Teaching Statement

Giovanni Ferrer 2026

Philosophy. My approach to teaching mathematics is grounded in the fact that genuine understanding arises through active inquiry. Mathematics is not merely a collection of procedures to be memorized through brute force, but a language for reasoning precisely and creatively about logical structure. My fundamental goal is to help students cultivate both conceptual clarity and intuition, developing the ability to reason independently, reconstructing the ideas viewed in the classroom, connecting ideas across topics outside of the classroom, and ultimately finding joy in this process.

Kinda corny :/

Background. My own path to mathematics began with a transformative classroom experience. I must admit there was a time where I, like many people going through our educational system, "hated math". It was not until high school that I had the privilege of being instructed by a teacher whose clarity and enthusiasm revealed mathematics as something deeply beautiful and accessible to all who actively seek it. That experience continues to shape my teaching philosophy to this day: I want my students to experience the same joy that comes from understanding an idea fully and witnessing how it fits into a larger picture.

Experience. As a teaching assistant for Calculus I and Calculus III, I led recitations, designed problem-solving sessions, held office hours, and worked at the tutoring center every week at the Ohio State University. These settings allowed me to integrate inquiry-based methods that center student reasoning. Rather than presenting complete solutions, I often began by posing open-ended questions that encouraged students to explore examples, identify patterns, and articulate conjectures. Such approaches foster intuition and highlight the creative aspect of mathematical discovery.

Maybe add a specific example?

Mentoring. Mentorship plays a central role in my teaching. At the Ohio State University, I have participated in the CYCLE program, which introduces undergraduates to mathematical research. Graduate mentors guide students through formulating a focused problem, developing the necessary background, carrying out an investigation, and presenting results at a poster session hosted by the mentors. I have also mentored students through Research Experiences for Undergraduates (REU) programs over several summers. One particularly meaningful experience has been mentoring a former student from my Calculus III course. Recognizing her strong curiosity and aptitude, I encouraged her to apply to the CYCLE program, where I continue to mentor her as she transitions from chemistry to theoretical mathematics. Witnessing her growth has reaffirmed for me the importance of encouragement, guidance, and cultivating the joy of understanding.

Growth. I view teaching as a continual practice of reflection and refinement: *The act of teaching is itself the ultimate act of learning.* I actively seek feedback from students and colleagues, observe different teaching styles, and adapt my methods to promote clarity and engagement. I am especially interested in how inquiry-based learning can be adapted for both introductory and proof-based courses, guiding students from computational fluency toward genuine mathematical reasoning. My goal is to help students experience mathematics as a discipline of exploration and understanding, where intuition and rigor reinforce one another.

Kinda repetitive, end stronger