

# Student Success in First Year Math Classes

## A Standards-Based Approach to Fundamental Mathematics Topics

Sarah Davenport, Instructor  
Department of Mathematics and Statistics  
Southern Illinois University Edwardsville  
October 29, 2024

# **Adopting Standards-Based Grading in MATH 199X**

MATH 199X – Foundations of Mathematics

2 Credit course, Pass/No Credit

5 sections total, 106 students enrolled FA 24

Only one instructor this semester

# MATH 199X – Foundations of Mathematics

22 Course Objectives taught during the semester

No points, no assignments due or turned in other than Knowledge Checks

Knowledge checks (exams) are given every other week





For each objective completed correctly on the knowledge check, students earn one proficiency check

To consider a standard as “met” or “mastered,” students must show proficiency on at least two separate occasions

To receive a grade of passing, students must show proficiency twice on 15 out of 22 objectives (68.18%)

If a student does not show proficiency on a knowledge check, they can complete the revision process with the instructor or teaching assistant outside of class time to earn a proficiency check

# Empowering Student Success in MATH 199X

-  Provides autonomy and choice, and encourages students to take an active role in their success in the class - students can utilize their current math strengths and choose which objectives to complete
-  Promotes a softer transition from high school passing requirements to college level expectations – enhances University retention and completion goals
-  Reduces math anxiety during testing – students know that if they do not do well on a knowledge check that they can revise it and learn from their mistakes
-  Enhances metacognition practices for greater self-assessment - through the revision process, students are encouraged to find the holes in their understanding of the objective, and to learn how to understand or master the objective in a way that is specific and individualized