# Quinsigamond Community College

## Worcester, MA

Product Used Course Names Credit Hours MyMathLab

Basic Math; Beginning, Intermediate, College Algebra Three





By redesigning its developmental math sequence with required practice on MyMathLab, peer collaboration, and mastery of content, QCC's mathematics program sustains a high level of student success within developmental math and subsequent college math courses.

### Textbooks in Use

Basic Mathematics, 7e, Margaret L. Lial, Stanley A. Salzman, Diana L. Hestwood; Introductory Algebra, 9e, Margaret L. Lial, John Hornsby, Terry McGinnis

### **Course Implementation**

#### Course Design

In 2001, Quinsigamond Community College (QCC) received a Title III grant to, among other things, strengthen developmental education. From 2001 to 2006, QCC redesigned its three levels of developmental math and today continues to support those efforts. Classes meet for three hours per week and are offered in computer classrooms, traditional classrooms, evening classes, fast-paced courses, and online courses, as well as at off-campus sites. Instructors are provided a resource manual on CD, which includes a sample syllabus, course pacing, group activities, quizzes, and exams.

*Computer classrooms.* Students attend a minilecture followed by independent computer work using MyMathLab. Required MyMathLab homework may be completed at home, at the campus Math Resource Center, or at the campus Computer Lab. Students may have quizzes and exams administered using MyMathLab.

Noncomputer classrooms. Students experience an interactive lecture format with group work, applications, and the like. Required MyMathLab homework may be completed at home, at the campus Math Resource Center, or at the campus Computer Lab. Students may have quizzes and exams administered using MyMathLab.

*Evening classes.* These are three-hour classes held in computer or noncomputer classrooms, following the same format as the aforementioned classes.

*Fast-paced courses.* Held in a variety settings, these courses finish earlier than the traditional semester's do. Students use MyMathLab to support their learning.

*Online courses.* All developmental math courses are offered online and use MyMathLab content, homework, and assessments. The final exam is taken on-site.

*Off-campus remote sites.* Developmental math courses are offered at off-campus remote sites, such as high schools, nursing homes, and correctional facilities. MyMathLab is used where there is Internet access.

#### Assessments

Instructors decide on the number of quizzes and exams for their classes. All students take the departmental, paper-andpencil final exam. A score of at least 73 percent is required to continue to the next level.

#### Use of MyMathLab

All levels of developmental math have a predesigned course that can be copied and adjusted for each learning environment.

The location and format of a course dictate the degree to which MyMathLab is used and the amount of its contribution to a student's final course grade.

## Results and Data

During actual redesign—from 2001 to 2006—the following cumulative results were reported from Title III data:

- In Basic Mathematics, an overall 8 percent increase in student success from fall 2004 to fall 2006
- In Beginning Algebra, an overall 30 percent increase in student success from fall 2004 to fall 2006
- In Intermediate Algebra, an overall 11 percent increase in student success from fall 2003 to fall 2006

Table I shows the percent of students who passed the final exam and could therefore advance to the next level of mathematics. *Note:* This table includes traditional and online students who completed the semester and sat for the final exam; it does not include grades of X and W.

Course	Fall 2006	Fall 2007	Fall 2008*	Fall 2009	Fall 2010
Basic Mathematics	80.4	80	73	79	84
Beginning Algebra	79.5	82	77	81	80
Intermed. Algebra	72.6	74	64	71	69

Table 1. Student Pass Rate Percentages, Fall 2006–Fall 2010 \*A severe ice storm in 2008 caused exam-day cancellations and a drop in pass rates. As students progress through the developmental mathematics program, they enjoy a high level of success in College Algebra. From 2006 to 2010, pass rates of the those College Algebra students who used MyMathLab in a previous developmental math course increased by 7.2 percent—from 60.8 to 65.2.

"Since completion of the redesign in 2006, the numbers have continued to grow," says Andreana Grimaldo, associate professor. "We're proud that in 2010 65 percent of our developmental math students earned a C or better in College Algebra."



Figure 1. Pass Rate Percentages for College Algebra Students Who Used MyMathLab in their Previous Developmental Math Course, Fall 2006–Fall 2010

## The Student Experience

QCC is confident that the present curriculum is strong and supports students. MyMathLab enables QCC faculty to deliver this curriculum in a unified manner. The Math Center (a stu-

## Conclusions

The full range of Title III data shows an increase in student success from previous semesters and a trend of strong academic success among students who complete the course.

"When we redesigned the developmental math program, we not only wanted the students to do better in developmental math courses, we wanted to ensure that when they enter college-level math they are prepared and able to succeed," says Grimaldo. "Since strengthening our developmental sequence, we're fully confident that our developmental math students can do that. dent drop-in tutorial center) has increased its number of computers by more than 60 percent to meet student demand for computer mathematics support.

Retention remains a focus for the future. Students who complete the course have a very strong chance of passing the final exam: 75 percent of students who take the final exam score 73 percent or better, allowing them to advance to the next level of mathematics.

> Submitted by Andreana Grimaldo, Associate Professor Quinsigamond Community College