

Teaching Statement

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In my classroom, students actively engage with mathematics through a variety of learning methods, all designed to build their confidence in approaching new problems and developing strong problem-solving skills. Whether through small group discussions, individual exploration, or quick formative assessments, I aim to create an environment that encourages curiosity and fosters growth.

I believe that learning happens when students are given the opportunity to actively engage with the material and reflect on their progress. Over the years, I've incorporated mastery-based grading into my courses, ensuring that students are evaluated on their understanding of key concepts rather than on their ability to perform on a single exam. I received IRB approval to explore the impact of this grading model on student outcomes, and I've also investigated how weekly "math connections" journal entries affect students' confidence in communicating mathematical ideas. This scholarship supports my teaching philosophy that learning happens most effectively when students are given the tools and opportunities to reflect on their progress and think critically about what they've learned.

In my teaching, I combine methods like "Think, Pair, Share," polling questions, and informal assessments like "Thumbs up, Thumbs down" to gauge student understanding in real-time. For example, I regularly incorporate tactile activities such as function-to-derivative matching and indefinite integral dominoes, which provide students with hands-on opportunities to deepen their understanding of core concepts. These methods allow me to adjust my approach as needed and make sure that students are engaging actively with the material.

In my introductory statistics courses, I've introduced both R lab projects, where students analyze data using statistical software, and independent data analysis projects that allow students to apply their learning with tools like Excel. My goal is to provide practical, real-world applications that not only reinforce theoretical knowledge but also allow students to explore statistics through hands-on work.

Mentorship has become a significant aspect of my teaching, especially through my involvement with LS-LAMP, a program that supports students from underrepresented groups who are interested in pursuing graduate degrees in STEM. I find mentorship to be one of the most rewarding aspects of my role, as it allows me to help students find their path and build confidence in their abilities. Additionally, I coauthored a chapter in Foundations for Under-

graduate Research in Mathematics, which explores how early-career students can engage in research even before completing courses like calculus.

My interdisciplinary background and research experiences also shape the way I approach teaching. When discussing abstract mathematical concepts, I make a point to connect them to real-world applications. For instance, while explaining limits, I often highlight their importance in comparing rates of change, a concept fundamental to algorithmic complexity theory. I want students to see that mathematics goes beyond computations—it's a tool for understanding the world around them.

The feedback I receive from students reinforces the value of this approach. One student from Math 240 Precalculus (Fall 2023) wrote,

“You seem to love your job, which makes learning from you a lot more interesting. You're very approachable and overall, a great teacher who's been able to help me grasp even the toughest concepts.”

Comments like this motivate me to keep refining my methods and ensure that my teaching is as impactful as possible.

As I move forward, my teaching continues to evolve. I'm committed to maintaining an inclusive and supportive learning environment where students are encouraged to take ownership of their education. Ultimately, I want each student to leave my classroom feeling more confident in their abilities as critical thinkers and problem solvers, prepared to tackle challenges both inside and outside the classroom.