# Teaching Statement

**Robert Thijs Kozma**

Mathematics education, at its best, does not merely transmit knowledge—it cultivates habits of precise thinking, creative exploration, and intellectual independence. My goal as a teacher is to help students experience mathematics as an active process of discovery, much like research itself. I want them to see that abstraction and rigor are not barriers but tools for expressing deep structure and beauty in the world.

I have taught college-level mathematics for over seven years at the University of Illinois at Chicago and Stony Brook University, across a range of courses from Calculus to Real Analysis. At both institutions, I worked with diverse student populations and found that active learning—structured group problem solving, guided discussion, and frequent formative feedback—helps students at every level build confidence and conceptual clarity. At UIC, I implemented a collaborative approach inspired by Uri Treisman's method, designing original worksheets that led students from concrete examples toward general reasoning. I also co-developed the standardized Calculus I–II workbook used across the department and served as an instructor for the *Emerging Scholars Program*, mentoring highly motivated students through open-ended problem sets.

I strive to integrate ideas from my research in dynamical systems and geometry into my teaching, to show students how abstract theory connects to spatial and computational phenomena. For example, I have used fractals and iterated maps to illustrate convergence and self-similarity, bridging rigorous definitions with intuition. I believe that bringing research perspectives into the classroom both inspires students and reinforces my own understanding of how people learn complex ideas.

Beyond undergraduate instruction, I look forward to mentoring graduate students and postdocs, guiding them toward independent research while fostering collaboration across fields. My experience leading workshops and tutoring in math learning centers has taught me to meet students where they are and help them progress toward research-level reasoning.

Ultimately, my teaching philosophy mirrors my research ethos: clarity, curiosity, and rigor, combined with a belief that the most enduring understanding comes through active engagement. At your institution, I would look forward to contributing to the department's tradition of excellence in both research and education—helping students not only master mathematics, but also see themselves as participants in its ongoing creation.