

Statistics MS

Consistent Cohort Of Graduate Students Each Year

Goal Description:

A cohort of ten supported graduate students each year allows us to maintain a healthy program with consistent class sizes and class schedules.

RELATED ITEMS/ELEMENTS-----

RELATED ITEM LEVEL 1

Support Ten New Students Each Year

Learning Objective Description:

We will support ten new graduate students each year, as many as twenty in the two years of our program. Support should be such that fulltime students are supported by at least \$10,000 more than the cost of tuition

and fees.

Deliver A Curriculum That Emphasizes Communication Skills

Goal Description:

The curriculum will provide students with opportunities to develop the appropriate speaking and writing skills to function as a professional in the area.

RELATED ITEMS/ELEMENTS-----

RELATED ITEM LEVEL 1

Communicating Mathematical Ideas - Oral

Learning Objective Description:

Students will be able to prepare and deliver oral presentations of mathematical material based on a statistics practicum. Students will develop the ability to critique problems, and provide their own solutions based on statistical analysis.

RELATED ITEM LEVEL 2

Statistics Practicum

Indicator Description:

A statistics practicum should be completed by the students under the guidance of one of the faculty members (practicum supervisor). A letter grade is assigned for the practicum by the supervising faculty based on performance throughout the research project.

Criterion Description:

All candidates will receive a letter grade by his/her supervising faculty.

Findings Description:

All five students completed the practicum with B or better grades.

RELATED ITEM LEVEL 3

Continued success of MS program

Action Description:

In both research and teaching, our MS program is excelling. An extraordinary amount of attention by faculty is given to each graduate student, as they struggle through their research and the coursework. Several hours are spent with each student, ensuring they pass their oral examination. We will continue to devote this attention to our MS students.

Deliver A Curriculum With Appropriate Discipline Specific Skill Sets

Goal Description:

The curriculum will provide students with opportunities to develop the skills typically required of professionals in the area of study.

RELATED ITEMS/ELEMENTS-----

RELATED ITEM LEVEL 1

Foundation Areas In Probability And Statistics

Learning Objective Description:

Students will have a working knowledge of the foundational topics including regression analysis, design of experiments, multivariate analysis, and mathematical statistics (Bayesian analysis, biostatistics, quality control, nonparametric statistics, sampling theory, Time Series Analysis, and statistical computing).

RELATED ITEM LEVEL 2

Comprehensive Oral Examination

Indicator Description:

A comprehensive oral examination, given by a committee of three faculty members, will be administered to candidates for the degree of M.S. in Statistics which will examine the candidate's knowledge of the primary areas of concentration within the program, as well as the candidates own communication abilities. The committee will then judge the candidates' knowledge of the material according to a previously agreed upon rubric with three levels of comparison: High Pass, Pass, and Fail.

Criterion Description:

All candidates will receive a mark of either "High Pass" or "Pass" for the Multivariate Analysis component of the comprehensive oral exam. The rubric used is the same one shown in the "Mathematical Statistics" criterion.

Findings Description:

Only one student passed two subjects at his second attempt and the other two subjects at the first attempt. All the other students passed all the subjects at the first attempt.

RELATED ITEM LEVEL 3

Continued success of MS program

Action Description:

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Improve Instruction By TAs

Goal Description:

We will improve our instructional support for TA instruction in our elementary Statistics courses.

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

Encourage And Train Teaching Assistants For Teaching

Learning Objective Description:

Will encourage and assign teaching assistants in elementary statistics courses as instructors.

RELATED ITEM LEVEL 2

Evaluation TA

Indicator Description:

Teaching evaluations and classroom visits by faculty

Findings Description:

We have a designated course coordinator to coordinate graduate TA teaching.

This faculty member closely monitor their teaching. Everything went as planned.

RELATED ITEM LEVEL 3

Course coordinators

Action Description:

Our TAs work with either STAT 1369 or 3379 courses. We have a coordinator for each of these courses who ensure enough TAs are available and computer labs are available to house the tutoring sessions.

Update to Previous Cycle's Plan for Continuous Improvement

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

We need more TA positions to have a healthy cohort of students. And also current TA stipend is not adequate. Our students are struggling financially due to low stipend and we are planning to communicate this to the university administration. The environment even harder for the international students due to the same reason. Need at least one more faculty member. We need more office space for students. A computer lab is required designated for graduate students in the department.

Update of Progress to the Previous Cycle's PCI:

We have had success in increasing office space for TAs. The office of graduate studies has offered more scholarships for graduate students, but this has barely offset the increase in health insurance for non-domestic students. Our graduate students (particularly non-citizens) continue to struggle

with financial difficulties.

Plan for Continuous Improvement

Closing Summary:

We plan on submitting an application for STAT 1369 to be included in the university core. If approved, we could see a dramatic increase in enrollment in the course as early as Fall 2017. Therefore, a reliance on graduate students to teach this course is inevitable, and we should be prepared for the challenges of training these inexperienced TAs for the classroom. In addition, the preparation of entering students in this course (as opposed to first another core math course such as MATH 1314) will be significantly less than in previous semesters. We therefore will rely on our STAT TAs to provide more tutoring and academic support to underprepared students in the larger (and larger in number) statistics course.