

Assessment in the Mathematics Program

2014/2015 Academic Year

Quincy University Mission Statement:

Quincy University stands as a Catholic, independent, liberal arts institution of higher learning in the Franciscan tradition.

Inspired by the spirit of Francis and Clare of Assisi, we respect each person as a sister or brother with dignity, value, and worth.

We work for justice, peace and the integrity of creation.

We prepare men and women for leadership and for the transformation of the world by educating them to seek knowledge that leads to wisdom.

We welcome and invite all to share our spirit and life.

Math Program Mission Statement:

Quincy University's Mathematics program focuses on concept mastery with an emphasis on solving multifaceted problems. Mathematicians are the expert problem-solvers behind many of today's most significant advances in business, computing, and applied research. Quincy University's Mathematics program will prepare you for one of the many contemporary careers that demand high levels of numerical skill.

This report summarizes recent progress in the assessment of the mathematics program. The report will first address (1) the Mathematics major; and (2) service courses in mathematics.

The Mathematics Major

The broad goals of the Mathematics majors are:

Mathematics Major: The Mathematics Major is intended to prepare interested undergraduates for graduate study in Mathematics by providing a firm and rigorous foundation in calculus, linear algebra, and analysis.

Mathematics Major, Education Track: The Mathematics Major, Education Track, is intended to prepare interested undergraduates for successfully teaching mathematics at the secondary level by providing a firm foundation in mathematics as well as practical pedagogy as it evolves through the twenty-first century.

The department assesses its effectiveness by our graduates. There are 8 graduates this year. Two got offers from local companies. One found teaching position at high school. Two further their math studies at graduate schools. One becomes a statistical consultant. Information of the rest two are missing. Meanwhile, some of these eight graduates received Bonaventure Award of Quincy University due to their excellent performance in academy.

During spring 2015, a new course “Statistics and Data Analysis” was open for math majors. This course develops a crucial understanding of variability through its focus on the data analysis process, using applied statistical methods aided with statistics software. In April 2015, three math majors competed at the Midwest Undergraduate Data Analytics Competition. The competition broadened their horizons and we realized the importance of developing undergraduate research in Data Analysis. This kind of research experience prepares students for their further studies and future careers, and is certainly a bridge for interdisciplinary studies.

The department graduates relatively few majors (usually 3-5 each year), so developing elaborate surveys for the purpose of statistical analysis is not useful. In the future, surveys from alumni may be provided.

Students like higher level courses which the department provides. They are challenging but provided solid foundation for math majors. When seniors take math seminar during their last semester, they are asked to do presentations and to write papers. The math education majors have opportunities to teach real lessons during the seminar.

Our Mathematics Education majors usually have very little difficulty finding employment. Looking at a list of alumni over the past five years, I know that 95% have found teaching positions (the rest 5% found other jobs related to math). They are well-trained, and take on positions of responsibility. One recent alumnus has taken on developing a mathematics program at a rural school, while another is the most competent mathematics teacher his school has seen in several years. One reason for their success is the rigorous training they receive in mathematics, since Mathematics Education majors take most of the same courses that Mathematics majors take.

Service Courses in the Mathematics Program

MAT099: INTERMEDIATE ALGEBRA

The course has been completely redesigned to give students mastery over basic mathematical skills and an increased confidence in their abilities. The emphasis is on success on daily quizzes rather than taking isolated, long exams.

Students no longer take a Math Placement exam during RAP. Instead, MAT 099 is recommended for students whose ACT Math score is 20 or below. MAT099 does not count toward fulfillment of graduation requirements. If a student is placed into MAT099, they must complete and pass this course with a "C" or better to enroll MAT124/125.

Students whose major requires a statistics course but are registered in MAT099 must complete MAT099 with a grade “B” or higher before enrolling in MAT150.

MAT124: APPLIED COLLEGE ALGEBRA

The second substantial change is the development of a terminal college algebra course through a Title III Community of Practice grant. Given that the large majority of students taking College Algebra (MAT125) were not going on to Precalculus (MAT142), it was decided that another course, Applied College Algebra (MAT124) be created which not only developed sound algebra skills, but applied these skills to real applications.

For the applications, the emphasis is on personal finance. Students encounter problems relating to taxes, compound interest, loan payments, and investments. The idea is to have students see how mathematics can be used in their everyday lives, whether in understanding how interest accrues in a savings account or calculating the payment of a car loan. (A copy of a course syllabus and the accompanying textbook are available.)

All students under the general Education program must take MAT124 or higher. Students scoring 21 or higher on the math section of ACT should enroll in MAT124 or MAT125. The goal is ultimately to have students take the appropriate math course, succeed, and proceed to the next course in the sequence (where applicable). Our students are not served by having them do poorly in mathematics courses for which they are not prepared. It is hoped that a very reliable set of guidelines will be available as soon as possible to insure that students are successful in the Mathematics program, regardless of where they begin.

MAT125: COLLEGE ALGEBRA

Starting from spring 2013, online MAT150 course is available at Quincy University. This course is designed to attract students other than Quincy area, such as Chicago area and Florida area. It also provides a flexible schedule for nursing major. A major benefit of online MAT150 is the ability to read or listen to lectures and complete

work on students' own schedule. This makes it especially advantageous for working students and professionals who need to do school work on nights and weekends. Balancing work and school is a difficult challenge for many college students. Online MAT150 does require a high degree of self-discipline, but with effective organization and discipline, students can complete school requirements when it fits with their other life demands.

One section of online MAT150 and one section of lecturing MAT150 were provided at the same time every spring since 2013. It gave students opportunity to choose the format which can fit their study needs the best. Freshmen and students with "C" or less for College Algebra are recommended to take the lecturing MAT150.

Summary Statement

The Mathematics Department is committed to ongoingly improving its curriculum and course delivery for majors and non-majors. We are a small department with relatively few majors, so we can be very responsive to feedback whether in the form of comments on course evaluations or informal conversations with students and alumni. We take these comments seriously, and strive to make the Major a more enjoyable and worthwhile experience without sacrificing the integrity of the program. Based on above evidence, I think we have succeeded admirably.

Report respectfully submitted by:

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