Department of Mathematical Sciences
Sabbatical Presentation

"Equivalence as a Foundation for Algebraic Reasoning Across the K-12 Mathematics Curriculum"
Dr. Jerry Woodward

Thursday, October 23, 2025
1:00-1:50 p.m.
RB 450

Abstract:

This talk explores how mathematical equivalence is a foundational idea for algebra across the K-12 curriculum (e.g. Blanton et al., 2015). Algebraic concepts such as solving linear equations and a relational understanding of the equal sign are rooted in children's conceptions of equivalence (e.g. Knuth et al., 2006). It is also well documented, however, children's struggles solving problems that require an understanding of equivalence (e.g. Stephens et al., 2013). This highlights the critical importance of learning what it means for children to come to understand equivalence, how this process occurs and what tasks afford it, and how their understanding relates to their development of early and formal algebraic reasoning.