administer the comprehensive exam. This will include guidelines of what is covered and development of a rubric to assess students performance.

Update of Progress to the Previous Cycle's PCI:

We have developed a new system to administer and grade the graduate comprehensive exam. Since implementation, 83% of students have passed on their first attempt and 100% on their second.

New Plan for Continuous Improvement Item

Closing Summary:

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