

TEACHING STATEMENT

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My teaching philosophy is centered on the belief that **students learn mathematics most effectively when they take an active role in the classroom**. For this reason, I structure most of my classes as discussions. Rather than lecturing continuously, I ask students to explain ideas in their own words, analyze examples with their peers, and respond to questions that guide them toward the underlying concepts. This dialogue style helps students feel invested in the material, and keeps their focus more effectively.

Motivating Theory Through Examples. I motivate new definitions or theorems with concrete examples, and sometimes the problems that inspired them. I want students to see not only how a concept works, but why it was developed in the first place. This helps students connect more, and retain more information. For instance, when introducing power series, I discuss how difficult it is to compute functions like logarithms directly. This naturally leads students to discover the benefit of representing functions as infinite polynomials. By grounding abstract ideas in intuitive examples, students build a much deeper understanding, and retain concepts better.

Encouraging Questions and Engagement. Class engagement is often a big problem in math courses, many students are reluctant to ask questions even if they do not understand a concept. I actively encourage students to ask questions and reward curiosity. To foster engagement, I often hold informal end-of-course awards for the "hardest question asked" (which I choose), and "the most helpful question asked" (which is decided by student votes). The first award encourages students to think critically, reflect deeply on the material. The second encourages students to ask more questions, now that they know their question might help someone else as well.

Building Confidence Through Structured Problem Solving. A major goal of my teaching is to help students develop confidence in their mathematical thinking. I design problem sets and in-class activities that begin with accessible exercises and gradually progress to more challenging ones. This helps students experience small successes early on, giving them the confidence needed to tackle deeper problems later. *Over time, they come to view mathematics not as a set of tricks to memorize, but as a system they can navigate through reasoning.*

Prioritizing Understanding Over Memorization. My assessments are designed to emphasize conceptual understanding and critical reasoning. I prioritize homework, projects and student presentations over high-stakes exams whenever the class size allows for it. In my exams and quizzes, students are often permitted to use their notes. This shifts the focus from memorizing formulas to understanding the concepts and how to use them, and connect ideas. Students learn to explain

their reasoning clearly, evaluate different approaches, and engage with problems creatively - thus honing their critical thinking skills.

Excerpts from student evaluations. Here are a few excerpts from student evaluations.

- “I loved how he worked with student proposed problems to help us learn.”
- “Adi is passionate about the subject and is willing to work with the students to make sure they understand the material.”
- “He was very knowledgeable, extremely friendly, and caring. He always made sure we understood any problems, and also was very meticulous when explaining anything.”
- “Really good at explaining topics.”
- “Clear and direct, explains what I made mistakes on.”
- “Deep understanding of material. Broke down topics beyond what was done in class.”

In Conclusion. My overarching aim is to help students appreciate the elegance and simplicity of mathematics while developing confidence, curiosity and strong reasoning skills. As an instructor, I look forward to bringing this interactive and student-centered approach to your department’s teaching mission.