

With more than 70,000 students, Arizona State University is the largest public university in the United States.

## The Problem

As a research university committed to improving access to education, ASU was strained by the large number of enrolled students who were not college-ready in mathematics, an area found to be a key predictor of university success. Persistence for students earning an A, B, or C in developmental math was more than 50% higher than those earning a D, E, or W – underlining the high correlation between developmental math success and overall success. However, more than 30% of students failed to receive a C or higher in ASU’s developmental math course.

## The Solution

ASU developmental math students now use Knewton Math Readiness™, an online course powered by the Knewton Adaptive Learning Platform™. The platform serves as a recommendation engine for learning. It continually assesses, remediates, and reassesses student progress, providing each student with the exact piece of content needed to address individual proficiency gaps and ensure success in future courses.

## How It Works

Students work through Knewton Math Readiness at their own pace, with an instructor’s guidance. The course, which is aligned with the Common Core Standards for Mathematics, continually assesses students’ mathematical proficiency and adapts accordingly, presenting each student with a personal learning path.

Students progress by completing diagnostic exams. Depending on their performance, students either pass out of or place into a given lesson. Lessons contain multiple types of learning items (videos, text, quizzes, and more) and engage students with real-world examples.

The course goal is to complete the requisite number of lessons at a certain performance standard. Each student must also pass a final exam administered by ASU.

Knewton Math Readiness features a rich reporting interface. Instructors can view class lists to see which students are off-track, search for individual student performance metrics, or view trends across an entire group of students to determine which concepts are problematic across the board. These tools allow instructors to optimize class time by focusing lessons around those concepts with which students need the most help.

## The Outcome

After two semesters of use with over 2,000 developmental math students at ASU, withdrawal rates dropped by 60% and pass rates went from 64% to 75%. Forty-five percent of students finished the course four weeks early.

	Fall 2009-Spring 2011 (without Knewton Math Readiness)	Fall 2011-Spring 2012 (with Knewton Math Readiness)
Pass rates	64%	75%
Withdrawal rates	16%	7%
Students finishing early	n/a	45%